

**DOCUMENT OF THE EUROPEAN BANK  
FOR RECONSTRUCTION AND DEVELOPMENT**

**MUNICIPAL AND ENVIRONMENTAL  
INFRASTRUCTURE OPERATIONS POLICY**

As approved by the Board of Directors on 19 October 2004

# MUNICIPAL AND ENVIRONMENTAL INFRASTRUCTURE OPERATIONS POLICY 2004 – 2008

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## ABBREVIATIONS

BOT	“Build, Operate, Transfer”
CARDS	Community Assistance for Reconstruction, Development and Stabilisation
CIS	Commonwealth of Independent States
DABLAS	Danube and Black Sea Task Force
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIB	European Investment Bank
EU	European Union
EUR or €	Euro
GDP	Gross Domestic Product
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IFI	International Financial Institution
IMF	International Monetary Fund
ISPA	Instrument for Structural Policies for Pre-Accession
JEP	Joint Environmental Programme
MDG	Millennium Development Goals
MEI	Municipal and Environmental Infrastructure
MISP	Municipal Infrastructure Support Programme
NDEP	Northern Dimension Environmental Partnership
NIB	Nordic Investment Bank
OECD	Organisation for Economic Cooperation and Development
PED	Project Evaluation Department
PPP	Public Private Partnership
PSC	Public Service Contract
PSP	Private Sector Participation
SMM	Small and Medium Municipalities
TACIS	Technical Assistance for CIS
TC	Technical Cooperation
TI	Transparency International

## **INTRODUCTION**

The attached draft Municipal and Environmental Infrastructure (MEI) Operations Policy is submitted for consideration by the Board of Directors. The document sets out the general specific and operational role of the Bank in this sector and establishes the overall framework for the Bank's activities over the strategy period from 2004 – 2008. It succeeds the Operations Policy approved by the Board on 16/17 June 1998.

The MEI Operations Policy describes the evolving operational environment, reviews the Bank's activities to date in each of the main sub-sectors and draws lessons learned from this experience. It outlines the transition challenges in each of the Bank's operational areas and identifies key strategic objectives and priorities with reference to each set of challenges.

MEI activities and range of products are particularly relevant to the Bank's mandate and the document sets out the rationale for continued activity in the sector throughout its Countries of Operation.

## EXECUTIVE SUMMARY

### 1. Rationale for MEI Operations

A country's ability to provide efficient infrastructure and services at local level is an important contributor to private sector development. Environmental improvements and remediation at local level make industrial and commercial growth sustainable. Local infrastructure and service improvements enhance the quality of life for residents and makes them more willing participants in a democratic society and support a workforce that is better equipped to dealing with the challenges of economic transition. Finally, the linkage between local fiscal and political accountability promotes and deepens democratic principles and promotes a sense of ownership within civil society.

Within this context, the core objective of the Bank's MEI operations is:

*“to promote greater efficiency and higher quality in the provision of local authority services through investment and the promotion of independent, well-managed and financially sustainable operations provided on commercial principles and in a market-oriented institutional and regulatory framework”.*

The European Bank for Reconstruction and Development's (EBRD) approach is strongly supportive of transition towards **decentralisation** of service responsibilities to local or regional levels; **commercialisation** of the operating companies providing local services; and **environmental improvement** as a consequence of investments that conserve environmental resources and reduce pollution.

**Decentralisation.** Decentralisation is a key element in improving the quality and cost efficiency of local infrastructure and services. Experience has shown that, by placing responsibility closer to the point of delivery in the context of a democratic system, decentralisation provides a motivation for the public sector to be responsive to the needs of their constituents. At the same time, to the degree that decentralisation leads to costs being borne at the local level, the public sector is encouraged to be rational in its choice of investments and to implement efficiencies in their operations. In this context, economies of scale in service delivery and managerial responsibilities may occasionally lead to regional concentration in the provision of local services.

Effective decentralisation is associated with:

- Clear and predictable sources of local government revenue and clear rules governing tax sharing and transfer payment arrangements between national governments and local authorities;
- Control of local government borrowing through disclosure, reporting and statutory limits rather than ad hoc political decisions;
- Improved corporate governance of local operating companies allowing commercialisation of the provision of local services;
- Independent regulatory arrangements governing the setting of tariffs and commensurate quality of service standards.

**Commercialisation.** Commercialisation means that local government focuses on ensuring good quality services as cost effectively as possible through the use of more

effective public sector management, competitive or regulatory pressure and the use of private sector participation (PSP) where appropriate and feasible, subjecting the affected entities (whether local government or service utilities) to the incentives and disciplines of the market. This involves changes to internal organisations and management approaches to enable the entities to respond to these new conditions.

Commercialisation is associated with:

- Making rational investment choices where resources are limited by hard budget constraints;
- Employing cost recovery approaches to maximise user based revenues to the extent possible and within affordability constraints;
- Ensuring managerial independence while holding utility managers accountable for delivering an acceptable quality of service;
- Transparency and competition in the procurement of goods and services to ensure good value for money and to avoid opaque practices and corruption;
- Promoting appropriate regulatory supervision by contract or otherwise, whenever business activities are not subject to competitive pressure, in order to protect consumer interest and stimulate efficient provision of services;
- Facilitating efficient PSP through an adequate range of options, including management contracts, concessions, outsourcing, “Build, Operate, Transfer” (BOT) contracts and privatisation.

***Environmental Improvement.*** The Bank’s projects in the MEI sector have a direct positive impact on the environment by:

- Achievement of environmental standards that are in line with best international practice, in compliance with European Union (EU) directives;
- Appropriate pricing of environmental goods encouraging conservation;
- Higher quality infrastructure and technology which reduce losses, energy use and pollutants together with sustainable institutional structures for meeting, maintaining and enforcing higher environmental standards.

## **2. Transition and Operational Challenges**

It is the general transition objective of the Bank to promote the above goals and to implement projects which employ the principles outlined above. However, the pace of transition is uneven. While **decentralisation** of responsibility for local services is widespread, it has not always been accompanied by commensurate fiscal allocations. At the same time, principles of **commercialisation** of local operating companies are not uniformly applied, with many services provided through quasi-budgetary institutions with little or no attention to cost recovery, adequate cost management or service standards. In order to define the appropriate strategic approach to advancing transition in each market, the paragraphs below identify specific transition challenges that are particularly relevant to countries in each of the Bank’s operational areas.

The **Transition Challenges** in the **Advanced Countries** are to:

- Promote transparency of operational and financial arrangements and financial sustainability through user pay principles, including through off-budget and off-balance sheet financing.
- Develop operational and financial structures at the regional and small municipality level to ensure that improved and sustainable local service delivery reaches out beyond primary and secondary cities.
- Encourage private sector participation where appropriate and feasible and where it contributes to greater operational efficiency, including in structures that combine EU investment grant support with PSP approaches.
- Encourage the entry of new players into the municipal finance market through commercial co-financing structures and mobilisation of finance through innovative use of the capital markets.
- Promote cost effective environmental improvements in the industrial sector through out-sourcing of industrial waste-water treatment.
- Provide refinancing of existing general municipal debt in those situations where: revenue and cost recovery based financing structures are more appropriate; the current debt structure does not reflect the life of the assets that were financed; or restructuring of the existing debt would provide access to additional capital for necessary investments. Such re-financings would be carried out in conjunction with commercial banks.
- Promote commercialisation/private sector participation in the provision of social services, such as housing and urban renewal.

The transition challenges are based in an operational context that reflects the opportunity and the challenge of absorbing considerable grant funding from the EU for infrastructure investment through Structural and Cohesion funds and other instruments. As a public policy objective, it is important that these funds be allocated to the highest priority needs and be appropriately sized so as not to impose excessive operational costs. At the same time, reforms are generally further advanced in these countries and thus enable mobilisation of significant volumes of private capital and expertise.

The **Transition Challenges in the Russian Federation** reflect the fact that the country has started to embark on a decentralised local authority finance regime, while promoting the concept of utility commercialisation. In this context, the challenges are to:

- Promote decentralised financing solutions through the use of local government loans or utility loans with local government guarantees to assist reform minded local administrations with the establishment of successful borrowing track records and utility commercialisation;
- Introduce cost recovery and “user pays” concepts within the limits of affordability constraints and promote transparency regarding transfers and subsidy payments;
- Support utility companies and local authorities in their efforts to achieve institutional strengthening and financial and operational sustainability through mobilisation of donor funded technical cooperation (TC);
- Continued use of local currency financing instruments, where possible;
- Introduce private capital or management where appropriate and feasible.

The **Transition Challenges of Early and Intermediate Countries** vary considerably across the region and can be summarised as per below for the various geographical areas.

In countries that are relatively more advanced, the transition challenges are as follows:

- In countries where a suitable overall legislative framework is evolving, apply decentralised financing solutions through the use of local government loans or utility loans with local government guarantees to promote adequate implementation legislation and a borrowing track record;
- In other countries, promote transaction structures which clarify ownership and corporate governance of local municipal services and support governments and donors in their efforts to establish effective, fair and transparent regulatory regimes that can attract long-term capital investment;
- Address affordability issues by promoting reform of subsidy regimes, by making effective use of available grant funding and by ensuring operating efficiency and commercial principles within the operating companies;
- Support utility companies and local authorities in their efforts to achieve institutional strengthening and financial and operational sustainability through mobilisation of donor funded TC;
- Introduce private capital or private management expertise and finance where appropriate and feasible.

The **Transition Challenges in the Early Transition Countries** reflect the twin problems of weak institutions and an impoverished population. Affordability constraints limit the scope for cost recovery and require significant grant co-financing to achieve sustainable service improvements. Most countries have not yet embarked on a path of municipal reform or are at a very early stage. In addition, institutional weaknesses are pronounced and result in very low absorption capacities.

- In close co-operation with other International Financial Institutions (IFIs) and donors, promote the concept of decentralised, sustainable and adequately managed service delivery through demonstration projects, even if these are very small;
- Demonstrate the importance of cost recovery and commercial efficiency where affordability constraints allow and address affordability restrictions by mobilising grant or concessional sources of co-financing and/or introducing better targeted social welfare schemes;
- Increase absorption capacity by strengthening local authorities and utility companies through extensive TC.

### **3. Strategic Objectives and Priorities**

The Bank has developed a range of products which allow it to be responsive in countries at various transition stages. The choice of product depends critically on the characteristics of a given market and sub-sector ranging from sovereign loans through to local authority risk structures and public private partnerships (PPPs). Sovereign products, for example, are still relevant and highly effective tools in the Early Transition Countries, when combined with significant grant co-financing to meet mandated levels of concessionality and ensure affordability. In the Advanced Countries and some

Intermediate Countries, continued innovation will facilitate market oriented lending structures, and attract commercial forms of co-financing. Similarly, PSP continues to be an effective means of meeting the Bank's objectives, but the degree of private sector involvement is highly dependent on the appetite of private owners/managers of municipal service companies to enter a given market.

Consistent with the Bank's overall strategic orientation, the Bank will see an increase in the relative share of business in the Russian Federation, and Early and Intermediate Countries by number of projects compared to Advanced Countries, while remaining active in the latter. In addition, Early Transition Countries may expect to see an increase in project numbers albeit with highly resource intensive approaches, significant grant co-finance and sovereign supported structures.

The following major strategic trends can be identified:

1. A move into sectors that are not based on full cost recovery and have not seen significant investment flows, but would benefit from commercialised approaches, such as urban transport, and into sectors that have strong positive environmental externalities such as district heating and solid waste services, including projects that promote sustainable waste to energy approaches.
2. An emphasis on innovation in Advanced Transition Countries, the more progressive Intermediate Countries and the Russian Federation with new products (guarantees, revenue bonds, securitisation) that expand access to investors and capital. This emphasis would include a move into new sectors such as urban regeneration and housing, in a manner consistent with the Agreement Establishing the Bank, and with projects that are particularly suited to advance EBRD's transition mandate. As part of this approach, the Bank would continue to focus on increased mobilisation of significant commercial co-financing to widen markets for local authority financing.
3. Emphasis on the development of financially and operationally sustainable local service provision in Early Transition Countries, doing so in close co-operation with other IFIs and donors.
4. Expansion of the Small and Medium Municipalities (SMM) programme to financial intermediaries and development of regional structures and multi-municipality projects to meet the needs of smaller communities and to achieve benefits of economies of scale.
5. Continued promotion and development of private sector solutions where feasible and economically attractive.
6. Increased use of local currency funding to match revenues with debt service obligations.

#### **4. Operational objectives**

##### **Extend the use of standard products to Early and Intermediate Transition Countries**

The Bank will use proven models of sub-sovereign and municipal guarantee/support structures to introduce commercial discipline and cost recovery at the company and municipal level where the central/local, legal and regulatory framework allows. Where underdeveloped, the Bank will selectively engage in policy dialogue to address "systemic constraints" linked to pilot transactions that illustrate the benefits of implementing the required reform. This may include refinancing of existing general municipal debt, in those situations where: revenue and cost recovery based financing

structures are more appropriate; the current debt structure does not reflect the life of the assets that were financed; or restructuring of the existing debt would provide access to additional capital for necessary investments (see Section 2.3.3). Such refinancing would, where appropriate, be carried out in conjunction with commercial banks. In cases, where no new infrastructure is being financed immediately, the Bank would ensure that there is an appropriate link to new investment, in particular, by improving the capacity of the local government to finance investments in the near future. In lower transition markets proven or “standard” products have significant transition impact for the country or region in which they are located, reflecting their demonstration impact on local and central authorities and the beneficiary communities. This objective will be particularly relevant to the Early Transition Countries.

**Promote commercialisation and efficiency of municipal service companies (whether private or publicly owned or managed)**

The role of the private sector as a means of achieving commercial efficiency will be encouraged where the possibility to structure PSPs exists. In this context the Bank will remain proactive in mobilising donor support to structure and prepare PSP operations with interested local governments of the region. In doing so, the Bank will aim to build on the experience in the water sector and apply it to other municipal services sectors, including urban transport, car parking, district heating and solid waste disposal. The Bank will also encourage commercial discipline, tariff reform, and increased cost recovery under public ownership, for example through appropriate commercialisation, improved corporate governance, benchmarking, and efficiency incentive regimes. The Bank’s work with public sector companies achieves transition itself and can also facilitate private participation at a later stage when the regulatory, credit, and institutional risks have been reduced and the political willingness for PSPs develop based on the Bank’s encouragement.

**Develop and extend use of existing products to address the needs of smaller municipalities**

The Bank will expand its existing model transactions for addressing the needs of small and medium municipalities. This includes working with local financial intermediaries and also considering multi-municipal or regional structures. It is part of the Bank’s transition objectives to demonstrate and motivate local banks to take advantage of the opportunity to lend long-term resources to stable local municipalities or public utilities. In working to develop regional and multi-municipality project structures, the Bank recognises that solution of organisational relationships among municipalities are key to the ongoing success and financial viability of such projects. The Bank will also prepare direct municipal transactions that are significant in terms of the specific market or transition impact even if relatively small and resource intensive.

**Address the institutional development needs of clients through effective use of TC grants and address affordability constraints by use of grant investment co-finance**

The Bank will continue to incorporate the use of TC funds in the structure of its municipal transactions to ensure that institutional capacity building is achieved and the project achieves sustainable results. The institutional assistance will be aimed at both utility companies and local municipalities to address corporate governance, financial, operational and commercial capabilities.

The Bank will seek sources of grant investment finance from donors including for projects in Early Transition Countries, where the populations face a higher incidence of

poverty and where affordability constraints limit the amount of investment that can be financed on a commercial basis.

For Advanced and certain Intermediate Transition Countries the Bank will maintain close contact and coordination with the EU and local authorities responsible for the allocation of EU Cohesion and Structural Funds and with the Instrument for Structural Policies for Pre-Accession (ISPA) programme for the remaining accession candidates.

#### **Increase access of municipal or environmental service companies to capital**

The Bank will continue to promote commercial bank co-financing through syndication, as well as the application of new instruments such as partial guarantees of other lenders exposure to municipalities, revenue bonds, leasing and potential forms of quasi-equity or mezzanine capital in order to expand access of the municipal sector to long-term capital. In addition, the Bank will continue to provide equity finance to service providers, where appropriate. Through innovative uses of the capital markets, such as revenue bonds, the Bank will also promote the expansion of the market for municipal investment beyond commercial banks to institutional and individual investors who are looking for long-term investments.

Municipalities and providers of municipal services derive the bulk of their revenues in local currency. The Bank will work to increase its capacity to provide financing to its clients denominated in local currency. The Bank will help to meet this challenge by developing its own local currency funding sources. In addition, the Bank will increase its use of risk-sharing mechanisms where the Bank absorbs the credit risk, with local financial institutions providing local currency funding. This serves the dual objectives of providing financing now, but also helping to develop the local market for municipal finance.

#### **Employ proven transaction structures to expand into selected new sectors where municipal services are provided at a local level**

The Bank will, in markets where the regulatory and financial frameworks are suitable, develop transactions in sectors such as public housing, urban regeneration, and other local services on a selective basis and where the Bank's added value is clear. The Bank's added value is reflected, for example, in its focus on project structures targeting commercial and operational discipline, private sector participation and institutional and policy development.

The Bank's proven capabilities in both commercialisation, and in the evaluation, monitoring, and control of municipal risk make it uniquely placed to advance transition in these sectors and to mobilise commercial co-financing. Given the need to exercise caution in entering new markets, the Bank will proceed initially with pilot transactions and replicate as experience is gained.

#### **Improve levels of disbursement and earning assets relative to levels of commitments**

The Bank will target resources and management attention to advance planning and acceleration of the procurement process, the appropriate design of conditions precedent and provision of adequate support to clients in implementation of projects directly and through TC assignments. Systematic attention to these processes should facilitate a sustained demonstration impact through successful project implementation.

# 1. THE OPERATIONAL ENVIRONMENT

## 1.1 Sector Definition

The MEI sector covers those investments and services that are currently or could be the responsibility of local government. Local government is defined as those levels of government, which exist below the sovereign or national level; it therefore includes both regional and municipal governments. While the responsibilities of local government vary from country to country, they typically include services that are made available to both individuals and commercial enterprises, including water supply and wastewater treatment, solid waste management, road transport and district heating. In addition, local government provides services such as public transport and housing, as well as education and local health care, which contribute to a well-functioning private sector economy. The sector also covers environmental improvements in the industrial sector through outsourcing of industrial waste-water treatment.

## 1.2 Sector Background

Municipal government has a long and rich tradition in the Bank's Countries of Operation, with many of the oldest self-governing cities in Europe and Asia located in the region. However, years of central planning concentrated many of the traditional responsibilities at the national level, with little or no decision-making or service responsibility at the local government level. Where municipalities retained their autonomy, they often suffered from many of the same problems as at the national level, acquiring companies and properties that had little relevance to the provision of core local government services.

After the changes of the early nineties, a significant level of decentralisation has taken place. In most Countries of Operation responsibilities for environmental management, public transport and other key services have been transferred back to municipalities. In parallel, state-owned property has often been transferred to local governments, so that local authorities could potentially tap these assets to raise additional privatisation receipts. Decentralisation has resulted in local government becoming a major factor in the economy, although at lower levels in some countries than in more developed economies, as Table 1.2.1 shows:

*Table 1.2.1 Share of Local Government in Gross Domestic Product (GDP)*

Country	2001 Local Government as share of GDP (%)	2001 Local Government per capita expenditures (€million) (estimated)
EU 15 Member States	11.2	2,600
Croatia (1999)	5.7	200
Czech Republic	9.4	580
Hungary	12.8	740
Lithuania	7.1	260
Poland	11.5	580
Romania	6.2	131
Russia	12.8	321
Slovakia	2.9	120
Ukraine	9.1	83

*Sources: Based on OECD data included in Local Finance in the Ten Countries Joining the EU in 2004 (Dexia 2003) and Reform of Intergovernmental Fiscal Relations in Ukraine (Kononets, LGI 2003)*

Decentralisation has not taken place at the same rate across the Bank's Countries of Operation; Slovakia, for example, has only recently transferred water management from state ownership to municipal ownership. Table 1.2.2 shows that many countries have seen significant decentralisation in responsibilities, with water and district heating, for example, almost uniformly transferred to local government. The process of decentralisation has itself created uncertainties and risks as the transfer of rights and obligations has not always been carried out in a co-ordinated way.

**Table 1.2.2 Responsibility for Public Services and Infrastructure**

	Urban Transport	Water / Wastewater	Solid Waste	Health Care	Social Housing	District Heating
Croatia	Mun	Mun	Mun/Region	Central	Mun/ Central	Mun
Hungary	Central/Mun	Region/Mun	Mun	County/ Mun	Mun	Mun
Kazakhstan	Mun	Mun/Region	Mun/Region	Central/ Region	Mun	
Lithuania	Mun	Region/Mun	Region/Mun	Central	Mun	Mun
Poland	Mun	Mun	Mun	Mun/ Region	Mun	Mun
Romania	Mun	Region/Mun	Region/Mun	Central	Mun/ Central	Mun
Russia	Mun	Mun	Mun	Central/Region/ Mun	Region/ Mun	Mun
Uzbekistan	Mun	Region/Mun	Mun	Region/Central/ Mun	Region/ Mun	Mun

### 1.3 Rationale for Bank Engagement in the MEI Sector

As part of its mandate to support the transition from a planned to a market economy, the EBRD recognises the need to address the problems facing the MEI sector. The Bank recognises that a country's ability to provide efficient infrastructure and services at the local level is an important factor in developing a private sector economy. Environmental improvements not only improve the health and well-being of individuals, but also make industrial and commercial growth sustainable. Improvements in public transport and local road networks make the movement of people to and from their places of employment more efficient, but also reduce bottlenecks in the movements of goods to national and international transport networks. Improvements in social services such as education, health care and public housing not only improves the lives of residents and makes them more willing participants in a democratic society, but also supports a work force that is more capable of dealing with the challenges of economic transition.

In addition, the linkage between local fiscal and political accountability for the provision of local services promotes democratic principles and a sense of "ownership" within civil society. Further, the efficient provision of services at the local level can significantly increase the attractiveness of a town or region to potential investors. Those making decisions on the location of foreign direct investments, for example, often base their selection on the benefits of a specific locality, in addition to country-wide characteristics.

## 1.4 EBRD Focus in the MEI Sector

The Bank's core transition objective in the MEI sector is to promote greater efficiency and higher quality in the provision of municipal services through investment and the promotion of independent, well-managed and financially sustainable operations based on commercial principles and in a sound and market-oriented institutional and regulatory framework. The cornerstones of EBRD's impact on transition in the MEI sector are decentralisation, commercialisation and environmental improvement.

**Decentralisation.** Decentralisation is a core element in improving the quality and cost efficiency of local infrastructure and services. By placing responsibility closer to the point of delivery in the context of a democratic system, decentralisation provides a clear motivation for the public sector to be responsive to their constituents in the need to make necessary investments to improve the level of service. At the same time, to the degree that decentralisation leads to costs being borne at the local level, the public sector is encouraged to be rational in its choice of investments and to implement efficiencies in their operations. In this context, political responsiveness can be an effective incentive in keeping costs low and can therefore encourage competition and private sector participation in achieving cost reductions. Decentralisation also encourages innovation and increases the potential value of the Bank's "demonstration" projects as successful models are emulated and extended to new locations.

Decentralisation of responsibility, however, has not always been accompanied by commensurate fiscal allocations. Most local governments in the Bank's Countries of Operation continue to rely heavily on central government tax sharing arrangements and transfers for the bulk of their revenues (see Table 1.4.1). In many cases, this share has been increasing and this has had several consequences:

- revenues often provide only for operating costs, but not for capital investments;
- revenues do not have multi-year predictability and therefore are not suitable for long-term planning or financial commitments; and
- uncertainties reduce the ability of local officials to make investment decisions.

While many municipalities in the region have supplemented their revenues with sales of assets in order to finance capital investments (and too often operations), many local governments now have few remaining marketable assets. One of the major challenges, therefore, for the Bank is to identify ways of improving the predictability of revenues for municipalities and the accountability of local officials in making investment decisions on a delegated basis. In support of reforms in this direction, the Bank provides long-term financing to bring forward investment plans and accelerate the improvement in local services. This approach also ensures that those who benefit from the investment in the future also pay for it.

**Table 1.4.1 Percentage shares of local government revenues**

	Central Government Shared Taxes	Local Taxes	Capital and Operating Grants	Other (Including Asset Sales)
<b>Advanced Transition Countries</b>				
Czech Republic	41	5	35	19
Estonia	43	5	38	14
Hungary	16	14	44	26
Latvia	46	10	28	16
Lithuania	78	9	10	3
Poland	13	16	59	12
Slovakia	33	16	19	32
Slovenia	42	18	21	19
<b>Russia</b>				
	47	4	41	8
<b>Early and Intermediate Countries</b>				
Bulgaria (2000)	46	0	40	14
Romania (2000)	65	5	14	17
Georgia (1999)	51	5	27	16

Sources:

*Local Finance in the Ten Countries Joining the EU in 2004 (Dexia 2003).*

*On the Measurement and Impact of Fiscal Decentralisation (Ebel and Yilmaz World Bank Institute 2002) in Fiscal Decentralisation in Croatia Conference Proceedings (LGI) Zagreb 2002.*

*Fiscal Autonomy Problems of Local Government in Georgia (Bolashvili) in Fiscal Autonomy and Efficiency: Reforms In The Former Soviet Union, LGI 2002.*

**Commercialisation.** Many of the local governments have not yet focused on improving the productivity and budgetary accountability of their operations. However, as more responsibilities are being transferred and less budgetary funding is available, local authorities now recognise that their operations need to be more efficient and that users need to pay to the extent possible for the services delivered. The Bank has encouraged local governments, therefore, to incorporate commercial practices as much as possible in their operations. This is especially true for those operations, such as water and solid waste services that can function on a commercialised and full cost recovery basis.

Commercialisation means that local governments focus on reducing costs either through the use of more effective public sector management or through the use of private sector participation where possible. Commercialisation is associated with:

- making rational investment choices where resources are constrained by hard budget constraints;
- employing cost recovery methodology to match revenues with expenditures, and
- providing incentives to managers to introduce greater efficiency and reduce unit costs of service delivery.

The goal of such measures is to ensure that decision makers make economically rational choices so that services are provided to customers at the optimal mix of quality and cost. Increasing productivity and efficiency allow local governments to maximise the services that they provide and that are important to the development of the larger economy.

In some cases, commercialisation can be introduced best through involvement of the private sector. They can bring sectoral expertise and established business practices that focus on efficiency, cost control and improved service levels. But penetration by the private sector into many municipal services is not likely to be comprehensive for many years. In the water sector, for example, it is estimated that private sector participation will not exceed 20% in Central and Eastern Europe by 2015 compared to 50% for Western Europe and 35% in Central and South America<sup>1</sup>. This is a result of a number of factors including:

- the fragmentation of the market, with smaller municipalities and smaller projects not attracting the attention of international operators;
- the lack of appropriate regulations or regulatory institutions with the appropriate skills; and
- lack of willingness at local level (and often at national level) to address cost recovery and need for higher tariff levels that are enabling conditions for attracting the private sector.

EBRD will continue to devote significant efforts to improving performance and promoting commercialisation within the context of municipal ownership and operation as well as encouraging private sector participation by both local and international operators wherever possible.

**Environmental Improvement.** The Bank's Countries of Operation have significant problems to overcome in order to meet internationally accepted environmental standards, including those of the EU. A legacy of polluting industries with inadequate equipment and limited resources continues to harm the environment through pollution of air and water. At the same time, local infrastructure systems, while having the basic equipment, are often plagued by aging or inadequate treatment facilities and large proportions of the population remain unconnected to existing service networks. Many of the investments in the MEI sector have a direct impact on the environment, for example through improving the quality of water and treating wastewater, by improving the collection and disposal of solid waste, or by improving air emissions from improved urban transport systems. Moreover, environmental impacts often carry a cross border component, e.g. river basins in the region flow through a number of countries and ultimately impact international bodies of water.

Improvements in environmental management are essential to the development of a well-functioning private sector economy. Decentralisation has meant that much of the responsibility for the implementation of national environmental requirements is now at the level of local governments and individual companies. Through its emphasis on commercialisation the Bank can encourage the achievement of higher environmental standards at an economically efficient cost while ensuring sustainability of the institutions responsible for meeting and maintaining those standards.

In addition, increased transparency in establishing the economic cost and benefits of environmental improvements will enable governments to develop appropriate cost recovery mechanisms. These mechanisms will allow local governments to better allocate costs to those who cause the environmental imprints through the "polluter pays" principle.

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<sup>1</sup> David Owen, "International Water Markets" (Address to the British Water Conference, 19 February 2003) [unpublished].

## 2. THE BANK'S ACTIVITIES TO DATE<sup>1</sup>

The Bank has financed investments in a range of municipal infrastructure assets and in support of improved municipal services, through the full array of PSP, municipal risk and sovereign approaches, and through co-financing with official and commercial co-financiers. This section briefly outlines the structure of the Bank's portfolio across sub-sectors, geographical regions and products; describes its evolution over time and recent trends; and summarises the lessons learned during the previous Operational Policy period.

The Bank's current portfolio is a reflection of the initial market conditions and the pace of reform and transition in each geographical region. In each region, adherence to the Bank's operating objectives of Sound Banking Principles, Transition Impact and Additionality have guided choices of product (sovereign, local authority risk, PSP and equity) and choices of sector (water and wastewater, urban transport, district heating, solid waste, other).

As transition develops, the choice of tools and the range of potential operations tends to evolve. Thus, the same market, and sometimes the same client, is seen to graduate from, for example, a sovereign structure to a sub-sovereign (municipal risk) structure and from sub-sovereign to a PSP structure. In this way the Bank's operations and its portfolio evolve and respond to trends in transition and the market.

In addition to the product distinctions based on the risk of the borrower, the Bank's products evolve to include other differentiations, including long-term senior and subordinate debt; portage and pure equity; lending and risk-sharing facilities for financial intermediaries including commercial banks and specialised municipal lending institutions; and capital market products such as revenue bonds that rely on a securitisation of future revenue streams.

### 2.1 Portfolio Overview

The Bank's MEI Portfolio<sup>2</sup> comprises 75 projects with commitments totalling €1.35 billion. Average annual business volume from 1998 to 2003 was €248 million.<sup>3</sup> Total Operating Assets<sup>4</sup> at the end of 2003 reached €493 million reflecting the relatively slow disbursement pattern and the technical and procurement complexity of projects, but also the relatively weak implementation capacity prevalent among local authority clients. However, focused attention to institutional and procurement issues have resulted in a significant increase in the volume of signed works, services and equipment contracts and during 2003, 59 such contracts with a financing volume of €191 million were signed by clients. In addition, the stock of total Operating Assets does not reflect €162 million already repaid by borrowers to the Bank.

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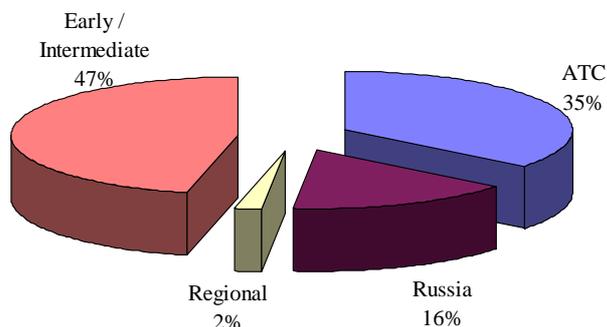
<sup>1</sup> All figures refer to 31 December 2003, unless otherwise stated.

<sup>2</sup> Operating Assets plus undrawn commitments.

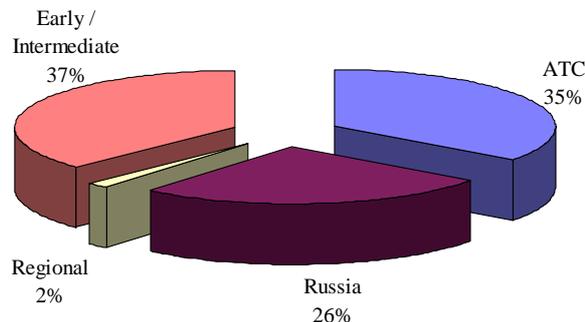
<sup>3</sup> Average Project Size and Average Annual Business Volume are somewhat distorted by St. Petersburg Flood Barrier Project signed in 2002, the commitment of which accounts for USD 245 million.

<sup>4</sup> Operating Assets are the stock of net disbursements. Net disbursements = gross disbursements less (i) total repayments; (ii) prepayments; (iii) sales of net disbursed loans and equity investments; and (iv) write-offs.

**Portfolio by Region  
end 1997**

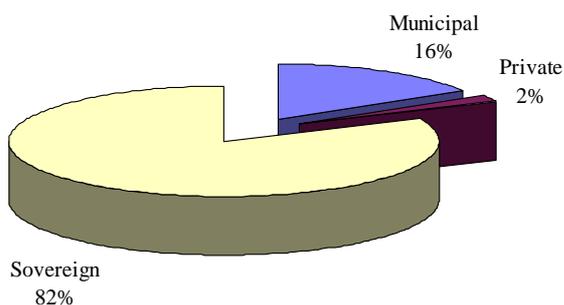


**Portfolio by Region  
end 2003**

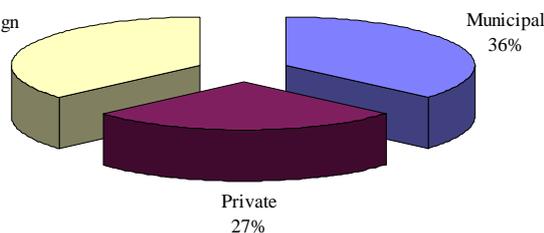


Throughout the previous Operations Policy period the Bank has supported local infrastructure projects in all of its regions. While the total portfolio has grown from €62 million to €1.35 billion between 1998 and 2003, the distribution by region has remained broadly stable.

**Portfolio by Product  
at end 1997**



**Portfolio by Product  
at end 2003**

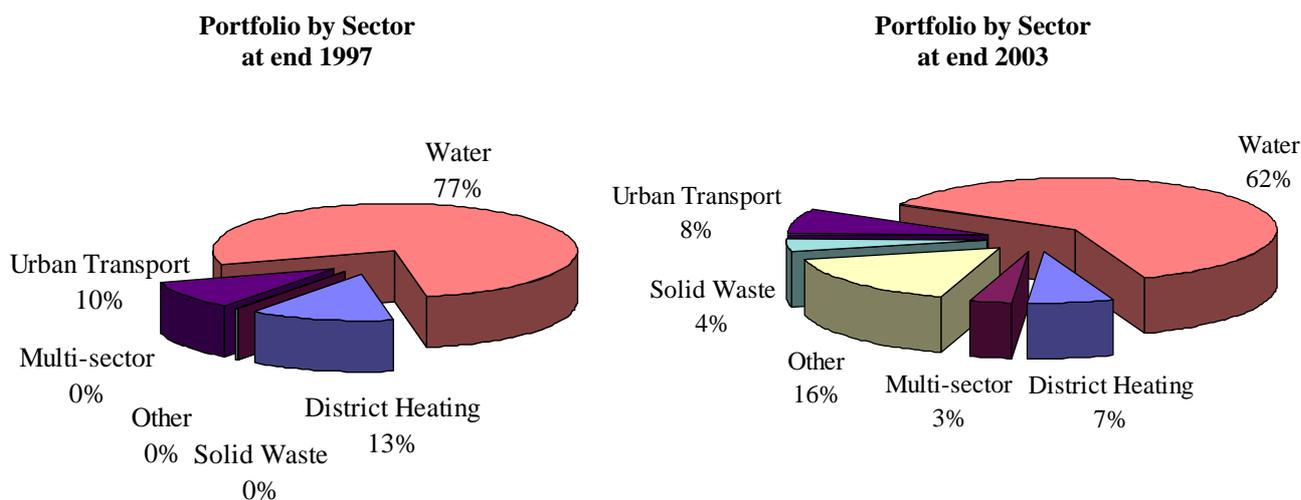


There has been a significant change in terms of product risk. While at the beginning of the previous Operations Policy period, the share of Bank's portfolio represented by sovereign loans or sovereign guaranteed loans accounted for over 80%, it now stands a less than 40%. At the same time, the contribution of investments with local authority risk increased from 16% to 36%, and the share of PSP from 2% to almost 30%. This is a reflection of the Bank's approach to support PPPs, which have emerged in the water and waste water sectors in Advanced Transition Countries, but also some Intermediate Countries, such as Romania and Bulgaria.

It also reflects the strategic approach of the Bank to provide financing directly to local public utilities and to local authorities, without recourse to the sovereign, based instead on the full faith and credit of a local authority, the credit strength of the local utility, or a combination of both. As a result, part of the Bank's sovereign portfolio as it existed at the beginning of the previous Operations Policy period could be converted into non-sovereign commitments taking account of advances by borrowers and local authorities over the past 5 years.

Particularly within its non-sovereign and PSP portfolio of €32 million, the Bank has been successful in mobilising co-financing from commercial banks, other IFIs and bilaterals, and from grant providers, in particular the EU. Contributions from these sources total €1.2 billion, reflecting an external co-financing mobilisation ratio of 1.5.

In regard of sub-sectoral focus, the majority of the Bank's municipal business has been in the water and wastewater sector, accounting for approximately 60% of the portfolio as of end 2003. The other sectors are roughly equally represented with shares of between 5% and 9% each.



The reduction in water and district heating shares can partly be explained by an increase in "Other" (principally the St. Petersburg Barrier project, and the Ostankino Television Tower Repair project). The Bank's pipeline of new transactions shows a significant increase in urban transport and solid waste transactions which indicates that their share in the portfolio should continue to increase.

## 2.2 Sectoral Experience

### 2.2.1 Water and Wastewater Sector

#### EBRD Experience

Since 1996, the Bank has financed 49 water sector projects, with a total portfolio of approximately €30 million. The population served by the Bank's projects stands at over 30 million, almost 10% of the population in the Countries of Operation. In addition to the Bank's own financing of these projects, co-financing by commercial banks and donors exceeds €1.5 billion. The relative emphasis on water and waste-water transactions is based on the following factors:

- Water and waste-water projects are suitable to approaches that are based on full cost recovery for operations and maintenance, and in the case of water projects, and smaller waste-water operations, also for full financing of up-front capital costs. Therefore, credit structures benefit both from expectation of sufficient cash-flows generated at utility level and the support from local authorities or national authorities by way of financial guarantees or performance undertakings.
- Focus on commercialisation and good corporate governance makes water and waste-water projects particularly suited as vehicles to implement transition

oriented project structures that support commercialisation and sustained service delivery.

- Successful project implementation in the water and waste-water sector familiarises a local authority with commercialisation and good corporate governance models which can then be applied to other sectors of local service delivery, which are only partially cost recoverable (urban transport); are institutionally and environmentally more complex (solid waste treatment); or require regulatory or policy support from national governments at a sector level (district heating).
- The Bank has been able to apply the above approach in a significant number of projects supported by the EU's ISPA programme for the environment in the Advanced and certain Intermediate Transition Countries. Co-operation with the EU has made it possible to structure and implement transition intensive projects, while at the same time accelerating compliance with EU environmental standards through comprehensive waste-water treatment solutions.

The Bank's portfolio in the water sector is almost evenly split among sovereign projects, local authority risk transactions, and PPPs. In Early Transition Countries, the Bank's lending has carried a sovereign guarantee (e.g. Macedonia Environmental Action Plan, Macedonia). In Intermediate/Advanced Countries, direct lending to utility companies with local authority guarantees has been used to finance water sector projects (e.g. Municipal Environmental Loan Facility Projects in Romania). In situations where commercialization at the municipal utility level has been demonstrated sufficiently, direct lending to municipally-owned water companies without a local authority financial guarantee has often replaced or supplemented existing municipal risk arrangements (Riga Water Company, Latvia, Wroclaw Water Corporate Loan, Poland). Where possible or legally required, such as in Russia, the Bank has provided local currency financing to municipalities and to water utilities, in order to better match the currency of their cash flows.

*Table 2.2.1.1 Portfolio and number of operations in water and wastewater sector*

	<b>EBRD Portfolio €million</b>	<b>Number of Operations</b>
<b><i>By Product</i></b>		
Sovereign	205.0	15
Municipal Risk	261.3	19
PSP	364.8	15
<b>Total</b>	<b>831.1</b>	<b>49</b>
<b><i>By Region</i></b>		
Advanced Transition Countries	357.7	19
Russian Federation	141.1	8
Early and Intermediate Transition Countries	309.7	20
Regional	22.6	2
<b>Total</b>	<b>831.1</b>	<b>49</b>

In addition to providing financing for capital investments, the Bank's activities in the sector have emphasized improvements in the organizational aspects of utility delivery. Key to this has been commercialisation, reform of tariff systems and corporate development programmes to improve the operational efficiency of water utilities.

## **Investment Rationale**

Within the context of the Kyoto and Johannesburg summits, international attention has in recent years become focused on the water sector. The United Nations has established the objective to reduce by half the proportion of the population without access to clean water and wastewater sewer systems before 2015 as one of its Millennium Development Goals (“MDGs”). While many of the Bank’s Countries of Operation are further along in meeting the MDGs than many developing economies, the World Bank estimates that 3 million new connections to water supply and 2 million to sewer connections will be needed annually in the Countries of Operation to meet the water-related MDG. The Camdessus Panel in its report of 2003 identified ways in which IFIs could work better to improve the situation. It specifically recommended an increase in lending to sub-sovereign governments and utilities, the use of local currency funding, and introduction of tariff methodologies based on cost recovery criteria.

Notwithstanding the investments that have been made, for selected countries, coverage of the population with water supply, sewerage and wastewater treatment infrastructure is far from complete. This includes several of the Advanced Transition Countries, which have been given varying deadlines for EU directives compliance (e.g. to 2015 for five of the new EU member states to meet the Urban Wastewater Treatment Directive).

The rationale for investment in the sector has been driven by the following key factors:

- Environmental regulation – this is important in all countries, and has been especially important for the accession states which have had to negotiate timetables for compliance with EC water directives as one of the conditions for entry into the EU. Environmental regulation elsewhere has often been formally strict but somewhat relaxed in implementation. Investments have been made to bring actual practice in line with formal requirements.
- Service quality improvement – water supply and sewerage investments are typically very high on the list of local government priorities for improving living conditions of the citizens throughout the region. In some countries, particularly the Early Transition Countries, the significant maintenance backlog means that many water systems are reaching crisis point, with discontinuous supply, drinking water significantly below health standards, and accident rates 10-100 times higher than in Organisation for Economic Cooperation and Development (OECD) countries.
- Efficiency improvement – this is an important driver for companies where tariffs are high due to inefficient operations, or where over-sized or poorly configured systems were inherited from the past; it is also a major driver for the outsourcing of industrial water supply and wastewater systems by industrial companies seeking to reduce operating costs.

## **Sector Conditions**

The main factors which govern the degree to which investment has taken place or can take place in the water and wastewater sector are the state of progress towards decentralisation and regulatory reform, commercialisation and/or privatisation, and effective corporate governance (see Annex 1 for more detailed information).

**Decentralisation/Regulation:** Most governments have transferred responsibility for water and wastewater treatment to municipal or regional governments. In Advanced Transition Countries, decentralisation has generally resulted in significant performance improvement although fragmentation remains a problem. For example, Lithuania, which plans to restructure the drinking water sector into five regional water companies, currently has 64 large and 700 small municipal enterprises providing water services. In contrast, Bulgaria, while retaining an effective regional corporate structure for its water companies, has not yet decentralised ownership or financing responsibilities. In many Early Transition Countries, the process of decentralisation is incomplete or has not started and often is not accompanied by clear delegation of regulatory or fiscal authority. As a consequence, there is a lack of regulatory clarity and decision-making is subject to local politics and election cycles.

The degree to which clear legal and regulatory frameworks have been established varies considerably. The most important element is reform of the tariff framework to ensure predictable revenues and cost recovery. Such reform is especially lacking in Early Transition Countries, where tariffs typically cover only 30-80% of operating costs. Where cost recovery arrangements exist, they are often in the form of “Cost-plus” tariff regimes. Most countries would benefit from broader introduction of service contracts, improved corporate governance arrangements and tariff regimes which reward greater efficiency.

**Commercialisation/Private Sector Participation:** Indicators of commercialisation vary widely throughout the region. Although commercially-oriented practice is more commonly found in the Advanced Transition Countries, there is a need for deeper and wider commercialisation everywhere. Responsibility for the sector has generally been transferred to local authority owned enterprises (as opposed to municipal enterprises or departments functioning under public administrative law). While some have transferred management responsibilities to private operators, most remain under municipal or state/regional ownership.

The Bank has helped to finance almost all of the PSP projects in these countries that have involved significant capital investment, including those in Bucharest, Sofia, Tallinn, Zagreb and Maribor. The Bank has financed a wide range of PSP structures, including concessions and BOT models and both debt and equity to these projects.

The Bank has also recently financed an outsourcing project by an industrial company for the upgrade of its wastewater treatment facilities (MOL-Duna Wastewater Treatment Plant in Hungary). (See Annex 5 for more information on PSPs)

Widespread private sector participation (mainly through operating concessions) in the water sector has been confined to a few countries (Hungary and the Czech Republic) and a few high profile investment and concession projects in major cities in other countries. Only 4% of the population of Central and Eastern Europe is served by private operators, compared with 42% in Western Europe. While there are a number of international water companies involved in the region, they have generally become more risk averse and less willing to put their limited capital into Central and Eastern Europe, given the general industry re-structuring, absorption problems with recent acquisitions and increased focus on shareholder value. However, many public/municipal authorities are considering the use of private management contracts to achieve greater operational efficiency. (See Annex 5 for an overview of PSP activity in the region).

**Cost Recovery/Affordability:** Cost recovery, especially including investment as well as operating and maintenance costs, is still well below 100% in many local authorities. Some systems, particularly in Advanced Transition Countries and the larger cities in South East Europe, have successfully implemented cost-recovery systems sufficient to cover full operating costs and in some cases a major portion of capital costs (supplemented by capital grants from central government and EU and other donors.) To improve collection ratios and payment discipline, metering is an important factor. While many OECD countries and Advanced Countries have metering rates close to 100% of the population, fewer than 30% of the population are metered in Russia, Moldova and Ukraine. In Early Transition Countries this process is encountering difficulties due to problems of affordability and a payment culture that leads to poor collection ratios and high receivables.

Affordability ratios (spending on water and sewerage as a proportion of household budgets) are generally around 2% in the Advanced Countries (ranging from 0.50-1% in the Slovak Republic and Slovenia; 2% in Poland, Lithuania, Latvia; and 3% in Estonia and Hungary). In South East Europe, the ratio in Bulgaria is around 3%, though in Romania it is 4.5-5%. Elsewhere, affordability varies from 0% in Turkmenistan (where all municipal services are provided free to the population) to above 3% in Ukraine. These figures compare to affordability ratios in Western Europe in the range 1-1.5%, around 1% Northern Europe and below 1% in southern EU countries. With the exception of the poorest countries, where affordability is a major constraint, there is generally scope to move further towards cost recovery, especially where there are social welfare measures in place to support the lowest-income consumers. However, grant funding is needed to enable large-scale capital investment, whether it be rapid investments in the Advanced Countries required by the accession process, or more modest investments in the Commonwealth of Independent States (CIS) countries where income levels are lower.

### **Future Trends and EBRD Role**

- Where the legal and regulatory environment allows, promotion of funding structures that are primarily reliant on the cash flow generation ability of commercialised utilities and which provide transparency and sustainability of operational and financial arrangements, including the user pays principle. In Advanced Countries, such structures may be off-budget or off-balance sheet, i.e. without the support of local authority financial guarantees. Where possible, the Bank will attempt to widen the investor market for such structures by promoting the use of transactions that reflect the creditworthy nature of water revenues. In Russia and certain Intermediate Transition Countries, EBRD financing would typically be supported by a financial guarantee of the respective local authority or would be made available by way of a local authority loan.
- In Early and Intermediate Transition Countries, support will be given to local authorities willing to implement transition oriented project structures which provide demonstration effect. To overcome the significant institutional weaknesses, sizeable TC and staff resources will be mobilised to implement projects.
- Encourage private sector participation, where appropriate and feasible, including in structures that combine EU investment grants and PSP approaches.

- The Bank will target opportunities throughout its Countries of Operation to support private industry to improve environmental performance through cost effective outsourcing of industrial waste water treatment, using technology and expertise available with reputable international operators.

### **2.2.2 Urban Transport Sector**

Urban transport encompasses a range of investments and related institutional measures, including rolling stock (buses, trolleys, trams etc.), network rehabilitation and expansion (roads, tracks etc.), off-street parking, and traffic systems management.

#### **EBRD Experience**

In developing its urban transport portfolio, the Bank has been guided by the following operational principles:

- Transfer of the commercialisation approach pioneered in the water/waste-water sector to operating companies in the urban transport sector, such that:
  - transport companies operate under transparent contractual relationships with their local authority, with clearly defined rights and obligations, and good corporate governance;
  - where a local authority sets fares below full cost recovery levels, the authority makes payments to the operator for services rendered (whether a public or a private operator) under a Public Service Contract (PSC), rather than on the basis of blanket subsidies.
- Support for private sector participation where appropriate and feasible for urban transport services, rolling stock provision, street infrastructure provision and maintenance, and parking infrastructure and management;
- Grounding of urban infrastructure investments (e.g. roads, bridges, track renewal) on the basis of sound economic priorities, taking into account traffic management improvements, and based on sound environmental and public consultation procedures;
- Application of EBRD public procurement rules in a sector which is subject to non-transparent and corrupt practices;
- Support to local authorities and local transport companies to improve regulatory, institutional, operational and financial performance.

The Bank's current portfolio totals 8 transactions involving urban transport, including three multi-sector projects. The urban transport portfolio exceeds €105 million. The scope of the projects, including their TC components, runs a wide range including financing the purchase of new buses and improvements to bus depots and workshops (Belgrade, Serbia & Montenegro, and Kaunas, Lithuania); financing of upgrades in public transport infrastructure (Sofia, Bulgaria); financing of critical road upgrades (Lodz, Poland); support for the re-organisation of public transport administration (Belgrade, Serbia & Montenegro); implementation of ticketing systems and development of a new parking strategy (Sofia, Bulgaria); urban traffic control systems (Bucharest, Romania) and support to improved capital budgeting and planning (Vilnius, Lithuania). The Bank's urban transport operations are characterised by their attention to the institutional and organisational structure, including legal and regulatory regimes, which govern the efficient design, construction, operation and maintenance of the urban

transport network. It is mainly through this close attention to organisational, institutional and ownership issues that the Bank achieves transition in the sector.

**Table 2.2.2.1 Portfolio and number of operations in urban transport sector**

	<b>EBRD Portfolio €million</b>	<b>Number of Operations</b>
<b><i>By Product</i></b>		
Sovereign	0.0	1*
Municipal	105.7	7
Private	0.0	0
<b>Total</b>	<b>105.7</b>	<b>8</b>
<b><i>By Region</i></b>		
Advanced Transition Countries	65.7	6
Early and Intermediate Transition Countries	40.0	2
Russia	0.0	0
Regional	0.0	0
<b>Total</b>	<b>105.7</b>	<b>8</b>

\* One loan is fully repaid and is no longer shown in portfolio statistics

## **Investment Rationale**

Local authorities throughout the region face the consequences of the twin problems of aging public transport infrastructure assets and increasing private car ownership. Together these trends create higher maintenance costs, greater congestion and reduced economic benefits. (See Annex 2 for more detailed information on the sector.) Urban transport, including road networks and public transport, forms the lifelines of economic development in many cities in the region. Successfully managed, it allows for goods to be efficiently delivered within urban centres as well as connecting with national networks. Public transport provides similar benefits to both users and non-users, by reducing traffic congestion and travel times, and improving the environment.

Car ownership and use in the region exploded after 1989. Traffic congestion ensued and parking has become an increasing problem. Car ownership has grown at about 10% per annum in a number of cities of Advanced Transition Countries over the past decade and reached around 500 cars/1,000 inhabitants in Prague, 400 in Brno and 300 in Bucharest and Budapest. At the same time, if countries follow the same trajectory as the EU-15, considerable growth is yet to take place before car ownership reaches levels already attained in high-income cities such as Rome, Munich, Madrid and Stuttgart (500 to 645).

In countries with relatively low levels of car ownership, public transport provides a key means of getting to and from work. In countries with growing car ownership, public transport can provide a means of alleviating increasing traffic and reducing the rate of environmental degradation. More than 10% of all carbon dioxide emissions in the EU come from road traffic in urban areas, which is also the main source of carbon monoxide and fine particulates. With typically older vehicles, both public and private, these percentages can be even higher in the Bank's Countries of Operation. Traffic congestion often leads to even higher rates of pollution as vehicles are on the road longer for trips of the same distance. If current trends continue, carbon dioxide from transport will be some 40% higher in 2010 than in 1990.

A relatively high proportion of passenger trips are still made by public transport in the region's cities – Bucharest (51%) and Prague (46%). This compares with Berlin (28%), the Paris region (19%) and Brussels (only 14%). However, public transport usage is tending to fall – for example in Prague, public transport ridership fell by 2.6% per annum on average over the past decade and by 50% in Poland between 1986 and 2001. At least part of the reason for the decline is the rapid decline in the quality of service provided by public transport systems. They are increasingly unreliable and uncomfortable due to overcrowding as the fleet ages and falls into disrepair. The need for effective traffic and public transport planning is clearly a priority where improvements in public transport services could reduce or limit the increase of car use in urban areas.

Sustainable solutions to traffic congestion require road investments to be evaluated in the context of a comprehensive urban transport plan. The key to sustainable mobility is smarter management of travel demands and road space. Investments including the upgrade of existing streets, construction of new road links, river crossings and by-passes make economic sense as part of an integrated strategy including public transport improvements and a parking strategy.

Parking problems are growing throughout the region's major cities, which is having an adverse effect on the efficiency of private transport, contributes to road congestion, and reduces the quality of public spaces. At the same time, parking provides significant business opportunities in Western Europe with an annual turnover of car parking operators in the order of € billion. As traffic demands grow in the region's cities, so too will opportunities for paid parking provided by public or private operators/investors. There are 22,100 parking spaces in Sofia city centre, of which 29% are paying spaces. According to a recent survey, only about one-third of parkers using paid parking spaces in the inner city actually paid the correct amount or had a valid pass. Of those parking on sidewalks in that area, around 50% were parked illegally.

Some cities such as Warsaw have contracted out the management of paid on street parking. A key factor in making paid parking viable is effective enforcement of illegal parking through fines, tow trucks and clamping.

## **Sector Conditions**

**Decentralisation/Regulation:** For the most part, responsibility for urban roads and public transport has been transferred to local government in the region. While there is no unique model for organising urban transport in a market economy, the transfer of responsibility has not been accompanied by adequate improvements in legal, organisational, planning, budgeting or other expertise needed to improve the quality of service, allocate or fund investment or select among alternative transport solutions. Typical problems can be seen from the following table:

<i>Area of responsibility</i>	<b>Well-functioning system in a market economy</b>	<b>Typical city in country of operation</b>
Legal Framework	Clear and stable legal and regulatory framework	Local authorities generally “responsible”; no direct reimbursement for concessionary fares
Organisation	Separation of planning and regulatory functions (public sector role) and service delivery (public or private sector)	Vertically integrated with local government setting tariffs, specifying services and delivering services
Planning	Integrated planning of land use and development and all modes of transport, with hard budget constraints	Focus on physical master planning, decoupled from economic and financial planning
Budgeting	Multi-year budgeting of investments	Annual budget allocations
Expertise	High level of professional expertise within the “client” body (local authority)	With notable exceptions, low quality staff due to poor salaries and working conditions; lack of specialist education
Use of market forces	Benchmarking of services, with outsourcing or in-house contracting, as appropriate	Minibus services developed in some cities to meet passenger demands; regulatory frameworks frequently inadequate, with associated health and safety concerns

**Commercialisation/Private Participation:** In most of the Advanced Transition Countries, public transport has been transferred to local authority owned transport companies. Road infrastructure continues to be handled by local authority departments and is often funded by transfers from central government. As a consequence, the focus tends to be on capital investment rather than operating efficiency. Many transport companies are still “production oriented” instead of customer oriented organisations serving passengers’ needs. Appropriate contractual forms providing predictable revenue support in return for defined standards of service are rarely applied. PSCs between municipalities and transport companies are needed to formalise service requirements and payments, allowing efficient financial and capital planning whether the company is publicly or privately owned.

The emergence of private transport operators has tended to be spontaneous and haphazard and often at the fringes of legality, with associated safety concerns. Private operators in an unregulated environment tend to “poach” both the more lucrative routes and the more wealthy customers. Effective regulation is needed to establish licensing regimes which create fair competition among all operators, more extensive coverage of the network, and minimum safety standards. With more effective regulation established, international operators may be encouraged to invest or enter into operating contracts as it is the case already in London, Madrid, Netherlands, Paris and Rome, where private and public transport operators raise finance backed by PSCs.

The private sector can effectively build, operate and maintain off-street parking under concession arrangements with city governments. Because parking charges can be an important source of revenue, properly structured, they can leverage finance for new facilities. The first step is to gain control of on-street parking, which in some countries is not possible due to legal impediments (Slovakia, Russia). Expansion of private financing in this sector also depends on effective regulatory frameworks.

**Cost-Recovery/Affordability:** The experience in most developed economies is to provide significant transfers for public transport in recognition of the positive externalities of public transport systems. Fare box revenues are typically 30-60% of cost in Western Europe. Although some cities in Advanced Transition Countries

substantially exceed this ratio (Krakow 87%; Ljubljana 96%) it is normal for transport companies to rely on municipal support in the form of budget allocations, including for non-commercial and social services. However, fare box ratios can be much lower in other parts of the region. Often, particularly in Russia and the CIS, the practice of creating categories of citizens eligible for free or low cost fares contributes to losses or de-facto operating subsidies for public operating companies.

Road transport is generally supported from general tax revenues, with little in the way of tolling for bridges or tunnels, although in some countries, a portion of the national petrol tax is distributed to municipalities for urban roads. Parking systems, where implemented in some countries, are one of the few areas in the sector that have successfully demonstrated the potential for cost recovery.

In Western Europe, the proportion of household expenditure spent on transport is typically in the range of 10-15%. In the Bank's Countries of Operation, the prohibitive cost for many people of private transport, and the need to generate higher revenues from the fare box would suggest that affordability is an issue. At present, informal private operators tend to charge a premium tariff which creates segmentation of the market.

### **Future Trends and EBRD Role**

- The Bank will continue to support investments that facilitate commercialised approaches by public and private operators throughout the region.
- In the public sector, the Bank will focus on operations that facilitate the commercialisation of municipal transport companies based on PSCs and tariff reform, ensuring transparent and enforceable multi-year arrangements in support of creditworthy lending and investment structures, reflecting the partial cost recovery nature of urban transport services, and including payments for non-commercial services provided in the public interest.
- Furthermore, the Bank will support investments in local authority road and bridge construction where the underlying investment generates sufficient economic returns and where the project strengthens the institutional capacity of the local authority for improved traffic management, improved tariff regimes and transparent procurement management.
- The Bank will facilitate PPPs in creditworthy local authorities for public transport infrastructure and services, car parking concessions and PSP solutions for road and bridge construction and maintenance, applying lessons learned from existing experience in the water sector, particularly in regard of risk allocation, regulatory oversight and transparent multi-year public service obligation payments.
- Leasing is a common financing tool for many municipalities and their transport companies to leverage their limited capital resources in providing improvements in rolling stock more quickly. The Bank will support clients where appropriate, usually in the form of lease payment guarantees or direct funding to lessors. At the same time, the Bank will ensure that utilisation of leasing and their required annual payments are consistent with a municipality's comprehensive capital investment programme.
- Specifically in Early Transition Countries, the Bank will focus on infrastructure investments that have high economic priority and on traffic management systems as a lower cost method of relieving traffic congestion and to facilitate

improved public transport services. This will be coupled with institutional strengthening for local authorities for better regulatory oversight and for application of competitive procurement practices for investments and private sector partners based on best international practice.

### **2.2.3 Solid Waste Management Sector**

The solid waste management sector encompasses a range of services covering solid waste collection, landfill development and operation, other disposal methods, including incineration, recycling and specialist waste businesses including hazardous waste handling and disposal.

#### **EBRD Experience**

EBRD operations in the solid waste management sector have been based on the following policy and operational considerations:

- Waste collection and disposal sectors are generally suitable for full cost recovery approaches and therefore, like in the water sector, commercialised structures based on full cost recovery for operations and maintenance can be applied. As a result, credit structures can benefit both from the expectation of sufficient cash-flows generated at sector level and the support from local authorities or national authorities by way of financial guarantees or performance undertakings.
- Focus on commercialisation, good environmental and corporate governance make solid waste projects suited as vehicles to implement transition oriented project structures that support improved and sustained service delivery.
- Safe and effective treatment of solid waste helps meet international environmental standards and avoids health hazards to the population.

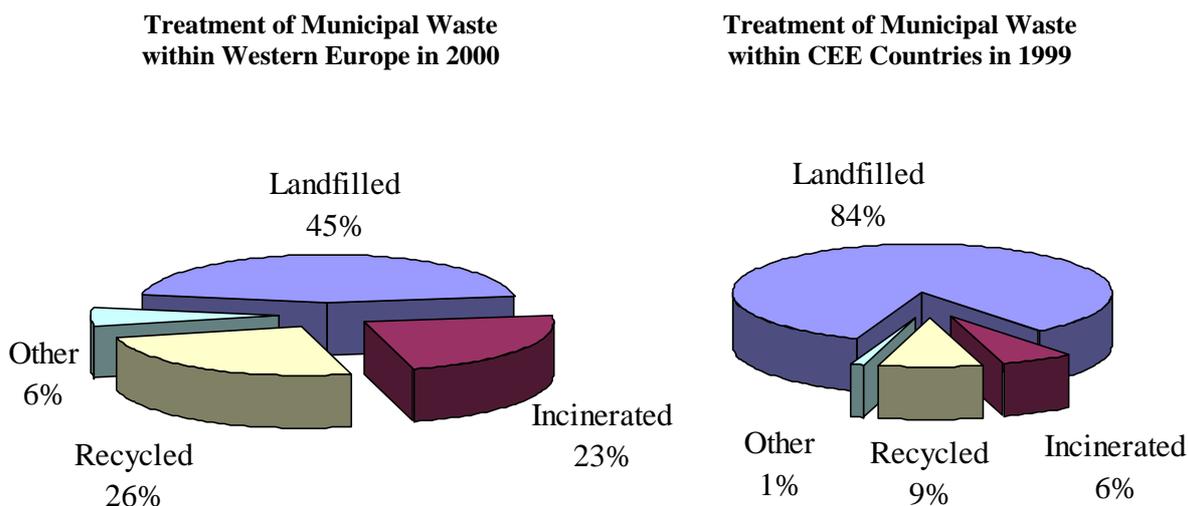
The EBRD's portfolio comprises 5 waste management projects with a total value of €4 million. This experience ranges from the construction of a modern commercial landfill in Zagreb, Croatia to improvements in collection systems and landfill infrastructure in Tashkent, Uzbekistan. Solid waste projects depend critically on developing a political consensus at central government level (with respect to establishing a National Waste Strategy) and at a regional or local level (to support and implement the Strategy through enforcement of environmental laws and regulations). In addition, commercially oriented institutional structures are needed which allow commercial operators to emerge and succeed. Establishment of new landfills for example are not commercially viable unless illegal and non-compliant existing landfills are closed and all parties deliver waste to the new approved and compliant site. The complexity and political sensitivity of solid waste projects is both an opportunity and a challenge for the Bank.

**Table 2.2.3.1 Portfolio and number of operations in the solid waste sector**

	<b>EBRD Portfolio €million</b>	<b>Number of Operations</b>
<b>By Product</b>		
Sovereign	10.9	1
Municipal	42.9	3
Private	0.5	1
<b>Total</b>	<b>54.3</b>	<b>5</b>
<b>By Region</b>		
Advanced Transition Countries	27.5	3
Early and Intermediate Transition Countries	26.8	2
Russian Federation	0.0	0
Regional	0.0	0
<b>Total</b>	<b>54.3</b>	<b>5</b>

### Investment Rationale

Solid waste management is increasingly viewed as an important component of environmental improvement in the Bank’s Countries of Operation. In the Advanced Transition Countries, this is in part driven by EU regulations, which themselves reflect an increased focus in Western Europe on the potentially harmful effects of “hazardous waste” as well as the need to reduce the dependence on potentially unsafe landfills. But it is also a reflection of the relationship of the amounts of waste generated by economic development, particularly in the transition to consumer-focused economies. In the year 2000, for example, municipal waste in the Advanced Transition Countries averaged 370 kg per capita, with corresponding figures for Russia and the CIS at around 225 kg per capita, compared with 505 kg in Western Europe. There is a significant difference between the Bank’s Countries of Operation and Western Europe, reflecting the different methods of treatment of solid waste. (See Annex 3 for more detailed sector information.)



It is expected that there will be an increasing convergence of methodologies, particularly among the Advanced Transition Countries, as they comply with EU directives. The costs of this compliance will be substantial (see Table 2.2.3.2).

**Table 2.2.3.2 Estimated EU Compliance Costs in Waste Sector (investment costs)**

Country	(€millions) <sup>1</sup>	(€millions) <sup>2</sup>	(€millions) <sup>3</sup>	Cost/capita (€/inhabitant)
Bulgaria	671	2,477	2,150-3,000	80-340
Czech Republic	3,800	1,152	1,116	110-370
Estonia	698	698	n/a	485
Hungary	4,400	454	n/a	45-435
Latvia	259	343	n/a	105-140
Lithuania	325	364	n/a	89-100
Poland	3,695	3,695	4,000	95-105
Romania	2,788	2,568	5,971	115-180
Slovak Republic	1,205	892	2,008 <sup>4</sup>	165-370
Slovenia	1,600	1,073	n/a	540-808

Source: [www.eurowaste.org](http://www.eurowaste.org)

## Sector Conditions

**Decentralisation/Regulation:** Responsibility for household waste collection and disposal is generally with the local government in the Bank's Countries of Operation. Environmental regulation is generally the responsibility of national Ministries of Environment. In the Advanced Transition Countries and some Intermediate Transition Countries, national Waste Management Plans are being developed and implemented. These Waste Management Plans generally dictate the number and location of landfills and other disposal facilities and set targets for the amount of waste to be recycled. In many countries there is also regulation for fees that are charged to households for waste collection.

**Commercialisation/Private Sector Participation:** Waste management at the local level is often the responsibility of a municipal department or separate waste management company owned by the municipality. These companies generally rely on a solid waste fee (or tax) collected from households. They utilise these funds to pay for both collection and disposal, sometimes with additional transfers from municipal government. Increasingly these enterprises are either being privatised or are contracting out responsibility for collections to private operators. Although many landfills are owned and operated by local and international private sector companies, increasing requirements for environmental upgrades are leading to many of these being shut down, particularly those without the necessary access to capital. As more countries adopt waste-to-energy facilities as a means of dealing with increasing amounts of solid waste and requirements to increase renewable energy, they will likely call on international private sector operators and investors.

**Cost Recovery/Affordability:** Most municipalities utilise a dedicated tax or charge to pay for solid waste management costs. Because of difficulties in measurement at the household level, these are not usually based on volume. Generally these fees and charges are adequate to pay for ongoing operation costs, but may be inadequate to pay for required capital investments. Volume related charges are usually employed at landfills and incinerators and generally reflect the cost of service. But because of the potential for competition from disposal sites that are not implementing capital upgrades,

<sup>1</sup> DISAE discussion paper "Development of Implementation Strategies for Approximation in Environment", Brussels, June 1998.

<sup>2</sup> "Economic Instruments and Environmental Policy in CEE" J.Jantzen TME, Hague September 1999.

<sup>3</sup> Publicly available estimates in CEE countries - [www.eurowaste.org](http://www.eurowaste.org)

<sup>4</sup> Halcrow & Partners Ltd. (1999) Provision of Technical Assistance in the Approximation of Waste Management Legislation in the Slovak Republic.

it is often difficult to raise these charges to pay for improvements. This problem is exacerbated by the failure of central government to rigorously enforce compliance. Household fees are generally affordable in Accession States, but in early and intermediate transition countries, affordability places a particular constraint on meeting cost recovery targets. One source of additional support is coming from central government environmental funds which are financed from charges levied on private sector polluters, e.g., on those producing the packaging that results in solid waste.

### **Future Trends and EBRD Role**

- Increasing levels of waste generation (including sludge from new wastewater treatment plants) and increased focus on improving the environmental impacts of disposal will require substantial capital investment. Incineration facilities including waste-to-energy plants, in particular, will require large amounts of external capital as well as the expertise of international operators. EBRD can play a major role in providing both debt and equity support for operators.
- Many municipalities are too small to support their own capital investment and regional waste management companies are being formed in many countries to achieve economies of scale and improved environmental compliance. Regional structures will require not only capital, but also TC funding to assist counterparts in developing the appropriate organization and financial structures that will ensure sustained service delivery in the long term.
- In all Countries of Operations, including Advanced Transition Countries, the capacity to develop and prepare projects suitable for EU grant co-financing is weak. Similar to its activities in the waste water sector, EBRD will play a role in both preparing and co-financing such projects supporting transition intensive investment projects while accelerating compliance with environmental standards by local authorities.

#### **2.2.4 District Heating Sector**

District heating is the provision of space heating and hot water via distribution systems connected to block residential housing, commercial and public buildings. The systems include the pipe networks and heat exchangers connected to buildings. They may also include boilers generating heat (often together with electricity) although heat generation is often managed by separate companies which sell heat to the district heating entity.

#### **EBRD Experience**

District heating accounts for a substantial portion of total energy used in many of the Bank's Countries of Operation (generally around 10-12% of total energy consumption). However, systems suffer from chronic under-investment and usually need substantial sums (equivalent to several times annual revenues) in order to achieve acceptable levels of efficiency and reliability. As a consequence district heating accounts for a disproportionately high level of energy wastage and is characterised by poor service levels and affordability problems for the low income groups which are the main consumers. Therefore, in developing its portfolio the Bank has been guided by the following operational principles:

- Identifying those systems which provide the least cost solution for the provision of heat services – taking into account total costs including those borne by end users to purchase alternatives such as individual boilers.
- Supporting local authorities and central government to develop a cohesive district heating strategy that is properly and consistently integrated into the municipal framework as well as the national energy strategy.
- Encouraging tariff transparency by establishing the true cost of heat services and properly quantifying involved subsidies - including payments to consumers as well as direct payments to district heating companies.
- Encouraging subsidy regimes which focus on targeted assistance rather than operational subsidies to enterprises, while recognising that significant transition periods may be needed, particularly in poorer countries, where cost-based tariffs would be affordable only the highest income brackets.
- Encouraging private sector participation while taking into account the substantial investments required in most systems and the historical context of low tariffs and poor collection rates. In practice this means that the private sector will be unable to achieve an acceptable return if it is required to carry the investment burden on its own. Nor will it be prepared to take a significant level of revenue risk where regulatory constraints or affordability levels will restrict its ability to set tariffs and recover costs. Solutions are therefore more likely to be based on provision of operational expertise, rather than full investment responsibility.
- Where available, making use of grant resources to co-finance alongside EBRD debt or other commercial sources, achieving sustainable service improvements within the context of affordability constraints.
- Where possible including district heating components in local authority investment projects (for example in public housing schemes) to leverage institutional and operational resources.

The Bank has financed 5 district heating projects, and the portfolio now stands at €95 million, all in Early and Intermediate Transition Countries. The Bank's loans financed specific projects in three cities, Sofia (Bulgaria), Belgrade (Serbia) and Andijan (Uzbekistan) and two projects in Romania: Bucharest and a multi-municipality transaction. The projects focused on physical improvements as well as improving the tariff and organisational structures of the municipal district heating companies. The traditional focus of the Bank's activities in the sector was to focus on energy efficiency. Its approach has moved to focusing on improving the overall operational efficiency and commercialisation of district heating companies in both the public and private sector. In practice, district heating requires the continued involvement of the public sector to support the investment directly or through guarantees of adequate revenue streams from users (tariffs) or from appropriate public service payments (transfers).

**Table 2.2.4.1 Portfolio and number of operations in the district heating sector**

	<b>EBRD Portfolio €million</b>	<b>Number of Operations</b>
<b>By Product</b>		
Sovereign	74.6	4
Municipal	20.0	1
Private	0.0	0
<b>Total</b>	<b>94.6</b>	<b>5</b>
<b>By Region</b>		
Advanced Transition Countries	0.0	0
Early and Intermediate Transition Countries	94.6	5
Russia	0.0	0
Regional	0.0	0
<b>Total</b>	<b>94.6</b>	<b>5</b>

### **Investment Rationale**

Many of the Bank's Countries of Operation, particularly those with colder climates, have some form of district heating facilities in their cities. Often targeted at serving densely populated city areas, they can provide a relatively efficient source of heat for both housing and commercial buildings. Energy costs represent a significant portion of household costs and heating can require up to 60% of a household's energy needs. Reforming outdated equipment and environmentally polluting heat generation facilities is therefore of major importance for municipalities and their residents. At the same time, it should be recognised that unlike water and wastewater treatment, district heating is not a natural monopoly, as alternative heating sources may be available to those who can pay. Although there are significant barriers to change for low-income residents, there are substitutes for district heating in the form of gas or electricity networks. This requires a coordinated regulatory approach to the energy sector. As Table 2.2.4.2 shows, even within Advanced Transition Countries, certain parts of the energy sector are regulated while others are not, leading to distortions in pricing that can affect consumer decisions in an inefficient manner:

**Table 2.2.4.2 Energy Sector Regulation in Advanced Transition Countries**

<b>Country</b>	<b>Energy Act</b>	<b>Electricity Act</b>	<b>Natural Gas Act</b>	<b>DH/ Heat Law</b>	<b>CHP Law</b>	<b>Energy Efficiency Law</b>
Bulgaria	Yes	No	Yes	No	No	Yes
Czech Republic	Yes	No	No	No	No	Yes
Estonia	No	Yes	Yes	Yes	No	No
Hungary	No	Yes	No	Yes	No	Yes
Latvia	Yes	No	No	No	No	No
Lithuania	Yes	Yes	Yes	Yes	No	No
Poland	Yes	No	No	No	No	No
Romania	No	Yes	No	No	No	Yes
Slovakia	Yes	No	No	No	No	Under preparation

Investment requirements include:

- improvements in replacement of pipe networks to reduce water and heat losses and to improve cost efficiency;
- replacement of old, inefficient boilers with new boilers using modern efficient technology;
- development and rehabilitation of combined heat and power facilities designed to satisfy the base load heat needs.

In addition, more localised heating solutions, serving individual buildings or neighbourhoods can also provide more efficient cost of service. (See Annex 4 for more detailed sector information).

**Commercialisation/PSP:** With the exception of Bulgaria, district heating companies are primarily under municipal and in some cases private ownership. The political concern over the impact that tariff increases have on customers has often limited their ability to get tariff increases approved. Tariffs which do not account for depreciation are inadequate to finance the necessary improvements in infrastructure, which would make operations more efficient. This long-term lack of investment in infrastructure ultimately leads to rising costs and makes district heating increasingly uncompetitive with other sources in terms of price. As a result more and more customers are switching to individual heating units or converting to natural gas as a source of heat. Ironically, the loss of customers further increases the price for consumers who remain customers of district heating. This is particularly true where there are price controls on natural gas or electricity for residential customers.

In some Advanced Transition Countries, such as the Czech Republic and Poland, where regulatory regimes have improved, in particular the elimination of subsidies on alternative energy sources, significant PSP activity has taken place. The challenge is to identify where district heating investments will lead to a least cost, and therefore, competitive and sustainable solution.

**Cost Recovery/Affordability:** District heating companies usually rely on tariffs for most of their income, but these tariffs generally only cover operating costs and are usually insufficient to provide for significant capital investment. This is particularly true when alternate energy sources are subsidised or overly regulated. Because of the poor reputation of district heating and its association with Soviet style housing, relatively little attention is paid to providing the investment needed to upgrade its performance. If the full cost of investment were transferred to users while electricity and gas remain subsidised, affordability concerns would likely lead to a continued decline in the customer base.

Carbon credit programmes could be an additional source of income for district heating investing in improvements that reduce the emission of greenhouse gases. However, the additional cash flow generated by the sale of carbon credits can only supplement full cost recovery tariffs. It is not a substitute for sound tariff policy.

## **Future Trends and EBRD Role**

- District heating will continue to be subject to competition from alternative sources of heating supply. Lack of investment creates poor service which motivates better-off clients to switch. While this trend may continue, selected investment programmes, where district heating is the least cost alternative and is economically justified, will be the focus of EBRD financing, ensuring that poorer customers will continue to benefit from affordable sources of heating.
- The Bank will focus on operations that facilitate a commercialised approach in the sector, ensuring transparent arrangements in support of creditworthy lending and investment structures, reflecting the partial cost recovery nature of many of the district heating systems.
- In order to structure and implement successful projects in the district heating sector the Bank will continue to focus on the mobilisation of TC support to address operational and financial challenges at company level, increase the ability of the local authority for adequate regulatory oversight and support and to encourage policy decisions at national level that provide an adequate playing field for competing services.

### **2.2.5 Social Sectors**

#### **EBRD Experience**

The social sector covers public housing, health services, education, recreation and culture. The Bank has received a number of requests for intervention, in particular in the sectors of public housing and health services, mainly in the Advanced Transition Countries and in Russia. Sector reviews for public housing have been carried out in Poland and Hungary, and international best practice has been reviewed. Preparation has been initiated on a number of projects, in particular public housing and urban revitalisation projects in Russia and Poland, although none have yet been concluded. The Bank has also gained experience through TC-funded Creditworthiness Enhancement Programmes which have addressed improved municipal asset management, including municipal housing.

It has become clear that:

- the social sectors have been very slow to enter the reform and transition process, including in the Advanced Countries;
- the Bank's approach to other local infrastructure sectors, in terms of commercialisation, private sector involvement, improved regulation and good governance could bring transition benefits if applied to the social sector;
- there has been sufficient sector reform in some countries which would enable the Bank to start developing transition-oriented projects;
- investment in social infrastructure, in particular housing and urban revitalisation, is moving up the list of priorities for municipalities; and
- there are an increasing number of municipalities requesting Bank involvement in the sector.

## **Sector Conditions**

Social sector services, in particular public housing, health and education, are a major part of the responsibilities of local and regional governments in most countries of the region, and usually represent more than 50% of local government expenditures. Generally, these responsibilities were decentralised during the early 1990s, with the state handing responsibility to local or regional governments, although under an inadequate financial framework which did not provide sufficiently for infrastructure maintenance and renewal.

Local and in some cases regional governments remain large owners of public housing since decentralisation in the early 1990s, much of which remains in poor condition. For example in Poland, public expenditure on housing has declined since 1991 from 1.5% of GDP to 0.28% of GDP in 2002, in contrast to Holland, Sweden and UK where the figure is 3% of GDP, and Ireland, Finland, Italy where the figure is 1%. It is estimated that 7.5 million dwellings in Poland require renovation, of which 1.3 million require major repair and 800,000 require demolition.

There are a number of developments in the sector which provide a context for transition-oriented projects. With respect to housing, these are as follows (although there have been similar developments in the health sector):

- Municipalities increasingly want to channel investment into the sector to reverse economic degradation, while improving living conditions and providing a better environment for the private sector.
- Early steps to commercialisation are being taken in some cities, such as transformation of city departments into public commercial-law housing companies and outsourcing of maintenance and management services to the private sector.
- Some cities are considering leasing or asset disposal of refurbished assets to the private sector.
- Financial structures involving security over revenue streams, over-collateralisation of assets, step-in rights to manage assets, and other structures typical internationally are becoming legally and financially viable in the region.
- In Advanced Transition Countries, public housing investments are increasingly becoming linked with urban revitalisation schemes planned for co-financing under the EU Structural Funds, building on the Urban I and II Initiatives applied in the EU-15. These projects offer further scope for commercialisation/private sector involvement both through infrastructure service provision and through stimulating SME development in the city centre.

## **Future Trends and EBRD Role**

The following trends are anticipated for the social sector:

- Local governments will accord higher priority to investment in the sector to enable infrastructure renewal, improved service provision, and efficiency improvement.
- The regulatory and financial frameworks will increasingly open up possibilities for transparent long-term service contracts, further commercialisation of service

providers, improved governance and sector benchmarking. This will in turn enable revenue-backed financing and other commercial project structures as currently applied in the urban transport, water and solid waste sectors.

- Although the scope for private service provision in the sector should increase, this is a sector heavily dominated by the public sector throughout the world, and this is likely to remain true in the Bank's region. Direct private service provision is likely to grow slowly, although private involvement through outsourcing, best-practice construction contracting, and project management will increase.
- In the Advanced Transition Countries, where health, urban revitalisation, recreation and other social investments are becoming eligible for grant funding under the Structural Funds, there will be increased scope for financially viable projects and for co-financing with EU and domestic funds.

Recognising that market conditions are only now becoming suitable for Bank involvement in the sector, the Bank's approach will be selective, focusing on a small number of transactions suitable for Bank involvement and consistent with the Agreement Establishing the Bank in which the Bank's broader experience in infrastructure services and municipal financing can be applied. Specifically the Bank will target projects which involve private sector capital at risk (e.g., through outsourcing of management and maintenance, project management, or a PPP approach) and/or where the immediate or ultimate goal is the privatisation of all or a significant part of the underlying assets or share holdings. In the first phase of each project, the required degree of private sector involvement may vary according to the broader operational environment in each country and may therefore be less significant in the case of Early and Intermediate Transition Countries and the Russian Federation than in some Advanced Transition Countries.

In the context of these projects, the Bank may also focus on arrangements which can deliver additional transition benefits in the form of financial, organisational and regulatory reform, as well as good governance and transparency in public sector administration.

The Bank will coordinate such projects closely with IFIs active in the sector and with commercial banks active in the sector internationally. The Bank will also coordinate closely with donors, including with regard to TC given that the need for TC both for project preparation and implementation is considered high.

### **2.3 Summary of Lessons Learned**

The Bank's experience in MEI has been generally positive as confirmed by reports from the independent Project Evaluation Department (PED). Projects which have been formally reviewed by PED show relatively high transition impact and additionality while scoring less well relatively in terms of company performance. From an overall sample of 12 projects reviewed, transition impact has been on average Good/Medium with Medium risk while the overall rating is between Partly Successful and Successful. Only one project was overall ranked Unsuccessful, while six projects were Successful and the balance Partly Successful. Problems with some projects in the earlier years may be explained by the large number of public sector clients and initial unfamiliarity with

commercial concepts, with projects evaluated after 2002 generally being good or excellent in terms of company performance.

The following sections outline “lessons learned” from MEI operations to date. These lessons are being applied to subsequent operations.

### **2.3.1 Project selection**

The complexity of municipal infrastructure projects and, in particular, the broad range of stakeholders including typically the public utility as client/beneficiary of the loan, their customers and citizens, and the government at municipal, regional and central levels places a high premium on making effective judgements at an early stage with respect to the political, economic and financial viability of a potential project. Some of the key lessons learned are:

- Ensure that the management of the utility as client/beneficiary is motivated to “champion” a commercially oriented approach;
- Ensure that the local political administration understand and accept the consequences of “user pays” and “cost recovery” concepts and specifically that the need for tariff adjustments are accepted explicitly;
- Use a detailed form of “Mandate Letter” or “Pre-financing Agreement” which:
  - explicitly covers the indicative terms and conditions of the loan and the actions prior to signing which may be required of the company or of the policy makers in terms of achieving a satisfactory operational, legal or regulatory framework;
  - ensures that all decision makers are clear about the project parameters up-front; and
  - provides reform champions with sufficient time to rally support in councils and other decision making bodies;
- Pay close attention to governance issues especially the process by which management is appointed and motivated;
- Achieve wherever possible a coordinated IFI and/or donor position on the specific reform agenda which needs to be implemented either before or during project implementation.

Much of the transition impact achieved through municipal operations is achieved by establishing in a transparent and public way the necessary reforms at company and at local government level which enable financially and operationally sustainable solutions.

### **2.3.2 Structure and design**

Municipal operations have had a variety of structures reflecting the need to be responsive and flexible to client needs and aware of local conditions. EBRD’s ability to take risk at the local level with limited recourse to regional or central government has led to extensive innovation in the area of sub-sovereign security structures. Some of the key lessons learned are:

- Ensure that the structure binds relevant parties contractually to provide governance, authorisations, permits, services, guarantees etc. so that risks are

appropriately distributed to the parties best suited to bear such risk. This principle applies to both PPP structures and to public utility transactions.

- Make an explicit evaluation of the project implementation capacity of the client and build into project design adequate TC funding to develop the client's institutional capabilities and assist in implementation.
- In cases where municipal finance markets are not developed, the Bank should anticipate market terms and conditions to allow syndication or co-financing with commercial partners once the market is ready to move in.
- Where private sector participation is contemplated and encouraged, actively facilitate interest in the market to ensure that there is a pool of market players available.
- Transition impact and policy conditionality should as much as possible be front-loaded.
- Recognise the value of the use of grant funded TC as a "facilitator" to support reform minded factions within a local administration to engender change in their organisations.

### **2.3.3 Co-financing**

- The Bank places emphasis on use of co-financing with commercial banks in order to encourage the development of municipal markets and to leverage the Bank's own resources. Local commercial banks in particular will provide the backbone of municipal finance in each of our countries of operation, either as direct funders or as initiators of capital markets programmes. Accordingly, the Bank works closely with these institutions at an early stage to develop co-financing structures that are suited to the local market.
- At the same time, the Bank's co-financing policy should promote a solid credit environment that recognizes creditworthiness where it exists, but also discourages imprudent lending that can lead to distortions in the market and more reckless behaviour by municipalities.
- By encouraging co-financing the Bank will have to accept that its participation in individual financings may be relatively small, recognizing that it is nonetheless serving the purpose of promoting transition and extending the capacity of the municipal market. Increased emphasis on co-financing with other participants will also likely lead to a decrease in volume for the Bank's direct participation.
- Within the context of specific investment projects, the Bank can play a transition intensive role in the refinancing of existing general municipal debt in those situations where: revenue and cost recovery based financing structures are more appropriate; or restructuring of the existing debt would provide access to additional capital for necessary investments. This is under the proviso that transparent disclosure is maintained by the municipality and that adequate safeguards are in place to ensure that the financial headroom gained by such re-financing is used prudently. The Bank has been involved in such re-financings in Tallinn (Estonia), Riga (Latvia), Wroclaw (Poland) among others.

### **2.3.4 Supervision and monitoring**

Local authority operations have both relatively lengthy preparation times and extensive implementation timelines as they incorporate client driven design, engineering, public

procurement, contracting and building schedules, all against a background of generally weak institutional capacity. Disbursement occurs as and when contracts are fulfilled and certified and financial and operational covenants met. Accordingly supervision and monitoring by the Bank encompasses both the periodic financial and operational review of the implementing company and the status of physical implementation by engineers and contractors. Some of the key lessons learned are:

- Manage the client's expectations regarding the timetable of project preparation and implementation and provide early training and regular dialogue on implementation issues using the Bank's procurement specialists.
- Conditions precedent (between signing and disbursement) should focus on key financial and operational risk parameters and avoid policy conditionality which could take time to implement and would conflict with physical implementation.
- Anticipate implementation challenges by building procurement and contracting strategies into project design. For example the use of proceeds and consequently procurement strategies should be structured around a limited number of large contracts, if possible.
- Weaker institutions should be provided explicit support for the establishment of a Project Implementation Unit (PIU) through TC funds, as appropriate.
- Use the local presence, language and relationship advantages of the Resident Offices to achieve more effective supervision and implementation.

A number of the Bank's countries of operations have been evaluated by Transparency International (TI) as having high levels of perceived corruption. The level of perceived corruption in a country is published in TI's Corruption Perceptions Index 2003. The Bank's Procurement Policies and Rules require that for both public and private sector operations, beneficiaries of Bank loans, as well as tenderers, suppliers, contractors, concessionaires and consultants under Bank financed contracts, observe the highest standards of ethics during the procurement and execution of such contracts. As part of its due diligence during both the preparation and implementation phases of a project the Bank pays particular attention to the possible risk of corrupt activities taking place in an operation.

Corrupt practices can occur at any stage of the procurement process. For procurement under public sector operations the Bank conducts ex ante reviews of the tender documents, tender evaluation reports and contract documents. Disbursement under the contract will not be authorised unless the Bank is satisfied that the client has followed agreed procedures during the procurement process and contract administration. Any proposed changes to the contract after contract award has taken place must be referred to the Bank for its no objection. The Bank often engages a Lender's Monitoring Consultant to monitor the procurement process and contract administration to ensure that sound commercial practices are being applied. If at any time instances of fraud and corruption are identified by the Bank, or brought to the Bank's attention either through direct contact with the project team, the Procurement Department or the Bank's "Hotline", the case is fully investigated by the Bank's Procurement Department and/or the Office of the Chief Compliance Officer. The Bank also, on occasion liaises with the Integrity Investigation Unit at the WB in Washington. Intelligence is sometimes shared between the institutions particularly where there may be cases of fraud and corruption being investigated that affect mutual clients or where there are companies engaging in

corrupt activities who are participating in tenders or contracts under projects financed by either institution.

### **3. TRANSITION CHALLENGES**

#### **3.1 Advanced Transition Countries**

The pace of transition among the Advanced Transition Countries with respect to MEI has not always been consistent across countries. In terms of decentralisation, Slovakia, for example, is only now in 2004 completing the transfer of the country's water and wastewater systems from national ownership to new regional water companies. Private sector participation in water and other sectors has been utilized in many countries but not consistently. For example, while in Poland, relatively little involvement of the private sector has taken place, nevertheless commercialisation of municipally-owned companies has developed apace. Improvements in developing proper cost recovery systems and appropriate contractual relationships with operators in sectors other than the water sector remain as a challenge for many municipalities.

##### **3.1.1 EU Accession**

Accession to the EU brings mandated environmental compliance with agreed-upon schedules. Ultimate responsibility for meeting these mandates, institutionally and financially, often lies with local government. EU accession also, however, brings significant grant funding for environmental and other infrastructure projects. Such grant funding, which is often accompanied by additional funding from central government, makes these projects more affordable for the local population. They also ensure that projects which are important for environmental and economic development move ahead in a timely manner.

At the same time, they require improvements by local and central government in their ability to prioritise investments to ensure that the most important projects receive funding. Often, grant funding breaks the link between capital investment and operations and can also make it more difficult to involve the private sector. In addition, it increases the pressure on local government to ensure that management of grant-funded capital investment is efficient and adequately funded. In the absence of efficient operations, capital investment can quickly lose its value. Improving operational efficiency and providing adequate cost recovery for capital investment co-financing and ongoing operations remains a challenge for municipalities in these countries.

##### **3.1.2 Regional Development**

Many of the Advanced Transition Countries have responded to the focus of the EU on regional development by creating a new level of government between the sovereign and municipalities or increasing the responsibilities of existing regional governments. While historically regional and district government offices often existed, these were largely agents of the central government. Today, they are being given more independence as well as additional responsibilities for investment and operations. Typically, their responsibilities include some or all of the following: local transport including regional roads, secondary education, health care, solid waste management, and economic development. Often they have inherited debt-plagued state institutions, such as schools

and hospitals with limited resources for their management. At the same time, in some cases, responsibilities that have devolved to local governments, such as water supply and wastewater treatment, are better suited to regional solutions, because of economies of scale. As a result, new regional bodies are being created to deal with these specific problems. The transition challenges facing these new regional entities are many. They must develop a reliable system of revenues that will allow them to fund ongoing operations and also finance necessary capital projects. As part of this they must, in some cases, determine whether financial responsibility will be at the local level or at the regional level. They must determine which responsibilities are best handled by government and which would benefit from private sector involvement.

### **3.1.3 Smaller Municipalities**

Even as many of the larger cities in the Advanced Transition Countries manage to access capital from a variety of sources, including grant funding, commercial banks and the private sector, many smaller communities are left without adequate resources to implement necessary improvements in their infrastructure and operations. In Hungary, for example, the municipal debt laws only permit borrowing by municipalities which have their own source of revenues, thereby cutting many smaller municipalities off from borrowing. At the same time, they are less attractive targets for private sector investors. The basic challenges for these municipalities is to successfully access capital, either through regionalization or by developing greater access to local credit markets. In developing regional solutions, they must also ensure that they establish an organization structure that allows them to attract financing and also to operate efficiently.

The **Transition Challenges in Advanced Transition Countries** can be summarised as:

- Promote transparency of operational and financial arrangements and promote financial sustainability through user pay principles, local authority payment for non-commercial services, and off-budget funding structures.
- Develop operational, financial and procurement structures at the regional and small municipality level ensuring that improved and sustainable local service delivery reaches out beyond primary and secondary cities on the basis of EBRD's public sector procurement rules.
- Encourage private sector participation where it brings economic benefits and contributes to greater operational efficiency, including in structures that combine EU investment grant support with PPP approaches.
- Encourage the entry of new players into the municipal finance market through commercial co-financing structures and mobilisation of finance through innovative use of the capital markets.
- Within the above context, facilitate the allocation of EU investment grant finance in a transition intensive way.
- Promote cost effective environmental improvements in the industrial sector through out-sourcing of industrial waste-water treatment.
- Provide refinancing of existing general municipal debt in those situations where: revenue and cost recovery based financing structures are more appropriate; the current debt structure does not reflect the life of the assets that were financed; or restructuring of the existing debt would provide access to additional capital for necessary investments. Such transactions would be carried out in conjunction with commercial banks.

- Promote commercialisation and private sector participation in the provision of social services, such as housing and urban renewal.

### **3.2 Intermediate Transition Countries**

The larger countries of South East Europe, i.e. Bulgaria, Romania, and Serbia & Montenegro have generally embraced reform of the local government sector, although with mixed success. Bulgaria is currently undergoing transition in its municipal finance system, with a new law on municipal debt. At the same time, its decentralisation efforts over the past ten years made no accounting for capital investment requirements with funding and decision-making remaining at central government level. Romania in contrast has established a fairly reliable decentralised fiscal and administrative system and is now in a position to attract non-sovereign commercial financing for certain of its local authority investments. Serbia and Montenegro implemented important changes to increase the amount and predictability of local government revenue streams but reform is still ongoing and final outcomes are uncertain.

Efforts to improve local authority finance systems have been accompanied by advances in cost recovery approaches although experience varies. Romanian utilities, particularly those that have borrowed externally under Municipal Utility Development Programme (MUDP) and Municipal Environmental Loan Facility (MELF) arrangements from the Bank, are now operating largely on a financially self sustainable basis. Strong progress is evident in some of the larger Serbian and Montenegrin utilities although water tariffs remain relatively low in Serbia. Outside of Sofia, Bulgaria has not yet established cost recovery at the level of utilities and tariffs remain low and subject to political changes. Legislative reform establishing an independent regulator is planned to create greater predictability of revenue from user charges.

In Ukraine, efforts to establish a fiscal framework for sustainable local finance have started. In July 2001 a new budget code was adopted, improving revenue predictability, clarifying expenditure responsibilities and eliminating some of the previously unfunded mandates. However, local authority revenues are still subject to tight control and allocation by the central government. Cost recovery tariffs are not widely used in the country and as a result, the creditworthiness of the local utility sector is low.

In Kazakhstan, central local fiscal relations are among the most restrictive in the Bank's Countries of Operation. The legislation approved in 2003 prohibits local governments to borrow from foreign lenders, including IFIs. (Law of the Republic of Kazakhstan of 2 July 2003 on the amendments to the Law on State Debt and State Guarantees of 2 August 1999, Section 3, point 9, states: "Local authorities are prohibited from incurring foreign debt".)

Moreover, any borrowing by local governments on the domestic market must be now approved by the Ministry of Finance. The extent to which the Kazakh central government now controls local governments' borrowing in particular and financial management in general, go far beyond measures taken elsewhere, except for certain Early Transition Countries.

Performance of municipal companies in Kazakhstan can be characterised by low efficiency and insufficient cost recovery. User tariff adjustments are reviewed and recommended by relevant municipalities, however each increase has to be approved by

the central governments' agency (Competition Committee). As a result the services provided are of low quality and reliability.

The **Transition Challenges in the Intermediate Transition group** can be summarised as follows:

- In countries where a suitable overall legislative framework is evolving, apply decentralised financing solutions through the use of local government loans or loans to public companies with local government guarantees to promote adequate implementation legislation and a borrowing track record.
- In other countries, promote transaction structures which clarify ownership and corporate governance of local municipal services and support governments and donors in their efforts to establish effective, fair and transparent regulatory regimes that can attract long-term capital investment.
- Address affordability issues by making effective use of available grant funding and ensure operating efficiency and commercial principles within the operating companies.
- Support public companies and local authorities in their efforts to achieve institutional strengthening and financial and operational sustainability through mobilisation of donor funded TC.
- Introduce private capital or private management expertise and finance where possible.

### **3.3 The Russian Federation**

#### **Fiscal Decentralisation**

Russia has started decentralisation by transferring responsibilities for many services to its regions and municipalities. However, funding sources for local governments remains under the control of the Federal Government and the State Duma, with the exception of certain regional taxes. To-date municipal governments have very limited tax raising abilities and do not raise own taxes of any significance. Taxes are levied by federal and regional authorities, collected by central tax authorities, and subsequently distributed among the three administrative levels annually on the basis of “laws” on budgets between the federal and regional budgets (in the law on the federal budget) and between regions and municipalities (in regional laws on budgets).

Although the current federal legislation provides municipalities with certain shares of federal and regional taxes, these shares are not usually sufficient to cover municipal fiscal obligations, and the regions make up the difference either through additional redistribution of federal and regional taxes, or by direct financial subsidies (“transfers”). In many instances, adjustments to balance municipal budgets are a function of the bargaining skills and political leverage of various municipalities, including the personal chemistry between mayors and governors, thus introducing a significant degree of subjectivity into the process.

In parallel to recent fiscal reform measures, the federal government is encouraging efforts by local utilities to move towards cost recovery. As a result, a number of local governments and utilities have adjusted tariff and are now closer to sustainable cost

recovery levels. However, performance remains uneven across the country and is highly dependent on the willingness for reform of the respective local authority.

### **Access to Capital**

Because of central government controls on foreign currency financing and a weak institutional and legal framework, it is difficult for many Russian municipalities and their utility companies to attract long-term capital financing. Again, Moscow and St. Petersburg offer exceptions. Independent regulation is almost non-existent and courts are not reliable. External grant financing has been largely limited to Northwest Russia, funded in part because of environmental concerns of neighbouring countries. Private sector investment is also limited because of concerns over opaque business practices and the weak legal environment as well as the limited capacity to generate revenues. A recent tender in Moscow for a major infrastructure project in the waste management sector only attracted two international bidders.

The **Transition Challenges in the Russian Federation** can be summarised as follows:

- Promote decentralised financing solutions through the use of local government loans or loans to local public companies with local government guarantees to assist reform minded local administrations with the establishment of successful borrowing track records and utility commercialisation;
- Introduce cost recovery and “user pays” concepts within the limits of affordability constraints and promote transparency regarding transfers and payments;
- Support utility companies and local authorities in their efforts to achieve institutional strengthening and financial and operational sustainability through mobilisation of donor funded TC;
- Continued use of local currency financing instruments, where possible;
- Introduce private capital or management wherever possible and appropriate.

### **3.4 Early Transition Countries**

The Bank’s recent focus on addressing the particular challenges of the Early Transition Countries will also translate into increased activity in the municipal infrastructure sector.

#### **Weak Institutions**

Most of the Early Transition Countries have not yet or have only recently embarked on a path of municipal reform that allows clarity and predictability of revenue streams at the local level. They tend to have very centralised political and economic structures reflecting their autocratic heritage. Consequently local municipalities tend not to be creditworthy and/or cannot borrow or offer guarantees as a matter of law or government policy. Centralised fiscal and budgetary processes also tend to politicise allocation of transfers and/or disguise subsidies in contrast to basic principals of transparency, cost recovery and “user pays”. Public welfare concerns, even if legitimate, are often addressed through the wholesale subsidization of “basic needs services” which often include water, heat and waste management services. Subsidies for basic categories of citizens (pensioners, war veterans) provide opportunities for political patronage or other

forms of abuse while limiting revenue streams for the services provided. In cases, where means tested income support is foreseen under relevant laws, implementation is often lacking.

Assuming political acceptance for a revised approach, a second major transition challenge is the capacity of weak institutions at the level of the utility and local authority. Accordingly, projects in Early Transition Countries must have an inherently high proportion of both grant TC funding for training and implementation assistance and a high proportion of grant investment co-finance.

In some of the poorer Early Transition Countries, where country borrowing limits established by the International Monetary Fund (IMF) limit all but concessional borrowing, EBRD funds will need to be mixed with grant co-financing as well as other IFI financing to provide the capital needed for investments. In addition, because of the limited borrowing capacity, the Bank's minimum threshold for lending will need to be reduced if the Bank is to widen support in these countries.

Institutional support is needed across the full range of financial, operational, technical, engineering and project implementation skills. TC funding to assist in tendering and procurement processes is particularly relevant in circumstances where the award of contracts is traditionally subject to corruption or patronage. Open, transparent, and competitive procurement procedures are an additional source of transition impact.

### **Affordability Issues**

The challenge is to identify specific and well targeted opportunities to introduce concepts of cost recovery at the level of a specific public utility which would at an initial stage make existing subsidies transparent. Policy makers would then be able to judge whether alternative, more targeted, and less costly direct support for the poorest segments of the population could be introduced. As with municipal projects elsewhere, any project in an Early Transition Country must explicitly evaluate the impact of tariff reform on the poor and agree with project counterparts mechanisms to deal effectively with income support to those who are unable to pay for cost-recovery tariffs. Municipally provided heat and water may be virtually free at present for some customers while the informal alternatives (wood stoves, private sources of transported water) are prohibitively expensive and economically inefficient.

In most of the Early Transition Countries, the consequence of the lack of reform is an ever declining quality of service and a backlog of investment in network rehabilitation. Early Transition Countries have extensive investment needs and the worst incidence of service interruption, poor quality service and health risks associated with poor sanitary conditions. It is difficult but necessary to convince policy makers that the improved revenue stream for public utilities is a necessary first step in providing a long-term and sustainable solution. Accordingly the financing of positive examples provides the most effective strategy for demonstrating these principals.

### **Importance of Grant Financing**

Grant investment co-finance is particularly important to reduce the need for the extent of tariff increases which would otherwise be required to repay a fully loan financed investment. It therefore helps to address the affordability and poverty issues allowing

time for cost recovery principals to be introduced more gradually. Typically the overall investment needs to meet minimum environmental standards far exceed the capacity of a local utility to borrow. The revenue stream at initially low tariff levels implies a relatively low investment budget. It is unlikely, for example, that the Bank can get engaged in major waste-water remediation projects in Early Transition Countries without the availability of significant investment grant co-financing, similar to that already available in EU accession states and through Northern Dimension Environmental Partnership (NDEP) co-financing in North-West Russia. Grant investment co-finance expands the affordable budget for investment while maintaining the commercial discipline, including financial and operational covenants, associated with the loan.

The Bank's MEI activities to date have demonstrated that municipal operations are possible with selected counterparts and with considerable resource intensity. The demonstration effect has been substantial and can be expected to provide models to be replicated in other towns and cities. Reflecting the Bank's mandate, the challenges can be met through sovereign supported transactions supported by significant TC projects aimed at institutional capacity building. In addition, policy dialogue linked to the first projects in each country have an important impact on establishing the appropriate legal and regulatory framework supporting decentralization and increased autonomous fiscal responsibility at the local level.

The **Transition Challenges in the Early Transition Countries** can be summarised as follows:

- In close co-operation with other IFIs and donors, promote the concept of decentralised financing and sustainable and adequately managed service delivery through demonstration projects, even if these are very small;
- Demonstrate the importance of cost recovery and commercial efficiency where affordability constraints allow and address affordability restrictions by mobilising grant or concessional sources of co-financing and/or introducing better targeted social welfare schemes;
- Increase absorption capacity by strengthening local authorities and utility companies through extensive TC.

## **4. STRATEGIC OBJECTIVES AND PRIORITIES**

### **4.1 Key Transition Objectives**

The core objective of the Bank's MEI operations is:

*“to promote greater efficiency and higher quality in the provision of local government services through investment and the promotion of independent, well-managed and financially sustainable operations provided on commercial principles and in a market-oriented institutional and regulatory framework”.*

The mechanisms to achieve this objective depend critically on the right selection of product appropriate for a given market and sub-sector. The variety in conditions in which the Bank operates has influenced the range and type of products employed, ranging from sovereign loans through to municipal (public non-sovereign) and private

sector. Standard forms of intervention, for example, are still relevant and still highly effective tools in the Early Transition Countries, while innovation and adaptation to the needs of the market are appropriate in the Advanced Transition and some Intermediate Transition Countries. Similarly, the degree of private sector involvement is highly dependent on the appetite of private owners/managers of municipal service companies to enter a given market. As perceptions of risk evolve, the volume and type of co-financing that can be mobilised to participate in Bank projects will change. Because adaptation is needed and markets may change during the Strategy period, it is not possible to outline an exhaustive list of the types of operations the Bank may engage in. However, consistent with the Bank's overall strategic orientation, the Bank expects to see an increase in the relative share of business in Russia, the CIS and South East Europe by volume compared to Advanced Transition Countries while remaining active through new products in the latter. In addition, Early Transition Countries may expect to see an increase in project numbers, albeit with highly resource intensive approaches, significant grant co-finance and sovereign supported structures.

With respect to MEI operations the Bank has identified the following major strategic trends:

1. A move into sectors that are not based on full cost recovery from users and have not seen significant investment flows, but benefit from commercialised approaches, such as urban transport, and into sectors that have strong positive environmental externalities such as district heating and solid waste services, including projects that promote sustainable waste to energy approaches.
2. An emphasis on innovation in Advanced Transition Countries, the more progressive Intermediate Countries and the Russian Federation with new products (guarantees, revenue bonds, securitisation) that expand access to investors and capital. This emphasis would include a move into new sectors such as urban regeneration and housing, in a manner consistent with the Agreement Establishing the Bank, and with projects that are particularly suited to advance EBRD's transition mandate. As part of this approach, the Bank would continue to focus on increased mobilisation of significant commercial co-financing to widen markets for local authority financing.
3. Emphasis on the development of financially and operationally sustainable local service provision in Early Transition Countries, doing so in close co-operation with other IFIs and donors.
4. Expansion of the SMM programme to financial intermediaries and development of regional structures and multi-municipality projects to meet the needs of smaller communities and to achieve benefits of economies of scale.
5. Continued promotion and development of private sector solutions where feasible and economically attractive.
6. Increased use of local currency funding to match revenues with debt service obligations.

## **4.2 Operational objectives**

The following specific operational objectives have general relevance across all sub-sectors and all geographical regions and transition categories. However, if a specific objective has particular relevance for a specific sector, region, or category, it is highlighted in the text.

### **Extend the use of standard products to Early and Intermediate Transition Countries**

The Bank will use proven models of sub-sovereign and municipal guarantee/support structures to introduce commercial discipline and cost recovery at the company and local government level where the central/local, legal and regulatory framework allows. Where underdeveloped, the Bank will selectively engage in policy dialogue to address “systemic constraints” linked to pilot transactions that illustrate the benefits of implementing the required reform. This may include refinancing of existing general municipal debt in those situations where: revenue and cost recovery based financing structures are more appropriate; the current debt structure does not reflect the life of the assets that were financed; or restructuring of the existing debt would provide access to additional capital for necessary investments (see Section 2.3.3). Such refinancing, where appropriate, would be carried out in conjunction with commercial banks. In cases, where no new infrastructure is being financed immediately, the Bank would ensure that there is a meaningful link to new investment, in particular, by improving the capacity of the local government to finance investments in the near future. In cases, which require the refinancing of existing shorter term municipal debt into longer maturities, the Bank’s involvement would be guided by the Minutes of the Meeting of the Financial and Operations Policies Committee of 25 July 2002. In lower transition markets, proven or “standard” products have significant transition impact for the country or region in which they are located, reflecting their demonstration impact on local and central authorities and the beneficiary communities. This objective will be particularly relevant to the Early Transition Countries.

### **Promote commercialisation and efficiency of local service companies (whether private or publicly owned or managed)**

The role of the private sector as a means of achieving commercial efficiency will be encouraged where the possibility to structure private sector participation exists and can be expected to bring economic benefits. In this context the Bank will remain proactive in mobilising donor support to structure and prepare PPP operations with interested local governments of the region. In doing so, the Bank will aim to build on the experience in the water sector and apply it to other municipal services sectors, including public transport, car parking, district heating and solid waste disposal. The Bank will also encourage commercial discipline, tariff reform, and appropriate cost recovery under public ownership, for example through appropriate commercialisation, improved corporate governance, benchmarking, and efficiency incentive regimes. The Bank’s work with public sector companies achieves transition itself and can also facilitate private participation at a later stage when the regulatory, credit, and institutional risks have been reduced and the political willingness for private sector participation develops.

### **Develop and extend use of existing products to address the needs of smaller municipalities**

The Bank will expand its existing model transactions for addressing the needs of small and medium municipalities. This includes working with local financial intermediaries and also considering multi-municipal or regional structures. It is part of the Bank’s transition objectives to demonstrate and motivate local banks to take advantage of the opportunity to lend long-term resources to stable local municipalities or public utilities. In working to develop regional and multi-municipality project structures, the Bank recognises that solution of organisational relationships among municipalities are key to the ongoing success and financial viability of such projects. The Bank will also prepare

direct municipal transactions that are significant in terms of the specific market or transition impact even if relatively small.

**Address the institutional development needs of clients through effective use of TC grants and address affordability constraints by use of grant investment co-finance**

The Bank will continue to incorporate the use of TC funds in the structure of its municipal transactions to ensure that institutional capacity building is achieved and the project achieves sustainable results. The institutional assistance will be aimed both at the utility companies and local municipalities to address corporate governance, financial, operational and commercial capabilities.

The Bank will seek sources of grant investment finance from donors particularly for projects in Early Transition Countries, including the CIS 7, where the populations face a higher incidence of poverty and where affordability constraints limit the amount of investment that can be financed on a commercial basis.

For Advanced and certain Intermediate Transition Countries the Bank will maintain close contact and coordination with the local authorities responsible for the allocation of EU Cohesion and Structural Funds and with the ISPA programme for the remaining accession candidates.

**Increase access of municipal or environmental service companies to appropriate capital instruments**

The Bank will continue to promote commercial bank co-financing through syndication, as well as the application of new instruments such as partial guarantees of other lenders exposure to municipalities, revenue bonds, leasing and potential forms of quasi-equity or mezzanine capital in order to expand access of the municipal sector to long-term capital. In addition, the Bank will continue to provide equity finance to service providers, where appropriate. Through innovative uses of the capital markets, such as revenue bonds, the Bank will also promote the expansion of the market for local government investment beyond commercial banks to institutional and individual investors who are looking for long-term investments.

Municipalities and providers of municipal services derive the bulk of their revenues in local currency. The Bank will work to increase its capacity to provide financing to its clients denominated in local currency. The Bank will help to meet this challenge by developing its own local currency funding sources. In addition, the Bank will increase its use of risk-sharing mechanisms where the Bank absorbs the credit risk, with local financial institutions providing local currency funding. This serves the dual objectives of providing financing now, but also helping to develop the local market for municipal finance.

**Employ proven transaction structures to expand into selected new sectors where services are provided at a local level**

The Bank will, in markets where the regulatory and financial frameworks are suitable, develop transactions in sectors such as public housing, urban revitalisation, and other local services on a selective basis and where the Bank's added value is clear. The Bank's added value is reflected, for example, in its focus on project structures targeting commercial and operational discipline, private sector participation and institutional and policy development.

The Bank's proven capabilities in both commercialisation, and in the evaluation, monitoring, and control of municipal risk make it uniquely placed to advance transition in these sectors and to mobilise commercial co-financing. Given the need to exercise caution in entering new markets, the Bank will proceed initially with pilot transactions and replicate as experience is gained.

#### **Improve levels of disbursement and earning assets relative to levels of commitments**

The Bank will target resources and management attention to advance planning and acceleration of the procurement process, the appropriate design of conditions precedent and provision of adequate support to clients in implementation of projects directly and through TC assignments. Systematic attention to these processes should facilitate a sustained demonstration impact through successful project implementation.

### **4.3 Technical Cooperation**

The MEI sector of the Bank is an intensive user of TC and investment grant co-financing. TC for project development and implementation assistance has totalled €34.2 million for the years between 1998 and 2003 for a total of 148 commitments. This compares to the portfolio of Bank operations of €1.35 billion during the same period, illustrating the degree of leverage donors achieve through co-financing of Bank operations. Bilateral donors and the EU have contributed the bulk of these resources reflecting frequent synergies between EBRD and donor objectives and programmes. TC is used both for project development ahead of project signing and increasingly for project implementation and transition impact related activities. Examples range from technical and engineer feasibility studies, financial and operational improvement programmes and support for the establishment of a project implementation unit for the borrowing utility to creditworthiness enhancement programmes for the municipality itself, and occasionally to studies to help reform the legal and/or regulatory environment.

Significant TC funding has been mobilised with major bilateral aid programmes and institutions including especially Belgium, CIDA (Canada), Denmark, Finland, France, KfW/DEG (Germany), CEI (Italy), Japan, the Netherlands, SIDA (Sweden), SECO (Switzerland), Taipei China, DFID (UK), USAID/USTDA (United States). The tables below illustrate the distribution of TC funds from donor countries. An increasing number of bilateral aid programmes have set aside some funds to be allocated on an untied basis (SIDA, Japan) which is particularly well suited to the Bank's procurement procedures and ultimately benefits the client through the discipline of competitive open tendering.

**Table 4.3.1 TC by Donor and Country of Operation 1998 - 2003**

**MEI**

<b>Donor Country</b>	<b>TC Commitments (€)</b>	<b>Country of Operation</b>	<b>TC Commitments (€)</b>
Belgium	36,120	Regional	4,531,210
Canada	1,393,605	Bulgaria	1,629,925
Denmark	348,242	Croatia	2,072,342
EU	21,595,196	Czech Republic	450,000
Finland	685,464	FYR Macedonia	179,936
France	98,289	Lithuania	363,060
Germany	608,030	Poland	14,728,896
Multi Donor	687,442	Romania	2,097,623
Netherlands	1,578,536	Russian Federation	3,340,292
Italy	257,233	Serbia and Montenegro	63,350
Japan	2,896,398	Tajikistan	75,302
Sweden	423,769	Ukraine	870,878
Switzerland	739,182	Uzbekistan	3,843,766
Taipei China	192,040	<b>Total</b>	<b>34,246,696</b>
United Kingdom	1,650,569		
United States	1,056,464		
<b>Total</b>	<b>34,246,579</b>		

#### **4.4. Grant Investment Co-financing**

A significant amount of grant and concessional investment finance has been mobilised from donors either directly, or in the context of specific regional initiatives such as the NDEP. Official co-financing from donors linked to EBRD projects totals €617.9 million. In addition to formal co-financing there are frequent opportunities for parallel operations in common markets and occasionally with common clients (e.g. with KfW in Serbia and Montenegro or the Nordic Investment Bank (NIB) in Northwest Russia). The Bank is an active participant in relevant Steering Committees and various coordination mechanisms of formal co-financing initiatives and also keeps close informal contact with other financing agencies involved in the sector.

#### **4.5 Environment**

MEI projects are significantly driven by environmental objectives and address key environmental problems with a direct impact on the local and regional population. In the majority of cases major environmental benefits are derived by assisting municipalities and utility companies in achieving national and EU environmental standards. The actual investment components under MEI projects, however, may well have direct or indirect environmental impacts which may require the implementation of mitigation measures. All MEI projects are therefore subject to environmental due diligence, like any other project supported by the Bank. Typical objectives of environmental due diligence includes:

- Assessment of compliance with the Bank's environmental, health and safety and public consultation/information requirements (i.e. compliance with national regulations; EU environmental and health and safety standards or international good practice or the World Bank 'Pollution Prevention and Abatement Handbook' Technical Guidelines, where there are no applicable EU standards).
- Identification of significant liabilities and performance shortcomings, and development of an Environmental Action Plan detailing remedial action (in

content and timescale of implementation acceptable to the Bank) should this be required.

- Identification of additional environmental opportunities associated with the project and incorporating those, where appropriate, into the project's construction and operation.

Although most of the due diligence is directly related to a specific investment projects, there may be the need (or opportunity) for a more strategic view assessing environmental implications on a wider scale. In these cases, the Bank may consider involvement in more strategic and regional studies.

#### **4.6 Co-operation with IFIs**

MEI business requires coordination with other IFIs, with the EU and other donors both through the promotion of policy reform affecting the sector and directly through co-financing of larger projects.

##### **Policy conditionality**

In the municipal infrastructure area, EBRD maintains a constant dialogue with its counterparts in the World Bank, IMF, European Investment Bank (EIB), NIB and other bilateral donors/agencies with respect to policy conditionality in its Countries of Operation. Effective legal and regulatory structures are a common theme of this dialogue in as much as they represent enabling conditions for both direct operations by the IFIs and for commercial and private sector investment in the sector. It is frequently the case that a policy based operation of the World Bank or the IMF will have conditionality within their financing operations which affects municipal borrowing, fiscal relations between central and local governments, tax reform or the establishment of appropriate regulatory bodies. EBRD's experience is often of direct relevance to the design of project conditionality and the dialogue serves to provide a "feedback loop" for policy makers and their IFI counterparts on the appropriateness of reforms from the perspective of local governments or municipal service companies.

##### **Sector financing**

Other IFIs, such as the World Bank (International Bank for Reconstruction and Development (IBRD) and International Finance Corporation (IFC)), the EIB, the NIB, and the Council of Europe Development Bank, also provide finance to the sector, albeit almost always with a sovereign guarantee (except the IFC). The IFC also has an arm which provides advisory services to clients in the development of municipal transactions usually with a PPP component. Coordination in this respect either takes the form of identifying a rationale for allocating project opportunities to the institution with the best comparative advantage or, in the case of larger transactions, for direct parallel co-financing. Mechanisms such as the NDEP have been employed for the coordination of financing for such larger investments. The EU is a major contributor of grant investment finance.

## 4.7 NDEP

The concept of the NDEP was developed during the course of 2001 in response to calls from the Russian Federation and the international community for a concerted effort to address environmental problems in north-west Russia with regards to water, waste water, energy efficiency and nuclear waste in particular. With the creation of NDEP and its Support Fund, the Russian Federation, the EU, the IFIs (EBRD, EIB, NIB and the World Bank Group), and bilateral donors established an institutional framework, backed by dedicated resources, to find a solution to the legacy of environmental damage in the region.

By the end of 2003 contributions to the NDEP Support Fund reached €196 million, of which €148 million was earmarked for nuclear safety related projects. The remaining €48 million was available for both environmental and nuclear safety projects. A list of twelve priority environmental investment projects in north-west Russia was presented to the donor community at the pledging conference in Brussels in July 2002. At the end of 2003 seven of the initially selected projects have been approved for co-financing from the NDEP Support Fund. These are priority projects that the NDEP was able to move forward by providing small amounts of TC and investment grant co-financing. The investment leverage effect of these grants has been considerable: a total of €821 million in investment capital has been mobilised, of which €446 million has been provided by IFIs in loans, two thirds of which by the EBRD (see table below), while the Fund itself has committed €38.55 million in support of these projects.

### *Approved NDEP supported projects (in € millions) as of April 2004*

Name of project	Beneficiary	Implementing Agency	Project cost	EBRD loan	Investment grant	TC grant	NDEP grant total
St. Petersburg south-west wastewater treatment plant	St. Petersburg Vodocanal	NIB	188.7	35.5	5.80	0.00	5.80
St. Petersburg flood protection barrier	Gosstroy	EBRD	469.9	213.0	0.00	1.00	1.00
St. Petersburg northern wastewater treatment plant incinerator	St. Petersburg Vodocanal	EBRD	52.6	23.8	6.00	0.35	6.35
Komi Municipal Services Improvement Programme	Cities of Syktyvkar and Vorkuta	EBRD	31.8	15.0	5.00	0.90	5.90
Kaliningrad district heating renovation and reform	City of Kaliningrad	EBRD	20.8	12.0	6.50	0.80	7.30
Archangelsk municipal water services project	Archangelsk Vodocanal	EBRD	25.3	10.0	7.30	0.9	8.20
<b>Total</b>			<b>809.1</b>	<b>309.3</b>	<b>34.6</b>	<b>3.95</b>	<b>38.55</b>

#### **4.8 Co-operation with the EU**

Collaboration with the EU has been extensive and systematic, including in countries which benefited or currently benefit from the ISPA Programme. The combination of grant and loan funding creates commercial discipline and sustainability of the operating companies (mostly in the water and wastewater sector) while enabling the financing of a larger priority investment programme. The EU funds tend to be targeted at measures to meet the EU environmental directives while EBRD expertise and finance is directed towards operational and financial performance of the operational company. The EU has provided investment grant co-financing of €54 million to EBRD co-financed projects.

TC funding totalling €21.6 million as official co-financing has been provided by the EU since 1998 and has been utilised by EBRD in the preparation and implementation of projects with a particular focus on institutional capacity building. In addition, the EU has established dedicated pools of grant funding for project development which are allocated in a coordinated way to the IFIs. These include the Joint Environmental Programme (JEP I and II) and the Municipal Infrastructure Support Programme (MISP) under Technical Assistance for CIS (TACIS) and the Danube and Black Sea Task Force (DABLAS) Fund for projects in the Black Sea and Danube River Basin catchment areas under the Community Assistance for Reconstruction, Development and Stabilisation (CARDS) programme for South East Europe. Approximately €4.4 million has been committed to the preparation and implementation of EBRD projects mostly in Russia and Ukraine in addition to official co-financing. These initiatives are particularly advantageous as the funds are structured under framework contracts allowing a relatively rapid response to project development opportunities. In addition, the EU has provided grant support for specific programmes such as the Municipal Finance Facility which has promoted lending by local commercial banks to small and medium municipalities in the Advanced and Intermediate Transition Countries.

Annexes to the  
Municipal and Environmental Infrastructure  
Operations Policy

- Annex 1: Water Supply and Wastewater Treatment
- Annex 2: Urban Transport
- Annex 3: Municipal Solid Waste Management
- Annex 4: District Heating
- Annex 5: Private Sector Participation

# **Annex 1**

## **Water Supply and Wastewater Treatment**

### **1. SECTOR BACKGROUND AND CHARACTERISTICS**

#### **1.1 Sector definition**

Water supply systems include raw water intakes, transmission pipes, and drinking water treatment plants; and water distribution networks, including pumping plant, storage reservoirs and related infrastructure. Wastewater systems include the sewerage network, pumping plant, reservoirs and wastewater treatment plants. Both domestic and industrial water supply and wastewater systems are covered.

#### **1.2 Organisation and regulation of water supply and wastewater services**

Domestic water and wastewater services in the Bank's Countries of Operation are organised via:

- State level – mainly in Early Transition Countries, although there is still state involvement even in advanced countries (e.g. the Upper Silesia region of Poland).
- Regional level – especially in countries with predominantly small/medium municipalities, such as Slovakia.
- Municipal level – organisation through municipal departments or municipal enterprises is the most common form throughout the region.
- Private sector – as shown in the table below, mainly in Advanced Transition Countries (especially Czech Republic, Hungary) and cities such as Bucharest and Sofia).

Framework water legislation exists in all countries of operation. The main distinguishing features of the regulatory regime are:

- Centralised water regulator – there are currently no fully-fledged independent water regulators in the region, although some countries are working towards this (e.g. Czech Republic, Romania).
- Local government regulation – this is the most common form, involving the municipal or regional authority setting tariffs or approving tariffs proposed by the water enterprise. However, there is often a conflict of interest between the City's role as a regulator and majority equity holder, and local government regulation works best where there is a developed service contract between the local government and the company.
- Regulation by contract – some form of service contract between the local government and the operator exists in most countries, although the quality of these contracts varies considerably. In the case of private operators under concession, the contract itself forms a critical part of service regulation, sometimes with recourse to independent expert panels in case of disputes.

### 1.3 Investment drivers

As shown in the table below, for selected countries, coverage of the population with water supply, sewerage and wastewater treatment infrastructure is far from complete, even in some of the Advanced Transition Countries, which have been given varying deadlines for EU directive compliance (e.g. to 2015 for 5 of the new member states to meet the Urban Wastewater Treatment Directive). Sewerage and wastewater infrastructure are clearly the main priority for investment, although the figures mask the need to upgrade and in some cases reconfigure existing systems which have suffered from a long backlog of maintenance and renewal expenditure.

*Coverage of water supply, sewerage and wastewater treatment in selected countries*

Country	Population with water connection (%)	Population with sewerage (%)	Wastewater treated (%)
Lithuania	70	60	36
Slovenia	76	53	43
Poland	90	58	60
Bulgaria	81	42	42
Romania	58	50	47
Serbia/ Montenegro	76	52	37
Russia	84 (urban)	70	91
Georgia	95 (urban) 35 (rural)	60	80
Ukraine	83 (urban) 26 (rural)	53	97
Uzbekistan	65 (urban) 64 (rural)	n.a.	n.a.
EU / OECD	Close to economic limits (80-100%)	55-98	50-90

The main investment drivers in the region are:

- Environmental regulation – this is important in all countries, and has been especially important for the accession states which have had to negotiate timetables for compliance with European Commission (EC) water directives as one of the conditions for entry into the EU. The Urban Wastewater Directive has so far been the main regulatory driver, but in future the Framework Water Directive will be increasingly important.
- Service quality improvement – water supply and sewerage investments are typically very high on the list of local government priorities for improving living conditions of the citizens throughout the region. In some countries, the significant backlog since 1990 means that many water systems are reaching crisis point, with discontinuous supply, drinking water significantly below health standards, and accident rates 10-100 times higher than in OECD countries.
- Efficiency improvement – this can be an important driver for the public sector where tariffs are considered high due to inefficient operations, or where over-sized or poorly configured systems were inherited from the past; it is also a major driver for the outsourcing of industrial water supply and wastewater systems by industrial companies seeking to reduce operating costs.

***Water Services in the CIS7 countries: some indicators of the state of the systems***

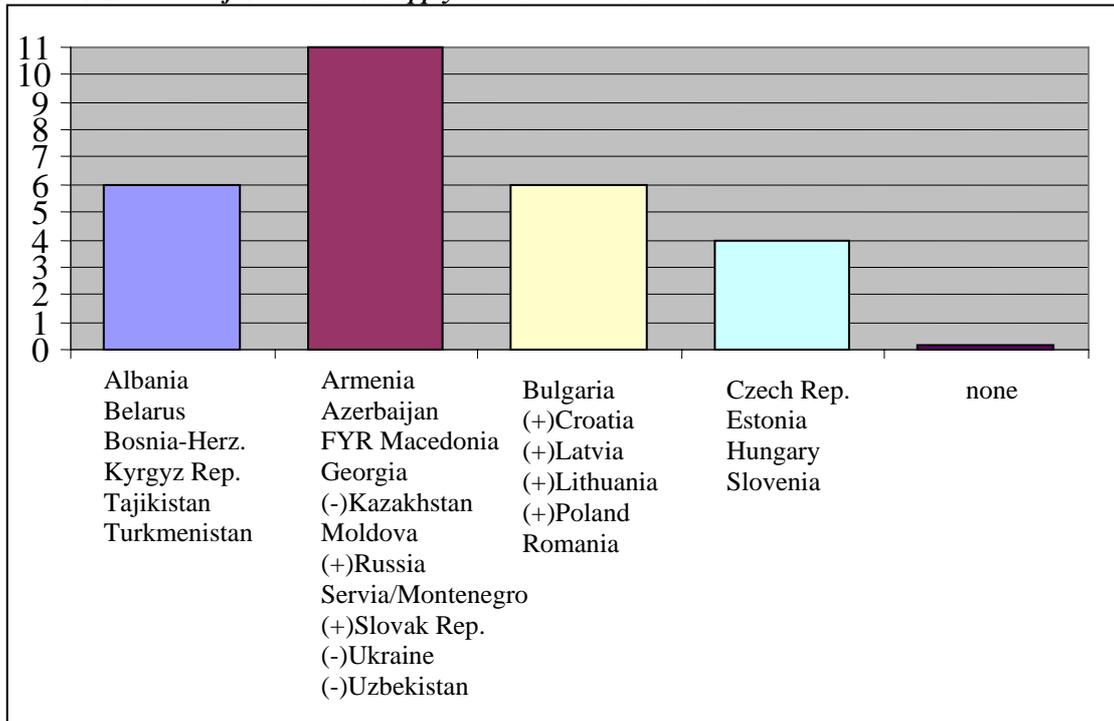
- In Moldova, nowhere is water supplied 24 hours per day. Moldova's National Environmental Action Plan calculated that polluted drinking water leads annually to 950-1850 premature deaths and 2-4 million days of illness, with a monetary cost to the economy of 5-20% of GDP.
- In much of the CIS-7, 30% of the population use drinking water which does not meet hygiene standards, especially for pathological micro-organisms which cause gastro-intestinal and other diseases.
- Hot water services are discontinued indefinitely in many small and medium sized towns in Moldova, and Tajikistan.
- Accident rates in many parts of the CIS-7 are 2-10 accidents per network km per year, whereas 0.2-0.3 is typical of OECD countries.
- In the wider Baku area 97% of the population report boiling water, and 20% buy bottled water or water from vendors.

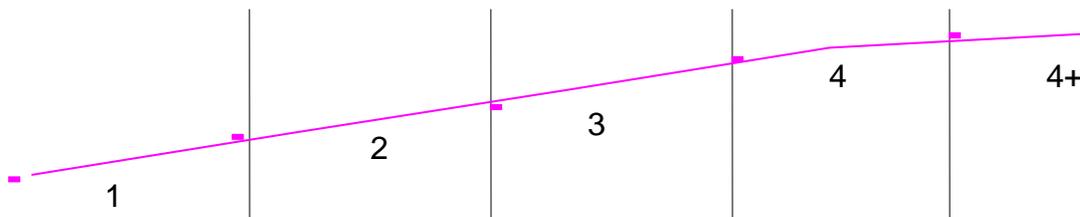
**2. MARKET TRENDS****2.1 International developments**

- International attention has in recent years become more focused on the water sector in terms of global development objectives. The Millennium Development Goals, stated by the UN Secretary-General in 2000, and which include a commitment by UN Member States to work towards halving the proportion of people without access to safe drinking water by 2015, have proved a turning point. At the Johannesburg Earth Summit in 2002 the target was extended to include access to basic sanitation.
- There has also been increased focus on water sector financing and reform. In particular, the Camdessus Report of 2003, product of a high-level panel reporting on means of financing the water sector, made recommendations for donors and multilateral financial institutions in terms of volume of investment, use of financing instruments (especially focusing on sub-sovereign financing and private investment), and water governance.
- PSP in the global water supply and wastewater sector increased during the 1990s, peaking in 1997. However, the market environment for PSP has become difficult in recent years.
- Private industry is turning to private sector partners through the outsourcing of environmental services, in particular water supply and wastewater services, which has already become a US\$ 300m annual market in the USA alone. The largest private providers of industrial water outsourcing include Veolia, Ondeo, Tyco, CH2M Hill and United Utilities, and these companies anticipate that industrial outsourcing will develop strongly in Central and Eastern Europe in the medium term.

**3. SECTOR REFORM NEEDS****3.1 Transition indicators**

Sector reform needs are illustrated by the transition indicators developed by the Bank for the water supply and wastewater sector. The table below shows the number of countries, and the list of countries, which have progressed through the different categories of sector transition: no countries have yet reached the highest category (4+) and only four countries have reached category 4.

*Transition Indicators for the Water Supply and Wastewater Sector*



<ul style="list-style-type: none"> <li>• Minimal decentralisation / commercialisation .</li> <li>• Services operated as natural monopoly by a government ministry through national or regional subsidiaries or municipal departments.</li> <li>• Little or no financial autonomy and/or management capacity at municipal level.</li> <li>• Heavily subsidised tariffs and high degree of cross-subsidisation.</li> <li>• Low cash collection.</li> <li>• Central or regional governments control tariffs / investment.</li> <li>• No explicit rules in public documents concerning tariffs or quality of service.</li> <li>• No significant PSP.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate decentralisation and commercialisation.</li> <li>• Services provided by municipally owned companies.</li> <li>• Some financial autonomy but heavy reliance on government grants and income transfers.</li> <li>• Partial cost recovery through tariffs, initial steps taken to reduce cross-subsidies.</li> <li>• Public guidelines for tariff setting and service quality, but under ministerial control.</li> <li>• Some PSP through service / management contracts or outsourcing.</li> </ul>	<ul style="list-style-type: none"> <li>• Fairly large degree of decentralisation and commercialisation.</li> <li>• Utilities have managerial and accounting independence from municipalities, using IAS and MIS.</li> <li>• A municipal finance law has been approved.</li> <li>• Cost recovery is fully operated through tariffs and there is a minimum level of cross subsidies.</li> <li>• A semi-autonomous regulatory agency has been established to advise on tariffs and service quality but without powers over either.</li> <li>• Contract documents specify more detailed rules on tariff review formulae and performance standards.</li> <li>• PSP for full concession in at least one city.</li> </ul>	<ul style="list-style-type: none"> <li>• Large degree of decentralisation / commercialisation.</li> <li>• Utilities managerially independent with cash flows, net of municipal budget transfers, ensuring financial viability.</li> <li>• A municipal finance law gives municipalities opportunities to raise finance.</li> <li>• Full cost recovery with no cross-subsidies.</li> <li>• Semi-autonomous regulatory agency with power to advise and enforce tariffs and service quality.</li> <li>• Substantial PSP through BOTs, management contracts, or asset sales.</li> <li>• Concession in a city other than the capital.</li> </ul>	<ul style="list-style-type: none"> <li>• Utilities fully decentralised and commercialised.</li> <li>• Large municipalities have financial autonomy and have capability to raise finance.</li> <li>• Full cost-recovery achieved, without cross-subsidy.</li> <li>• Fully autonomous regulator with full authority to review and enforce tariff levels and performance quality standards.</li> <li>• Widespread PSP through service management or lease contracts, with high-powered incentives and/or full concessions/divestiture of services in major urban areas.</li> </ul>
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### 3.2 Decentralisation

- Decentralisation has been largely achieved in the some Intermediate Transition Countries and Advanced Transition Countries, although there is still a need for further decentralisation both in terms of functions and geographic coverage. For example, there remains significant state ownership of water supply and operating companies in the Upper Silesia region of Poland, and transformation after the main wave of decentralisation is proving very challenging. In Bulgaria the decentralisation process started in the early 1990s, but the state remains the full or majority owner of 29 of the 49 water enterprises.
- In the Advanced Transition Countries, decentralisation has generally resulted in significant performance improvement and commercialisation, although fragmentation is also a problem (e.g. in Poland, Hungary, Czech Republic) which will hamper efforts to meet the river basin management approach required under the Framework Water Directive. Lithuania (which currently has 64 large and 700 small municipal enterprises providing water services) plans to restructure the drinking water sector into five regional companies.

### 3.3 Regulation

- Reform of the pricing framework is critical in many countries, especially to enable scope for cost recovery and revenue collection measures. For example in Lithuania the state oversees tariff setting, and in Latvia, although legislation allows for profit making, in practice prices are not sufficient to cover full costs. Pricing reform is especially important in the early transition countries, where tariffs typically cover only 30-80% of operating costs. Cost-plus tariff regimes are typical throughout the countries of operation, and even in the Advanced Transition Countries an important reform challenge is to introduce tariff regimes which provide incentives for efficiency improvement.
- Lack of transparent relationships between levels of government, water companies, and private sector, for example through service contracts and improved corporate governance arrangements, is typical throughout the region.
- Future compliance with the EU Framework Water Directive will be an important challenge for Advanced Transition Countries and the accession candidate countries. So far only Poland and Bulgaria have some form of working river basin structure, though for all countries there will need to be developments in regulation and institutions, as indicated in the box below.

#### *Implications of the Framework Water Directive*

- The Directive aims at “good status” for all water bodies
- Emission controls and ambient controls will be integrated into a single set of standards
- Full cost recovery will be required from consumers, to be in place by 2010
- Management at the river basin level will be required.
  - ⇒ Higher capital investment
  - ⇒ Increased tariffs and cost recovery levels
  - ⇒ Significant institutional development

### 3.4 Commercialisation

- All indicators of commercialisation vary widely throughout the region, and although commercially-oriented practice is more commonly found in the advanced countries, there is a need for deeper and wider commercialisation across the region.
- The legal form of water enterprises is an important indicator of their degree of commercialisation. Generally, commercial companies (limited liability companies, joint stock companies) function according to commercial business law, like private companies, even though they may be publicly owned; this gives them the discipline of commercial accounting, commercial management board and supervisory board structures, and commercial relations with consumers and other companies. Municipal enterprises, municipal departments and state companies function under public administrative law and are more likely to have non-commercial accounts (sometimes aggregated with other services), and public administrative management and reporting structures. Although water services are generally provided by commercial companies in the advanced countries, many smaller and medium-sized municipalities still have water services provided by public-law enterprises (e.g. in Poland), and in some countries this is predominantly the case (e.g. the Water and Sewerage Departments in Bulgaria).
- Affordability ratios (spending on water and sewerage as a proportion of household budgets) are generally around 2% in the advanced countries (ranging from 0.50-1% in the Slovak Republic and Slovenia; 2% in Poland, Lithuania, Latvia; and 3% in Estonia and Hungary). In South East Europe, the ratio in Bulgaria is around 3%, though in Romania it is 4.5-5%. Elsewhere, affordability varies from 0% in Turkmenistan (where all municipal services are provided free to the population) to above 3% in Ukraine, with more detail shown in the table below for other countries. These figures compare to affordability ratios in Western Europe in the range 1.0-1.5%, 1% for Northern Europe and below 1% in southern EU countries. With the exception of Early Transition Countries, where affordability is a major constraint, there is generally scope to move further towards cost recovery, especially where there are social welfare measures in place to support the lowest-income consumers. However, grant funding is needed to enable large-scale capital investment, whether it be rapid investments in the advanced countries required by the accession process, or more modest investments in the CIS countries where income levels are lower.
- Cost recovery, especially counting investment as well as operating and maintenance costs, is still well below 100% in most municipalities, even in the Advanced Transition Countries where municipalities commonly fund sewerage investments through their budgets.
- Cross-subsidies still remain between industrial and domestic consumers in most countries of the region, although many countries have adopted legislation requiring the phasing out of cross-subsidies (e.g. Poland). Russia is working towards target deadlines for achieving full removal of cross-subsidies between industrial and domestic customers, but it remains to be seen, whether this can be achieved in practice. There are no reported examples of load-based sewage treatment charging or high-volume based water charging in the region, as is the case in some western countries (e.g. UK).
- Metering is an important factor in stimulating responsible water use. While many OECD countries and advanced countries have metering rates close to 100% of the population, fewer than 30% of the population are metered in Russia, Moldova and Ukraine.

**Affordability of water supply and wastewater services\***

Country	Date	Measure	Affordability
Armenia	2001	Water expenditure / total income %	1.96
Belarus	2001	Water expenditure / total income %	0.62
Georgia	2001	Water expenditure / total income %	1.98
Russia	2001	Water expenditure / total income %	1.99
Uzbekistan	2001	Water expenditure / total income %	2.31
Ukraine	2001	Water expenditure / total income %	3.07
Kyrgyzstan	2001	Water expenditure / total income %	1.52
Poland	1999	Water expenditure / disposable income	2.3
Germany	2000	Water expenditure / disposable income	1.2
USA	2002	Water expenditure / disposable income	0.5

\*Based on OECD figures

**Russia – performance of the water sector**

An OECD (2002) study of 75 water utilities (vodakanals) in the oblasts of Krasnodar, Leningrad, Perm and Samara, which serve a 4.6 million population or 3.6 % of the population of the Russian Federation, revealed the following conclusions:

- 90% of the served population had access to potable water
- 63% had access to sewerage
- Unaccounted for water was over 28%.
- Approximately 36% of the water connections are metered
- Staff numbers per 1000 connections averaged 4.6
- Staff costs as a proportion of operating costs averaged 27%.
- Average tariffs were \$0.079/m<sup>3</sup> or RUR 2.51/m<sup>3</sup>

Although much has been achieved in the commercialisation of water operations, there remains a need for further commercialisation in the sector in all countries of operation:

- Moving towards increasingly commercial forms of enterprise (e.g. from municipal departments to budgetary units to limited liability companies to joint stock companies) with more transparent accounting and disclosure requirements.
- Introducing or strengthening service contracts between water enterprises and municipalities
- Clarifying and improving utility corporate governance, in particular the circumstances under which supervisory and executive board members are appointed and dismissed.
- Setting of service targets, monitoring of performance, and benchmarking.
- Introducing or strengthening municipal enterprise accounting arrangements.
- Particular reform challenges in Russia and the CIS countries, as identified by the OECD, are shown in the box below.

**Municipal water sector reform needs in Russia and the CIS-7\***

<b>Conclusion</b>	<b>Example</b>
<b>Physical constraints</b>	
<ul style="list-style-type: none"> <li>Water supply connection is high and mostly stable</li> </ul>	<ul style="list-style-type: none"> <li>Connection rates vary from 65% in Uzbekistan and Armenia to 88% in parts of Russia.</li> </ul>
<ul style="list-style-type: none"> <li>Waste water and sewerage services are insufficient</li> </ul>	<ul style="list-style-type: none"> <li>An OECD study in 2001 found that in Kazakhstan 70-75 waste water treatment plants were not functioning properly due to lack of maintenance, lack of funds for proper operation, and unreliable electricity supplies.</li> </ul>
<ul style="list-style-type: none"> <li>Water consumption is often excessive, metering mostly absent</li> </ul>	<ul style="list-style-type: none"> <li>Water consumption varies from 200-500 lpcd, with figures as high as 900 lpcd recorded in Tbilisi, Georgia.</li> <li>In Russia and Ukraine less than 30% of connections are metered, compared to nearly 100% in many OECD countries</li> </ul>
<ul style="list-style-type: none"> <li>Water network is severely degraded</li> </ul>	<ul style="list-style-type: none"> <li>Accident rates are 2-10 accidents/km/y in many countries, compared to 0.2-0.3 in OECD.</li> </ul>
<b>Regulator reform needs</b>	
<ul style="list-style-type: none"> <li>Investment decisions often not located at the right level of government</li> </ul>	<ul style="list-style-type: none"> <li>In Kazakhstan the state Water Resources Committee takes all investment decisions.</li> <li>In Georgia, for investments operated with state and municipal funds, infrastructure must be designed and constructed by state institutions.</li> </ul>
<ul style="list-style-type: none"> <li>Despite decentralisation, ownership rights are often not located at the municipal level</li> </ul>	<ul style="list-style-type: none"> <li>In Kazakhstan all assets of water companies are state owned, but it is not always clear by which part of the state.</li> </ul>
<ul style="list-style-type: none"> <li>Tariff setting procedures are often inadequate</li> </ul>	<ul style="list-style-type: none"> <li>Municipalities set tariffs in many countries, e.g. Moldova, Georgia, Russia, Armenia, but rules and procedures are poorly developed and untransparent.</li> </ul>
<ul style="list-style-type: none"> <li>Decentralisation has led to over-fragmentation in the water sector</li> </ul>	<ul style="list-style-type: none"> <li>There are over 4000 water utilities in Russia, 600 in Ukraine, and 52 in Moldova, compared to around 20 in the UK.</li> </ul>
<ul style="list-style-type: none"> <li>There is a lack of sector data</li> </ul>	<ul style="list-style-type: none"> <li>State institutions which used to collect sector data have in many places been abolished</li> </ul>
<ul style="list-style-type: none"> <li>Overly stringent standards</li> </ul>	<ul style="list-style-type: none"> <li>Russian environmental standards for COD are over 8 times stricter than EU.</li> </ul>
<ul style="list-style-type: none"> <li>The sector is not yet attractive for PSP</li> </ul>	<ul style="list-style-type: none"> <li>Several private sector projects have been either severely delayed or cancelled (e.g. Yerevan, Armenia; Bukhara, Uzbekistan; Almaty)</li> <li>Private investors identify macro-economic, political, breach of contract, tariff and financial risks as significant in the region.</li> </ul>

<b>Economic and commercial reform needs</b>	
<ul style="list-style-type: none"> <li>Water tariffs are insufficient to cover utility operation and maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Cost recovery rates are as low as 15% in Georgia and Armenia, though most countries are targeting full cost recovery by 2005</li> </ul>
<ul style="list-style-type: none"> <li>Non-payment is widespread and erodes utility revenue</li> </ul>	<ul style="list-style-type: none"> <li>Collection periods average 10-14 months in Ukraine and Moldova, compared to 1-3 months in OECD and Baltic countries.</li> </ul>
<ul style="list-style-type: none"> <li>Excessive cross-subsidies between industry and domestic consumers worsens the revenue situation</li> </ul>	<ul style="list-style-type: none"> <li>In many countries industrial tariffs are 5 times as high as domestic tariffs, and only Kazakhstan formally prohibits cross-subsidies.</li> </ul>
<ul style="list-style-type: none"> <li>Cost reduction potential is large but requires significant investment</li> </ul>	<ul style="list-style-type: none"> <li>Staff per 1000 of population served is 4.98 in Moldova, 4.61 in Russia, and 5.65 in Ukraine (World Bank 2001 study), compared to 0.6 in US.</li> <li>Energy efficiency was never reflected in system design, resulting in energy costs as high as 50% of operating costs in some utilities.</li> </ul>
<ul style="list-style-type: none"> <li>Investment flows into the sector are insignificant compared to actual financial needs</li> </ul>	<ul style="list-style-type: none"> <li>Utilities surveyed in Russia in 2002 reported no investment at all in the preceding 5 years, and those that did report investment reported levels of only US\$ 0.1 per capita per year.</li> </ul>
<ul style="list-style-type: none"> <li>The most alarming situation is in small and medium sized cities</li> </ul>	<ul style="list-style-type: none"> <li>Unit operating costs in cities below 100,000 in Russian and Moldova are 50-100% higher than in large cities, while affordability is lower and collection periods average roughly twice as long.</li> </ul>
<ul style="list-style-type: none"> <li>Water affordability is posing severe constraints on achieving the user pays principle</li> </ul>	<ul style="list-style-type: none"> <li>OECD estimates that 10-18.5% of people in Russia and the CIS already pay more than 4% of their income on water services.</li> <li>In Ukraine, water prices have grown 16 times faster than the prices of other goods and services, while water services quality has gone down.</li> </ul>
<ul style="list-style-type: none"> <li>Consumer and public involvement is insufficiently developed, which threatens public support for water reform</li> </ul>	<ul style="list-style-type: none"> <li>Only a few examples of public participation are evident, e.g. in Ukraine a model contract between consumers and providers was developed, though its implementation is difficult.</li> </ul>

*\*Based on OECD, 2003, Urban Water Reform in Eastern Europe, Caucasus and Central Asia – Progress since the last Almaty Ministerial Conference*

#### **4. SOURCES OF FINANCE**

The table below gives a broad estimate based on EBRD, OECD, World Bank, EU, national and other data. The main characteristics are that:

- Domestic sources, including utility cash flow, national and municipal grants, national environmental funds and local bank debt far outweigh external sources.
- Environmental funds are an important source in accession countries (especially Poland) but are minor or marginal in early transition countries.
- External finance (especially from the EU) is relatively higher in the Advanced Transition Countries and the accession candidates of the Early/Intermediate Transition Countries (Bulgaria and Romania).
- For Russia and Early-Intermediate Transition Countries the levels of domestic investment in the water sector are highly variable. Investment expenditure in the sector is estimated at €600-1,100 in Russia in 2000, based on data from the Regional Environmental Centre and the OECD, but there are wide disparities between

different cities and oblasts. It is generally acknowledged that investment flows are insignificant in comparison to the investment needs.

- In poorer countries (e.g. Armenia, Kyrgyz Republic) over half of the investment comes from external sources.
- Private financing in the sector remains very small in relation to total funding.
- Combined IFI financing is below 10% of total financing in the sector, which underlines the importance of IFI leveraging through co-financing with domestic and external grant resources, and the importance of demonstration effects for extending best practice across the sector.

***Estimated annual investment in the water supply and wastewater sector in the EBRD countries of operation***

	<b>Annual Investment (€m)</b>	<b>Percentage (%)</b>
National investment	2000-2500	60-62 %
National environmental funds	600+	15 - 18 %
ISPA	500	12 - 15 %
Other IFIs (World Bank, IFC, EIB, ADB)	105-160	3 - 4 %
EBRD	125-200	4 – 5 %
Private equity (inc. local)	25-50	1 %
Total	3355-4010	

*Source: J. Winpenny, internal report for EBRD*

By way of comparison, capital investment in the water sector in the UK in the twelve years since privatisation was on average GBP 3,500 million per year, significantly above the entire annual water sector investment in all of the Bank's countries of operations.

## **5. EBRD ROLE**

### **Promoting efficient investment, procurement and operations**

The Bank has financed investments in almost all kinds of water supply and wastewater infrastructure, through the full array of private, mixed and public procurement approaches, and through co-financing with official and commercial co-financiers. The Bank can apply its experience to promote efficiency throughout the project cycle, including through:

- Cooperation in the development of project concepts at the very early stages of project preparation, to map out the key features of the project structure and key steps in the project cycle.
- Optimising selection of investment components to meet regulatory requirements, to fit within affordability constraints, or to have strongest impact on operating costs and cash flow generation.
- Assisting municipalities and utilities to optimise the choice of procurement approach between traditional procurement, turnkey / EPC procurement, or various forms of PPP.
- Where the Bank is providing financing to the private sector its role is to ensure an appropriate balance of risk between public and private sector, to mitigate certain public sector risks which are considered as a barrier, and to ensure the most appropriate blend of debt and equity.

- Support for project implementation, both in terms of physical implementation and implementation of agreed financial and operational performance measures.
- Support for the commercialisation of water services at the municipality and project level, in particular through preparation or strengthening of service contracts, development of cost-recovery oriented tariff policies, improved accounting arrangements, and preparation for outsourcing or future private participation.

### Fostering decentralisation and regulatory reform

EBRD's role is to facilitate commercial bank financing and to complement other IFIs and stakeholders, drawing on its project-focused approach in the sector. This can work through a number of mechanisms:

- At the project and municipality level, EBRD's role is to help strengthen the local framework for water services by promoting service contracts, ensuring cost recovery through tariff requirements, and setting requirements for corporate governance. Examples of tariff reforms achieved through EBRD projects are given in the tables below, which show how the Bank has promoted cost recovery within affordability limits – which in some cases, where tariffs are already high, means structuring the project so that affordability ratios can decrease over time.

#### *Examples of tariff reforms introduced through EBRD projects*

Tariff increases as a condition of private participation	Budapest
Tariff increases indexed to inflation	St Petersburg, Tallinn
Tariff increases set below inflation to encourage efficiency	Riga
Reduction of cross-subsidy from industrial to household users	St Petersburg, Riga, Kaunas, Belgrade, Yaroslavl
Separate wastewater tariff	Budapest
Monthly or 6-monthly tariff adjustments required	Romanian MUDP & MELF*, Kaunas
Municipal Support Agreement with city to underwrite tariff commitments	Krakow, Kaunas, Bydgoszcz
A new, objective tariff formula introduced	Zaporizhzhia (Ukraine)

\*MUDP = *Municipal Utilities Development Programme*; MELF = *Municipal Environmental Loan Facility*

#### *Affordability ratios in selected EBRD projects - before and after*

Project	Initial ratio %	Projected maximum ratio
Sofia	1.8	1.9
Almaty	2.5	2.5 in 2005
Zagreb	1.7	2.6
St Petersburg	1.9	2.2
Riga	2.2	2.2
Kaunas	1.9	2.2
Tallinn		2.5
Yaroslavl (Russia)	0.8	3.1
Iasi (Romania)	5.1	3.9 in 2005, 2.9 in 2015
Belgrade	0.9	4.0 in 2006
Krakow	2.5	3.5
Bydgoszcz	1.7	2.9
Rijeka	2.8	1.8 by 2008
Zaporizhzhia (Ukraine)	3.1	3.7 in 2001, then to 3.0

- EBRD may be directly involved in specific areas of national policy dialogue, for example to secure exemptions to existing legislation or modifications to policy or legislation which can enable pilot projects to go forward. Once the pilots succeed, they can become the basis for broader legislative or policy changes. This approach was applied, for example, in the Municipal Utilities Development Programme in Romania.
- In selective cases, EBRD may become more broadly involved in policy dialogue and regulatory reform, for example through its legal transition work relating to concessions and frameworks for private financing – an example is EBRD support to the development of new PPP legislation in Poland.

The Bank’s approach to water financing in the CIS-7 provides an example of all three strands of the Bank’s strategy coming together, as shown in the box below.

***Bank strategy in the water sector in the CIS-7 countries***

*Bank Strategy:*

- Co-operate closely with other IFIs active in the region, to ensure complementary approach.
- Ensure financing is consistent with IMF requirements, including where appropriate grant-loan blending to ensure concession-lending status.
- Close cooperation with bilateral and multilateral donors to secure support for TC, investment grants, and twinning arrangements.
- Where feasible and appropriate, introduce private sector expertise through twinning, management contracts.
- Provide loan financing at a size appropriate to affordability constraints, even if this makes loans very small, thus structuring projects to be financially viable at the project/utility level

*Financing Options:*

- Small stand-alone loans, combining EBRD loans with investment grant co-financing, with donor-funded management contracts or with TC/twinning.
- Regional or national programmes where management contracts or TC support is part of a larger investment operation, provided it can be structured for consistency with IMF concessional funding rules.

*Potential Transition Impacts:*

- Commercialisation and performance improvement
- New or improved tariff policies
- Incentives for rational water consumption
- Improvements in collection rates from domestic/industrial and public sector consumers
- Skills and knowledge transfer
- Improved corporate governance
- Transparency, participation and local democracy

**Leveraging market participation and official co-financing**

An important part of the Bank’s role is to stimulate and leverage the participation of commercial banks in the municipal sector, and the application of new market instruments in its countries of operations. This includes:

- Support for the application of new financing instruments, such as revenue bonds and revenue backed loans. For example revenue bonds are now permitted by law in several of the countries of operation (e.g. Poland), but so far have not been used due to unfamiliarity in the market and high “first-mover” costs. Revenue-backed loans have been applied selectively in several advanced countries (especially Poland, Lithuania); the demonstration effect needs to be reinforced, and the approach extended to early and intermediate countries as the credit framework improves.

- Commercial bank co-financing, loan syndication and risk sharing to encourage commercial banks into the sector in countries where they are not so far providing finance, and to encourage them to extend maturities or take more risk in more mature markets. So far, commercial co-financing totalling over €300 million has been arranged in Bank projects in 11 countries, as shown in the table below.

*Commercial co-financing in EBRD projects in the water sector, to April 2004*

Country	No. Projects with commercial cofinancing	Commercial Cofinancing mobilised	Commercial Banks
Bulgaria	1	5.0	DEPFA,
Croatia	1	20.0	Bank Austria, Dexia
Czech Rep.	1	20.0	Bank Austria, Dexia
Estonia	1	50.0	Bayerische Hypo- and Vereinsbank AG, DEPFA, Kommunalkredit Austria, Landesbank Schleswig-Holstein Girozentrale, Nordea Bank Sweden, Swedbank
Hungary	1	20.4	CIB Bank, ING, Kereskedelmi es Hitelbank Rt
Latvia	1	16.6	HSH Nordbank, Nord LB, Nordea, Vereins und Westbank AG
Poland	1	8.0	Dexia
Romania	2	21.0	Bank Austria
Slovenia	1	13.3	Dexia, Hypovereinsbank, Raiffeisen Zentralbank Osterreich AG
	<b>10</b>	<b>174.3</b>	

- Co-financing with EU Cohesion and Structural Funds and with other sources of bilateral and multilateral co-financing to ensure timely and effective absorption of grant resources, and preparation and implementation of projects to international standards. EBRD will continue to maintain its dialogue with the EC, the World Bank, the AsDB and the EIB, as well as remaining involved and contributing to regional initiatives such as the PPC, the Northern Dimension, HELCOM, and the OECD EAP Task Force. Official co-financing carried out to date by the Bank in the water sector is shown in the table below, and involves over €1065 million in 29 projects across the region.

*Official co-financing in EBRD projects in the water sector, to April 2004*

Country	No. Projects with official cofinancing	Official Cofinancing mobilised	Co-financiers involved
Bulgaria	1	7.5	FMO
Czech Republic	1	15.0	EU
Croatia	1	162.8	World Bank, KfW
Estonia	2	13.1	EU, Nordic Environment Finance Corporation
Latvia	2	76.5	EU, Swedish International Development Agency, EIB
Poland	3	119.0	EU
Romania	8	280.2	EU, World Bank, DEG
Lithuania	2	49.7	EU, Nordic Environment Finance Corporation
Russia	5	205.2	EU, DEPA, Finnfund, NCC, NIB, NDEP, SIDA, Skanska, Swedfund
Regional	1	40.9	Caisse des Depots et Consignations
Azerbaijan	1	55.7	World Bank
Serbia & Montenegro	1	6.6	KfW
Macedonia	1	32.9	BMZ
	<b>29</b>	<b>1065.1</b>	

- Encouraging the participation of the private sector through:
  - Assisting municipalities to apply transparent competitive procedures, thereby ensuring a level playing field for investors.
  - Structuring, together with national authorities and the EC, suitable mechanisms for blending grant and private financing.
  - Offering to the private sector a broad range of financing instruments to match their needs as markets change.
- Developing financing structures such as the EBRD-EU Small and Medium Municipalities Financing Facility to facilitate access to capital for small and medium municipalities.

## Annex 2 Urban Transport

### 1. CONTEXT AND TRENDS

There is no unique model for organising urban transport in a market economy. Well-functioning systems have some common characteristics and these are compared below with the situation in a typical city in the Bank's countries of operation:

Area of responsibility	Well-functioning system in a market economy	Typical city in country of operation
Legal Framework	clear and stable legal & regulatory framework	local authorities generally "responsible"; sometimes no direct reimbursement for concessionary fares
Organisation	separation of planning and regulatory functions (public sector role) and service delivery (public or private sector)	vertically integrated with local government setting tariffs, specifying services and delivering services
Planning	integrated planning of land use & development and all modes of transport, with hard budget constraints	focus on physical master planning, decoupled from economic and financial planning
Budgeting	multi-year budgeting of investments	annual budget allocations
Expertise	high level of professional expertise within the "client" body (local authority)	with notable exceptions, low quality staff due to poor salaries and working conditions; lack of specialist education
Use of market forces	benchmarking of services, with outsourcing or in-house contracting, as appropriate	minibus services developed in some cities to meet unsatisfied passenger demands; regulatory frameworks frequently inadequate, with associated health and safety concerns

#### 1.1 Urbanisation & motorisation

- More than 75% of the 380 million inhabitants of EU-15 currently live in urban areas, and the percentage is projected to increase to around 84% by 2025. The degree of urbanisation in the Advanced Transition Countries is currently somewhat lower than in EU-15, notably in large countries where agriculture is still important (for example, 48% of Poland's population lives in 250 towns and cities). The urbanisation rate in Russia is already around 73%.
- Car ownership and use in the region exploded after 1989 – initially through the import of second-hand vehicles from Western Europe, and later through local manufacture of new models. Traffic congestion ensued and parking became an increasing problem. Pedestrians found that city centre sidewalks were often littered with cars, and that the police were often unwilling or legally unable to remove them.
- During the last 12 years, car ownership grew at about 10% per annum in many cities and has reached around 500 cars/1,000 inhabitants in Prague, 400 in Brno, and 300 in Bucharest and Budapest. Motorisation in 1998 was reported to be 126 in Romania, 230 in Poland and 340 in the Czech Republic. If New Member States follow the same trajectory as EU-15, considerable growth is yet to take place before they reach the levels already attained in high-income cities such as Rome (645), Munich (600), Madrid (520) and Stuttgart (500).

- Despite big falls in public transport ridership in Central and Eastern Europe (nearly 50% in Poland 1986-2001), a relatively high proportion of passenger trips are still made by public transport in Central and Eastern European cities - Bucharest (51%) and Prague (46%). This compares with Berlin (28%), Barcelona and Madrid (31%), the Paris region (19%) and Brussels (14%). However, public transport usage is tending to fall – for example in Prague, public transport ridership fell by 2.6% per annum on average over the past decade.

## 1.2 Tariffs, fare box ratios and revenue support

- Local transport pricing policy varies significantly across Europe. The price of a single-trip ticket varies by a factor of more than 10:1, from €0.17 equivalent in Bucharest (Romania) to €2.20 in Oulu (Finland). Even when linked to regional GDP, the factor is still 4:1.
- Fare box ratios therefore vary enormously (the proportion of operating costs covered by ticket revenues) and typically fall in the range 30%-60% in EC-15 (Brussels 30%; Rome 37%; Paris 38%; Vienna 49%). Fare box ratios in New Member States range from Prague - 32%; to Budapest - 35%; and Krakow - 87%. The level of revenue support by public authorities therefore varies too, with payments for bus services in Germany, Spain and the UK in the range 30-40%; in Denmark, Sweden and France 40-60%; and in Austria, Belgium and Italy 60-70%.
- The proportion of household expenditure on transport is typically in the range 15% in the EU.

## 1.3 Environment

- More than 10% of all carbon dioxide emissions in the EU come from road traffic in urban areas, which is also the main source of carbon monoxide and fine particulates in European cities. Whereas the Kyoto protocol calls for an 8% cut in EU carbon dioxide by 2008-2012 with respect to 1990 levels, if current trends continue, CO<sub>2</sub> from transport will be some 40% higher in 2010 than it was in 1990.

## 1.4 Sectoral Issues

### 1.4.1 Decaying infrastructure & equipment

**Typical problems: (1) no coherent and sustainable transport strategy or funded long-term investment programme; (2) traditional approach to financing transport, with little attempt to mobilise private finance; (3) poor procurement practices, which keep costs high; (4) often unclear and precarious financial relations between local governments and transport operators.**

- Cities traditionally worked under an annual “pay-as-you-go” budgetary regime. Investments in streets and public transport were negotiated annually, which precluded multi-year programming. Poland was one of the first countries to decentralise responsibilities for urban transport to city-level but, in common with many other countries, financial resources did not follow the decentralised responsibilities.

- Maintenance and refurbishment of existing pavements have often taken second place to new capital works, and payments by authorities to public transport operators usually do not include funds for renewal of assets.

#### 1.4.2 Traffic congestion & environmental degradation

**Typical problems:** (1) congestion increases the cost of doing business and damages the economy; (2) people avoid travelling to the city centre, leading to its decline as a cultural and commercial centre; (3) longer travel times and inconvenience; (4) environmental degradation due to air pollution, noise, danger and intrusion of the motor vehicle in public spaces.

- A common response to congestion is to build more roads. While road construction may ameliorate the situation in the short-term, experience from around the world has shown that it is not possible – for both financial and environmental reasons - to “build your way out of traffic congestion”.
- Some new road capacity may be justified, but the key to sustainable mobility is smarter management of travel demands and road space. Many cities need to upgrade existing streets and bridges through pavement strengthening, sometimes widening to increase capacity. Construction of a new road link may be economically justified in cases of a missing link in a network hierarchy, a new river crossing, or creation of a by-pass around a city or town centre. In the latter case, it is important to manage traffic within the by-passed area in order to use the freed road space effectively: for example, through pedestrianisation of commercial streets, with adequate provision for deliveries; cycle tracks (where appropriate); or traffic calming in residential areas.

#### 1.4.3 Poor quality public transport

**Typical problems:** (1) decentralisation of responsibilities, without financial resources; (2) transport operators often not responsible for investments; no depreciation of assets; (3) management focused on technical and production aspects rather than customers; (4) no business-oriented reviews of networks, modes and services against a background of changing market demands; (5) few on-street priorities e.g. bus lanes, traffic signal pre-emption; (6) high maintenance costs due to under-investment.

- While private transport grew massively over the past decade, the once good collective transport systems in the region fell into decline and are now characterised by aged fleets.
- Public transport in the region has been hobbled for the past decade by the practice of governments decreeing categories of citizens eligible for free or low cost fares, without paying adequate compensation to operators. Up to 50 categories of people may benefit as part of a State’s or a City’s social welfare system (war heroes, students, teachers, pensioners and so on). In the soviet system, no direct compensation was paid to transport operators – instead, vehicles were allocated annually and end-of-year losses were financed as inevitable operating subsidies. When this system ceased, the revenue shortfall and the lack of a mechanism for

granting authorities to pay for the services they ordered has been a fatal flaw in the organisational structure.

- Many transport operators in the region are still "production-oriented", rather than being customer-oriented organisations serving passengers' needs. There is a need for training in market-based thinking and techniques, especially for mid-level management, in the areas of marketing, service quality, legal aspects and financial management.

#### 1.4.4 Parking

**Typical issues: (1) lack of parking spaces and poor enforcement; (2) low revenue collection - not seen as a potential source of funding; (3) ill-conceived parking contracts and concessions; (4) no integration with traffic planning and management; (5) companies migrate to suburban locations, which may have poor public transport accessibility; (6) lack of parking space can threaten economic development (business and retail).**

- Parking is an important business in Western Europe, with an estimated annual turnover of the order of €6 billion. As traffic demands grow in Central and Eastern European cities, so too will opportunities for paid parking. In Sofia at present, only 7% of parked vehicles are in paid spaces, while some 22,000 vehicles park illegally each day. Some cities, such as Warsaw, have contracted out the management of paid, on-street parking. Physical deterrents to sidewalk parking are applied in various cities, and enforcement applied through fines, tow trucks and clamping.
- Parking charges can be an important source of revenue and, if properly harnessed, can leverage finance for new facilities. But off-street facilities are expensive to provide and may not be financially viable unless located adjacent to an important traffic generator, such as a commercial centre. The first step should be to gain control of on-street parking. However, legal impediments exist in some countries (e.g. Russia; Slovakia), which must be resolved before effective parking management will be possible. Once a satisfactory regulatory framework is in place, private expertise and finance can be mobilised to manage on-street parking, and build and operate off-street facilities.

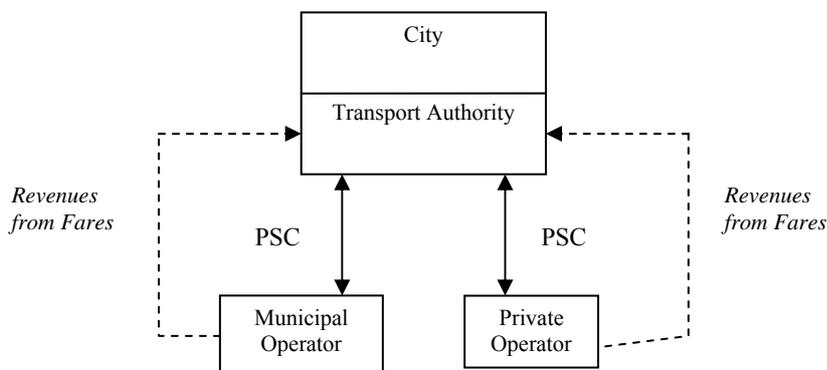
## 2. TRANSITION CHALLENGES

A shift in thinking is required to envision how a city is likely to evolve in response to unrestrained motorisation, and to conceive, frame and implement measures to create the sort of city that its leaders and citizens want. The Bank can help its client with this "visioning and transition":

**Focusing the role of local government/strengthening regulatory frameworks.** In the past, governments in the region planned the transport system, financed all investments, built the infrastructure, purchased equipment, and employed staff to operate services. Leaders in some cities have come to realise that while local governments have a legal duty to plan and regulate the transport system, and ensure delivery of services, they do not necessarily have to finance and own the operating

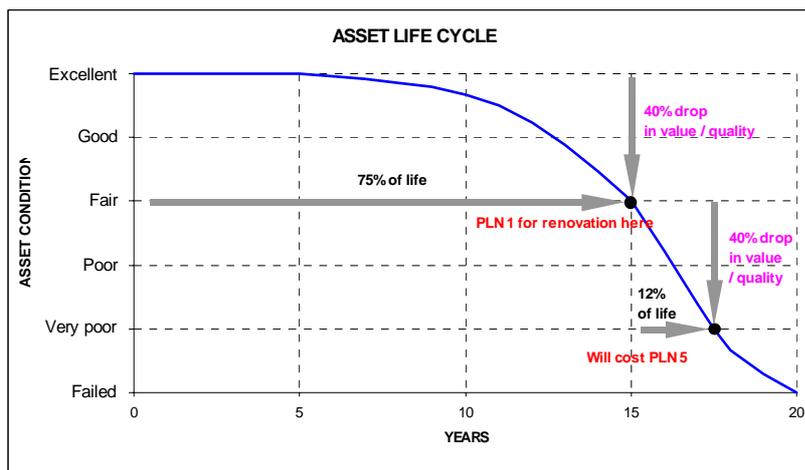
assets, and run services themselves. "Best value" techniques have been developed to check the circumstances under which the public or the private sector can offer the best 'value for money'.

Where **outsourcing** is economically advantageous, it is normal practice for a client authority to tender services and contract with a service supplier. Thus, for example, local



organisations as diverse as Transport for London and the City of Warsaw tender and contract for the provision of bus services. These are often contracted on a "gross-cost basis", meaning that the authority sets tariffs and owns the revenues collected by the contractor, and the client pays the contractor for the services rendered on a performance-related per-kilometre basis. Some contracts are on a "net cost" basis, where the operator owns the revenues and takes revenue risk. In both cases, the contractor finances the required vehicles, infrastructure and equipment based on the contractor's business record, the value and enforceability of a PSC between the company and its client, and the creditworthiness of the client.

The situation is more complex where a local authority chooses to contract with an entity that it owns, because the dual roles of owner and purchaser of services can lead to conflicts of interest and political interference. In such cases, the risks can be mitigated by means of a Support or Guarantee Agreement between the authority and lenders, under which the authority undertakes to meet its contractual obligations relating to services purchased, to pay a portion of the service fee directly into a debt service account, and cause the company to remain creditworthy for the life of the financing.



**Asset management.** The street network is

one of the most valuable assets owned by a local government. The Bank carried out a preliminary assessment in three Polish cities: Krakow, Lodz and Poznan. The "as new" asset value of the street networks was estimated at around €2 billion per city. In practice, the condition, residual life and consequent value vary from section to section and it should be noted that streets and structures do not degrade in a linear manner -

delayed maintenance has a high economic cost (see figure). Based on visual inspections, the Bank's consultant estimated that the current asset value of these networks is of the order of 20-30% of their "as new" value i.e. in the range €400-600 million.

**Encouraging commercialisation.** Publicly-owned transport operators and works units tend to be production-orientated units. They were traditionally allocated equipment and expected to provide certain services. The client authority paid annual subsidies. Where an authority wishes to retain a municipally-owned company, the Bank aims to help transform the entity into a proper company with a Business Plan, an appropriate PSC under which it receives full payment for non-economic services and tariffs, is responsible for its own investment decisions, and is subject to audit and modern corporate governance. Private and public transport operators raise finance backed by PSCs in many cities including London, Madrid, Netherlands, Paris and Rome.

There is a need to foster market-based attitudes and behaviour, especially by staff in publicly-owned organisations that provide services. The Bank can assist through technical co-operation, including twinning arrangements with operating companies that use current best practices.

The Bank can help its clients to modernise and operate their transport infrastructure, together with achieving "*best value*" for taxpayers' money in the delivery of street management services (e.g. road maintenance; street lighting; parking management; street cleaning) and public transport services. By "challenging" existing organisational arrangements, and the use of benchmarking and other techniques, the Bank can help cities decide the optimal balance between service delivery by in-house units and out-sourcing to the private sector. Commercialisation of services, sometimes through a PPP, may focus on service outputs rather than resource inputs, and foster whole life costing rather than adherence to non-economic design norms.

**Planning and programming within financial constraints.** Considerable progress has been made in many areas, but on-going challenges include the following:

- Planning an *integrated* system and prioritising investments having regard to the complex linkages between the various parts of the transport system, the environment and land use.
- Although many cities and their advisers have state-of-the-art transport modelling software, analysis and interpretation are often performed on the assumption that road traffic demands *must* be met ("predict-and-provide"). Many schemes are designed without any hard budget constraints and without due regard to environmental consequences at the strategic level. There is often a "disconnect" between physical planning and financial planning that leads to unrealistic and unachievable plans.
- The notion of phasing or staging investment and capacity in the interests of economic use of resources is not widely understood or applied in the region.
- Road design standards and designs in many cases are not well adapted to modern traffic and do not maximise safety (e.g. weaving lengths that are too short); the notion of a road hierarchy with different roads assigned different functions is not widely understood. As a consequence, there are numerous examples of main

traffic thoroughfares also serving as residential access roads, with adverse safety impacts.

**Moving towards sustainability.** There are very few high-quality public transport systems in the region today; few on-going attempts to upgrade tram systems to modern, light rail; few effective bus priorities, and no bus ways in the region.

Under the former planning system, metro, tram, trolley and buses were each assigned a role in a hierarchy, and networks were designed to provide direct connections between all major origins and destinations. Today, a number of small and medium-sized cities have too many public transport modes to be economic – typically bus, trolley and tram (and sometimes minibuses too).

There remains a huge unexploited potential in the region to improve urban transport systems at relatively low cost through network restructuring, improved traffic management to benefit both road traffic and public transport, concentration of resources on a core public transport network (whether bus or tram), and more appropriate organisational and contractual relationships.

The application of *modern traffic management* techniques, to make best use of existing road space and assets, is significantly underused throughout the region. There are examples of traffic *engineering*, but few comprehensive traffic *management schemes*. Few cities make best use of modern Urban Traffic Management & Control systems, which can feature real-time measurement of traffic volumes and dynamic control of traffic signal timings to minimise delays, techniques to track priority vehicles and pre-empt a green phase at signals.

**Transport industry.** The commercialisation of local transport in EU-15 supported the growth of a number of major transport operators with multi-country activities. The major public transport and parking operators are summarised below.

**Major public transport operators with multi-country activities**

	No. Employees	No. EU countries	No. other countries
Arriva	30,000	8	0
Concordia	9,000	3	1
Connex	55,000	15	4
First Group	55,000	1	2
Keolis	27,000	6	1
National Express	46,000	1	3
Stagecoach	30,000	1	3
Transdev	15,000	5	1

Source: UITP

## 2.1 Advanced Transition Countries

**Regional challenges: (1) consequences of motorisation: addressing congestion and environmental issues; (2) public transport regulatory framework; (3) investment backlog; (4) commercialisation**

**Regulatory framework.** The countries that joined the EU in May 2004 entered a regulatory framework that is in a state of flux. While EU transport policy is set out in the White Paper “*European Transport Policy for 2010: Time to Decide*”, public

transport regulation is subject to major uncertainty. Regulation 1191/69 still governs the sector, but a ruling by the European Court of Justice in July 2003 (the ‘Altmark’ ruling) clarified certain issues and it is expected that a new regulation will be required to govern the sector. There are divergent views within the industry and between countries on the merits or otherwise of compulsory tendering versus running services in-house. Some New Member States adopted *draft* EU legislation prior to accession and are ahead of EU regulations.

### ***Public transport systems***

- The countries that joined the EU in May 2004 added 30 tram systems to the 107 tram or light rail systems that existed in EU-15. While new lines are being built or existing lines extended in 35 existing EU cities, with plans in a further 74 cities, virtually no new extensions are underway in Central and Eastern Europe – the focus being on maintaining existing systems.

#### ***No. of cities with tracked public transport systems, Advanced Transition Countries***

	<b>Trolley Systems</b>	<b>Trams</b>	<b>Metro</b>
Czech Republic	13	7	1
Estonia	1	1	
Hungary	3	4	1
Latvia	1	3	
Lithuania	2	0	
Poland	4	14	1
Slovakia		2	
Croatia		2	

- Drawing on the Bank’s experience in Gdansk, Krakow and Wroclaw, it is conservatively estimated that investment of at least €1 billion is required to rehabilitate tram tracks in the Advanced Countries, quite apart from modernisation or network extensions.
- The share of the LRT/tram fleet built after 1990 is 33% in EU-15 and only 6% in the new accession countries; 67% of the latter’s fleet was purchased before 1980 and 25% before 1970.
- Commercialisation of public transport took place spontaneously in some places through the emergence of minibus services. Commercialisation of standard bus services, trolleys and trams has taken place relatively slowly. In Hungary, 3% of operators are private but cover only 1% of the population. In Poland, 86 operators signed contracts in 2000 (negotiated or tendered) and market shares are small but growing: e.g. Silesia 24%, Warsaw 6%, Gdynia 15% in 2003.

### ***Street networks & traffic management***

- Although financing ‘needs’ are very large, the Bank will consider financing streets and traffic management services only where good transition can be achieved. This is likely to be through some form of PPP – possibly through out-sourcing selected services.

## 2.2 Intermediate Transition Countries

**Regional challenges: (1) institutional reform and strengthening; (2) commercialisation; (3) public transport rationalisation (modes; networks; services); (4) road network asset management**

*No. of cities with tracked public transport system, Intermediate Transition Countries*

	Trolley Systems	Trams	Metro
Bulgaria	1	1	1
Romania	17	14	1
Serbia		1	

- Investment ‘needs’ in the region are substantial: investment in track rehabilitation for trams and trolley is estimated at around €500 million, for example. Since the total may not be affordable or be economically viable, an appropriate solution would be to conduct a review of modes and especially the role of trolleybus systems (in Romania in particular) and to achieve route, service and mode rationalisation, in line with customer demands.
- In Romania, the Bank has supported transition in the national road sector and the water sector over the past decade. Little international attention has been devoted to the Romanian urban transport sector, other than the sale/donation of second-hand trams from Switzerland and Germany. In addition to continuing its work with the City of Bucharest, the Bank aims to work with national and international partners to drive a transition-based programme to reform and modernise urban transport in regional cities, and to assist them to meet EU norms as part of Romania’s pre-accession process.
- In Bulgaria, the Bank is already working with the City of Sofia to modernise public transport, including contracting-out bus services, and to develop a parking strategy, which may lead to a parking concession.
- In Serbia, the Bank has already financed bus fleet modernisation and regulatory improvements in Belgrade, and plans to continue work towards extending the regulatory framework and improving cross-river infrastructure.

## 2.3 Russia

**Challenges: (1) megacity management; (2) managing motorisation; (3) Environment; (4) bias towards capital intensive systems**

*No. of cities with tracked public transport systems, Russia*

	Trolley Systems	Trams	Metro
All cities	88	77	6

- Motorisation in 2003 was around 145 cars/1,000 inhabitants and is growing quickly.
- The mega-cities of Moscow and St Petersburg face particular issues associated with their size. Moscow is pursuing a policy of trying to accommodate motorisation through large-scale road network expansion; St Petersburg is improving its road network too (e.g. by-pass construction) as well as trying to improve public transport.
- Public transport in Russia is provided by some 350 municipal and public operators, more than 1,500 medium sized private operators, and around 35,000

self-employed entrepreneurs. However, public sector enterprises are reported to have a market share of around 85%.

- The total bus fleet (8 or more seats) is estimated at around 640,000 (but about half the fleet is reported to be no longer operational). Approximately 125,000 buses provide regular scheduled services in urban areas. The annual fleet modernisation market is estimated to be around 20,000 new buses per year.
- Of the national fleet of around 12,000 trolleys, about 49% are less than 10 years old and 9% are between 15 and 20 years old. The same may be true of about 15,000 trams.
- The large ‘need’ for transport infrastructure and service improvements in Russian cities is severely constrained by affordability. The Bank intends to try to mobilise partners to initiate a programme in selected creditworthy regional cities to support reforms and priority investments.
- Drawing on its work in other sectors, the Bank is also considering possibilities for applying leasing structures, including “contract hire” (finance, supply and maintenance), as being piloted in St Petersburg.

## 2.4 Early Transition Countries

**Regional challenges: (1) investment backlog; (2) institutional reform and strengthening; (3) affordability**

*No. of cities with tracked public transport systems, Early Transition Countries*

	Trolley Systems	Trams	Metro
Armenia	2	1	1
Azerbaijan	5	2	1
Belarus	7	4	1
Georgia	9	1	1
Kazakhstan	8	5	
Kyrgyzstan	3		
Moldova	4		
Tajikistan	2		
Turkmenistan	1		
Ukraine	46	29	3
Uzbekistan	8	1	1

- Tram track rehabilitation is estimated to need investment of some €700m although it is generally recognised that this amount is unaffordable given low personal incomes. There is a need to rationalise route and service networks, and potentially replace low volume tram and trolley routes with modern buses combined with traffic engineering. Reforms are needed in legal and regulatory frameworks to encourage more commercial client-supplier regime. By introducing PSCs, it may be possible to mobilise private sector involvement in selected cases.

## 3. ROLE OF THE BANK

The main modes of EBRD intervention are summarised in the table below. In addition, the Bank may consider sovereign-guaranteed transactions in Early Transition Countries, and is open to supporting leasing structures in the sector, where normal Bank requirements can be met.

**Modes of EBRD intervention**

	Client	Municipal Loan	Loan to Transport Co.			Contractual Payment Guarantees	PPP (debt; equity; guarantees)
			Full City guarantee	Liftable guarantee	PSC + Municipal Support Agreement		
Fleet Modernisation	Transport Company	√	√	√	√	√	√
Public Transport Infrastructure	Generally Local Government	√				√	√
Street Infrastructure Upgrading & Traffic Management	Local Government	√				√	√
Parking	Concessionaire					√	√

*Sources:*

1. *Tramway Atlas of the former USSR; Light Rail Transit Association; London 1996.*
2. *Tram and Light Rail Systems in Europe – Current Situation, Perspective, and Market Volume; Laurent Dauby; UITP Public Transport International 01/2004.*
3. [www.eltis.org/benchmarking](http://www.eltis.org/benchmarking)
4. *Trams in Eastern Europe; Capital Transport Publishing; 2003.*
5. *Organisation and major players of short distance public transport; UITP EuroTeam; December 2003.*
6. *EBRD Technical Co-operation studies.*
7. *Information provided by UITP.*

## Annex 3

### Municipal Solid Waste Management

#### 1. SECTOR BACKGROUND AND CHARACTERISTICS<sup>1</sup>

- Waste is generated either as the result of consumption (municipal wastes) or production (industrial wastes - mining, power and heat generation, metallurgy, fertilizers, cement, glass, etc.). A fraction of waste is hazardous, generated both as a result of consumption (e.g. discarded medicines, household solvents) and production (e.g. heavy metals, spent oils, asbestos, radioactive wastes, etc).
- Waste management (which generally includes temporary storage, collection, transport, processing and final disposal) is viewed in all Countries of Operation as an important environmental policy and sustainable development issue.
- The waste management sector is a sector in rapid transition both in Western Europe and the Countries of Operation. For Advanced Transition Countries, the main driving force for reform is the transposition of the EU directives relating to waste management, in particular the landfill directive. The transposition of the EU directives is also underway in the countries of southeast Europe, albeit at a slower pace. This driver, as a force for sector reform, is absent in Russia and the other countries of the CIS.
- The only international conventions covering waste issues are the Basel Convention and the Stockholm Convention. The Basel Convention regulates the import and export of hazardous waste to and from the parties of the convention. Although the countries of the Caucasus and the Russian Federation are parties to the Basel Convention they presently lack the capacity to fulfil their obligations under it. The Stockholm Convention on Persistent Organic Pollutants (POPs) bans some of the world's most dangerous and environmentally persistent chemicals and came into force on 17 May 2004.

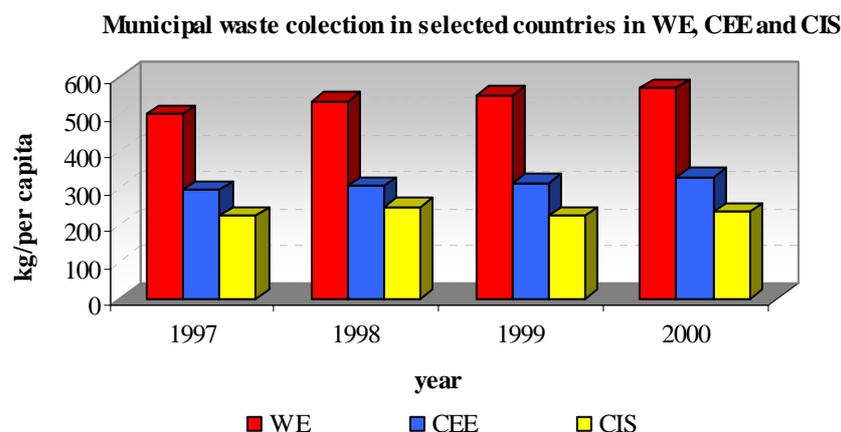
#### *Municipal Waste Generation*

- The generation of municipal wastes in Advanced Transition Countries in 2000 averages 370 kg/inhabitant/year as compared with 505 kg/inhabitant/year in Western Europe and 225 kg/inhabitant/year in Russia and other CIS countries.

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<sup>1</sup> *Main waste category groupings used in this annex:*

Municipal	Household, small businesses, and services.
Hazardous	As defined by National, European Waste Catalogue (EWC) or Basel Convention definitions.
Non- hazardous (industrial)	Industrial and industrial related wastes excluding municipal and hazardous wastes
Total waste	Municipal + Hazardous + Non- hazardous (industrial)

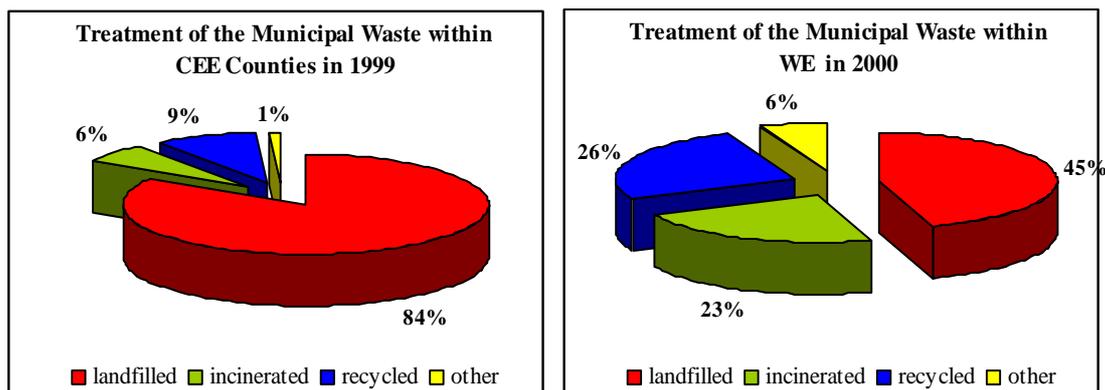


#### *Organisation and regulation of municipal waste management services in CEE*

- The collection, treatment and disposal of municipal wastes is most commonly organised at municipal level via municipal departments or municipal enterprises. User charges are the most common source of revenue with disposal charges and non-compliance charges applied less frequently. The role of regional governments is notably increasing as is the role of the private sector (see Section 2: Market Trends). The role of the private sector is strongest in the Advanced Transition Countries in the areas of recycling, waste-to-energy treatment technologies, and in the management and operation of sanitary landfills where these services had not been provided previously by the public sector.
- Regulation is primarily by the competent authorities for environment at State level (usually the Ministry of Environment).
- National Waste Management Plans (WMPs) or Strategies to support the implementation of Waste Acquis have been prepared at State level and adopted for all Advanced Transition Countries and the Accession Countries of the Bank's Early and Intermediate Transition Country group. Further such plans are under preparation in FRY of Macedonia, Serbia and Montenegro. Albania and Bosnia-Herzegovina have yet to commence the preparation of WMPs. Focus on implementation requirements, including financial planning and public consultation has generally been weak in the development of these plans.

#### *Municipal Waste Management Practices*

- The principles of EU Waste Acquis are: the prevention principle, producer responsibility and 'polluter pays principle', the precautionary principle and the proximity principle. These principles are further developed in the EU general strategy on waste which sets out the hierarchy of waste management operations of: prevention, recycle, energy recovery, and optimal final disposal. Community legislation prohibits the shipment of all kinds of waste destined for disposal in non-OECD countries and hazardous waste for recovery in non-OECD countries.



### Recycling

- Municipal solid waste consists of organics (food and kitchen waste, etc.), paper & cardboard, glass, plastics, metals (aluminium cans, electrical and electronic equipment waste (WEEE), etc.) and textiles. In comparison to WE recycling in CEE is low. The waste streams recycled in CEE are mainly glass, paper and cardboard.

### Energy recovery / incineration

- By 1999, 4 of the Advanced Transition Countries incinerated municipal waste with only 7 municipal incinerators in operation with a capacity of over 3 tonnes/hour (Czech Republic-3, the Slovak Republic-2, Hungary-1, and Poland-1). The incinerated quantities were mainly for waste oils, tyres and packaging waste co-incinerated in cement kilns. Since 1999, 3 new plants for the incineration of municipal waste have been commissioned in the Czech Republic (SKO Praha, Malesice – (310,000 tonnes/year), SAKO Brno - upgraded with ISPA co-financing - (210,000 tonnes/year), and SKO, Liberec (96,000 tonnes/year). In comparison with the EU-15, Switzerland and Norway total incinerator numbers grew from a low point of 275 in 1997 to 304 in 2000 with approximately 96% of these incineration plants recovering energy, with total energy recovery up from 43 TWh in 1997 to 50 TWh in 2000.

### Landfilling

- Landfilling is still the major disposal route for all municipal waste in the Bank's Countries of Operation (ca 84% in 1999). Some of these landfills receive both municipal and industrial waste, and in some cases even hazardous waste. Only a small fraction of the landfill sites utilised comply with EU standards. A key challenge is consolidation, i.e. the closure of dumpsites and the concentration on an optimum number of sanitary landfills. Landfill tipping fees, where charged are low, but as new compliant landfills are constructed and the true cost is calculated including post-closure costs, the gap between landfill and incineration costs is closing. This increased valuation of landfill space is also positively impacting and promoting recycling.

*Landfilling of municipal solid waste*

Country	Population (million)	Total number of landfills
Bulgaria	8.2	124 controlled (9 meet EU standards)
Czech Republic	10.3	161
Estonia	1.45	351 (221 operated)
Hungary	10.1	725
Latvia	2.46	565
Lithuania	3.7	800*
Poland	38.7	998
Romania	22.5	257
Slovak Republic	5.4	141 +159**
Slovenia	2.0	60
Albania	...	....
Bosnia-Herzegovina	...	....
Croatia	4.6	400+ reported, 127 controlled, (1 meets EU standards)
FRY of Macedonia	....	....
Serbia & Montenegro	....	....

\*including contaminated sites and liquid waste reservoirs, \*\*closed in May 2001

*Organisation and regulation of municipal waste management services in Russia and other CIS countries*

- Traditionally there was no system for integrated waste management in the former Soviet Union and different organizations and institutions were responsible for waste disposal. There was no specific body of law regulating waste but only sanitary rules and technical norms existed. A framework of environmental policy and laws is under development in the Russian Federation as well as in a number of CIS countries but has yet to be implemented.
- At present, only the larger cities are developing and financing their waste infrastructure at a municipal level.

*Municipal Waste Management Practices in the CIS*

- Municipal solid waste in CIS countries is mostly landfilled. The general situation is that existing legal landfills are overloaded, were not originally designed to meet standards for the protection of environment and are not operated to meet existing public health requirements. The co-disposal of industrial and hazardous wastes together with municipal wastes is prevalent as is the dumping of wastes to illegal sites in rural areas. Waste separation and recycling is not common and mainly limited to glass bottles in the larger urban areas.

**2. MARKET TRENDS & NEW CHALLENGES***Market Trends*

The underlying trend in waste management is the escalation of costs due to: increasing quantities of waste generated, stricter legislation, increased enforcement of legislation, increased treatment costs, and rising public expectations. There are 3 trends that are of particular importance to the organization and financing of waste management services in all of the Bank's Countries of Operation. They are:

- ***The partial shift of burden of responsibility from consumers to producers***  
 EU environmental policy and waste legislation is in continuing development and refinement. The use of market-oriented economic instruments has become an important tool to assist the implementation of EU environmental policy. A key instrument in new policy is the principle of “Extended Producer Responsibility”. Extended Producer Responsibility (EPR) together with product charges form the basis of a new generation of pollution prevention policy and economic instruments that focus on the product. EPR transfers the responsibility for the final disposal of products after their sale and consumption from the public sector (traditionally municipalities) to the producer. The development of product based economic instruments have already been initiated in some Advanced Transition Countries, most notably in the Slovak Republic where product charges are applied to paper and packaging, glass, batteries, waste oils and end of life vehicles (ELV). The charges are earmarked for the Slovak “Public Recycling Fund” to finance waste recycling programmes. While the primary focus of these product focused economic instruments in WE is to support the EU general strategy on waste, the main objective in CEE is to generate revenues to finance municipal waste treatment and disposal infrastructure. Product focused economic instruments and other sources of finance are discussed further in section 4.
- ***The growing role of the private sector in service provision***  
 The organization of service provision in Advanced Transition Countries at present is very similar to that in Western Europe during the early 1980s, where the collection, treatment and disposal of municipal waste was generally carried out by the public sector, principally municipalities. As EU policy and legislation was implemented in Western Europe, the burden on municipalities increased substantially demanding higher levels of capital investment and new technologies, particularly in the areas of treatment and disposal. As a result municipalities began to outsource service provision to the private sector, generating business for large numbers of local service providers. As compliance demands increased further in the 1990s with increased costs and capital investment needs, the private sector grew further and underwent rapid consolidation as service providers competed for increased market share. As EU policy and legislation is implemented in Advanced Transition Countries, a similar dynamic is expected, with the growth in private sector service provision already visible in the advanced transition countries of CEE.
- ***The organisation of municipal waste management on regional structures***  
 The decentralisation process in the Bank’s Countries of Operation has not always resulted in optimum administrative structures for the provision of municipal waste services. Only the larger cities tend to have population size, with a sufficient revenue base to finance service provision funded via user charges at municipal level, utilizing their economies of scale to provide an adequate level of service within affordability constraints. As a result the trend for small and medium sized municipalities is towards the provision of services on a regional or inter-municipal basis, organised to provide services and finance new infrastructure (e.g. Estonia, Latvia, Lithuania, Slovenia).

New challenges generated in the solid waste management sector are the result of attempts to solve environmental issues in the water, wastewater and air management sectors. (e.g. drinking water and sewage sludges, residues from cleaning air emission

gases.) The annual production of sewage sludge in the EU was estimated at 7.2 million tonnes in 1992 and is expected to increase to 11.2 million tonnes in 2005. This problem is now becoming evident in the Advanced Transition Countries as wastewater treatment plants come into compliance with the Urban Wastewater Treatment Directive. The volume of sewage sludge in Estonia, for example, increased by 71% between 1997 and 1999.

### 3. SECTOR REFORM NEEDS

Reform and increased capacity in the waste management sector is required to varying degrees in all Countries of Operation in the following areas:

- Policy and legislation – Need to develop, implement and refine environmental policy implementing market based economic instruments to support a sound regulatory framework taking advantage of the lessons learnt elsewhere, particularly Western Europe, the US and Japan. Policy development should include the implementation of new pollution prevention policy and economic instruments that focus on the product and reduce the burden on municipal budgets. Policy should promote the commercialization of municipal solid waste management service providers, the participation of the private sector, and develop a market for recyclables.
- Rule of Law – The dumping of wastes to illegal or non-compliant sites by municipalities is in many places tolerated by enforcement authorities and meaningful non-compliance charges are often not applied. The enforcement of legislation is one of the weakest areas in the waste management sector, and it is fundamental for the development of the sector. Competent Authorities need to develop site closure programmes, include transitional arrangements in national legislation and apply non-compliance charges that are sufficiently high to change the behaviour of the polluters. Regulations need to clearly delineate between the duties and responsibilities of central, regional and local governments. The rule of law and a strong administrative capacity is essential for the implementation of product based economic instruments in waste management.
- Strategic Planning / Financial Management – Most Advanced Transition Countries have completed national waste management plans (WMPs) or strategies, but lack an adequate implementation strategy to support them, particularly in the area of financial planning. While EU (TACIS) programmes are funding the development of National Environmental Action Plans (NEAPs) and WMPs in some of the Early and Intermediate Countries, governments there in general still have to develop their strategic plans. All countries need to develop sound financing strategies to efficiently support the implementation of their WMPs, covering both institutional aspects and financial management. Financing options (see Box 1 – section 4) include user charges (e.g. tipping fees, garbage taxes, volume-related fees) where the polluter pays after consumption, or product based schemes where the polluter pays prior to consumption, assisted where necessary, particularly through transparent government subsidies (governments may in turn raise the funds through local taxes, such as property taxes).
- Local and regional organisation – Local and regional governments need to implement inter-municipal or regional organisation structures to achieve economies of scale for the provision of services. These structures need to be transparent and

commercially sound. The organisational structures should include a role for the private sector where this makes sense.

#### 4. INVESTMENT NEEDS

##### *Investment Needs in Advanced Transition Countries and Accession Countries*

- In order to meet the obligations of EU waste policy and legislation, countries will need investment in waste temporary storage and collection infrastructure (containers, trucks), sorting, recycling (including bio waste treatment) and pre-treatment facilities, energy recovery facilities (incinerators), and sanitary disposal facilities (EU compliant landfills). Compliance estimates for investment are shown in Table 2 below:

*Estimated EU Compliance Costs in Waste Sector (investment costs)*

Country	(€million) <sup>1</sup>	(€million) <sup>2</sup>	(€million) <sup>3</sup>	Cost/capita (€/inhabitant)
Bulgaria	671	2,477	2,150-3,000	80-340
Czech Republic	3800	1,152	1,116	110-370
Estonia	698	698	n/a	485
Hungary	4,400	454	n/a	45-435
Latvia	259	343	n/a	105-140
Lithuania	325	364	n/a	89-100
Poland	3,695	3,695	4,000	95-105
Romania	2,788	2,568	5,971	115-180
Slovak Republic	1,205	8,92	2,008	165-370
Slovenia	1,600	1,073	n/a	540-808
Croatia	n/a	n/a	1,192	259

<sup>1</sup> DISAE discussion paper "Development of Implementation Strategies for Approximation in Environment", Brussels, June 1998

<sup>2</sup> "Economic Instruments and Environmental Policy in CEE" J.Jantzen TME, Hague September 1999

<sup>3</sup> Publicly available estimates in CEE countries - [www.eurowaste.org](http://www.eurowaste.org)

<sup>4</sup> Halcrow & Partners Ltd. (1999) Provision of Technical Assistance in the Approximation of Waste Management Legislation in the Slovak Republic.

- Investment in solid waste infrastructure is now a priority in Advanced Transition Countries, and while EU Structural and Cohesion funds will be available they may only contribute to a small portion of compliance costs. The construction of sanitary landfills is a priority to facilitate the reconstruction and/or closure of non-compliant sites, as is the construction of recycling and energy recovery infrastructure to meet reuse/recovery targets.
- Priority investment needs in Russia and Early and Intermediate Countries tend to be more waste temporary storage and collection infrastructure (containers, trucks), recycling and sanitary disposal facilities (safe landfills and rehabilitation / closure of existing waste dumps), supported by more advanced treatment and energy recovery facilities in the larger and more affluent cities of the region.

***Sources of revenue (economic instruments) for waste management***

- ‘User charges’ – Most CEE countries employ user charges to cover or partially cover the cost of services related to municipal waste collection and disposal. User charges are low in CEE and the CIS and would need to be increased significantly to finance investment. Large increases in user charges tend to be limited by ‘willingness to pay’ and affordability issues. Affordability is more of a constraint in the CIS.
- ‘Disposal charges / taxes’ while common in WE are only used in the most advanced CEE countries (not to be confused with disposal/tipping fees included in user charges)
- ‘Non-compliance fines’ while included in law in CEE and the CIS are rarely enforced.
- The earmarking of ‘green taxes’ or ‘product charges’ to special funds (e.g. environmental funds) is growing in importance as a source of revenue in CEE and CIS countries. Most countries in CEE have an environmental fund and the number in the CIS is growing. Environmental funds are playing an important role in financing environmental expenditure in CEE (In 2000 – Latvia 43%; Slovenia – 23%; Estonia, Bulgaria, Poland, Poland and Slovakia more than 10%; in the Czech Republic and Lithuania less than 10%).
- ‘Subsidies’ mainly grants or transfers from state budgets or grants from external sources (e.g. EU ISPA, structural or cohesion funds for CEE, bilateral grants in the CIS.)

## **Annex 4**

### **District Heating**

#### **1. OVERVIEW**

Densely populated urban areas are common in the Bank's Countries of Operation. Most frequently, these areas are the result of central planning that decided not only the location of the housing but also the system of utility services. Normally, this planning did not offer residents a choice among options for space heating and heat was supplied by a district heating system that was state owned.

In most countries, ownership of the heating systems has been transferred to the municipalities. There have also been recent efforts to privatise heating companies. However, outside of the Czech Republic and Estonia, ownership remains primarily in the public sector.

Energy in general can consume a significant portion of a household's income. As space heating normally represents at least 60% of a household's energy needs, consumers are acutely aware of price increases. This also means that district heating remains highly politicised with central and local governments keenly aware of the levels of service provided and the affordability of the tariffs.

#### **2. DISTRICT HEATING – A DEFINITION<sup>1</sup>**

District heating may be defined as a system that distributes thermal energy (heat) from remote sources to residential commercial and industrial consumers for space heating, hot water preparation and industrial processes. Although district heating is normally thought of in the context of a large central boiler or power station servicing an entire city, the definition also applies to smaller decentralised systems sometimes referred to as group or block heating systems.

Technically, a district heating system consists of (i) a heat source - from a combination of heat only boilers, combined heat and power production plants or (ideally) waste heat recovery from industrial plants; (ii) a primary transmission pipeline that transports either steam or hot water; (iii) a heat distribution network that includes substations; and (iv) in-house installations for space heating and preparation of domestic hot water.

Compared with separate production of heat and power, CHP yields efficiency gains which result from combined production. It can be shown that 152 units of energy are required to produce 29 units of electricity and 56 units of heat by means of separate production. In contrast, only 100 units of energy are required to produce the same quantities of electricity and heat in a combined production system.

Clearly the improved performance of a combined production unit can only be achieved at some cost, the additional cost of heat production (or recovery) transmission and distribution systems as well as the cost of consumer connections. If the heat price, allowing for these costs, together with the cost of consumer connections (after allowing

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<sup>1</sup> District Energy Library Website - [www.energy.rochester.edu](http://www.energy.rochester.edu)

for subsidies etc., if available) is competitive with alternative heating options and the heat demand density is sufficient to warrant the investment, then the project can be successful.

### 3. DISTRICT HEATING – BRIEF HISTORY<sup>1</sup>

The first commercial district heating system was built in 1877 in New York. Since that time, the number of district heating systems worldwide has grown dramatically, with the five largest being in the Bank's countries of operations.

#### *10 largest district heating systems ranked by heat delivered*

City	PJ	GWh
St. Petersburg	237	66,000
Moscow	150	42,000
Prague	54	15,000
Warsaw	38.2	10,600
Bucharest	36.7	10,197
Seoul (est.)	36	10,000
Berlin	33	9,247
Copenhagen	30	8,000
New York City	28	7,800
Stockholm	27	7,500

### 4. SECTOR CHARACTERISTICS

District heating in the Bank's Countries of Operation could be characterised as being an inefficient system with energy losses of between 35% and 77% in generation, transportation, distribution and end-use.<sup>2</sup> Much of the lost heat is attributable to overextended networks using outdated equipment and technology.

Common conceptions are that district heat does not:

- consider the cost of delivering heat;
- encourage customers to rationalise consumption;
- allow the heating company adequate control over the amount of heat delivered; and
- provide consumers with an adequate level of service.

In the Bank's Countries of Operations, many stakeholders recognise the challenges. There is also an awareness of the need to redevelop district heating companies into modern consumer oriented utilities if district heating is to remain viable. A focus of the Bank will be to work with reform minded municipalities prepared to offer support for implementation of the needed measures.

Table 2 shows *inter alia* the number of heating companies in selected countries as of 2001. With few exceptions, district heating in the Advanced and Intermediate Transition Countries has declined in the past fifteen years<sup>3</sup>. Less data is available for the Early Transition Countries and Russia, where the level of disconnections is lower,

<sup>1</sup> District Energy Library Website - [www.energy.rochester.edu](http://www.energy.rochester.edu)

<sup>2</sup> World Energy Council.

<sup>3</sup> Euroheat & Power.

due primarily to the low income levels of consumers and, thus their inability to afford the cost of installing autonomous systems.

*District heating statistics for selected countries*

	unit	Bulgaria	Croatia	Czech Republic	Estonia	Lithuania
Number of DH companies		21	1	654	432	47
Number of CHP plants		18	3	n/a	17	11
Number of CHP DH plants		9	3	n/a	12	5
Energy used for DH and CHP electricity	GWh	18357	5356	n/a	12971	n/a
Total heat delivered to the pipeline system	GWh	9127.4	3277	41358	10444	14608
Heat delivered for industrial use	GWh	n/a	703	24210	2372	1987
Heat delivered to consumers	GWh	7800	2782	36575	8659	10069
Total route length of DH pipeline system	km	150	312	n/a	n/a	2863

Although district heating is declining in some locations, it is growing in others. One example from outside of the Bank's countries of operations is Finland where new construction (97% of apartment buildings, 55% of terraced houses and 10% single family houses) is connected to district heating. However, in the Bank's countries of operations, due in part to the rather poor reputation of district heating and its association with the past, it may be more challenging there for district heating to achieve this level of market share.

## 5. TARIFFS

Frequently, "Full Cost Recovery" tariffs only include the cost of producing and delivering heat (i.e. operating expenses) and even when the tariffs include financing costs for investments and depreciation expenses, the infrastructure has not been adequately valued or it is already fully depreciated. This is among the reasons that heating companies lack the financial resources required to renew the systems.

Outside of the most advanced transition countries, in most of the Bank's countries of operation, heat tariffs are in some way regulated in an effort to keep them affordable to the "average" consumer. Hungary abolished heat subsidies in 1991, Czech Republic in 1996 and Poland in 1998. The next table shows that district heating still benefits from favourable VAT rates in some countries.

*DH prices and VAT level (2001)<sup>1</sup>*

Country	DH price (excl. VAT )	VAT level
Bulgaria	22€/MWh (heat)	n.a.
Czech	25-75 €/MWh	5% for DH 22% for all other energy sectors
Estonia	Average 26€/MWh	5% for DH 18% for other energy sectors
Hungary	26-45€/MWh	12%
Latvia	18-47€/MWh	9% - prepaid on DH for households 18% for the other energy sectors
Lithuania	30.14-44.62 €/MWh	9% VAT for households 18% VAT for heat consumers

<sup>1</sup> Euroheat & Power.

Poland	22.4€Mwh	7% for the connection part of DH tariff 22%
Romania	19 €MWh (heat)	20%
Slovakia	<41€MWh	20%

With full cost recovery tariffs, the cost of heat losses (and wastage) is ultimately borne by the consumer *inter alia* through a combination of (i) increased tariffs, (ii) poor service in return for low tariffs or (iii) indirectly through operating transfers. These all lead to low customer satisfaction and will eventually encourage those consumers able to afford alternative heating systems to disconnect from district heating in favour of another (but not necessarily cheaper) option. The result for the district heating company is less demand (i.e. lower heat load density) such that district heating may eventually cease to be the least cost option.

It is impossible to state with any certainty what district heating should cost. Table 3 (above) demonstrates that in Central and Eastern European countries, district heating tariffs can vary by 200% within a country. Another example can be taken from Finland where end user prices per MWh range from €30 up to €56<sup>1</sup>. This wide range is attributable to the variety of heat sources and the conditions of the distribution systems. In the Bank's countries of operations where conditions are far more varied between cities, it is practical to state that similar or even greater price variations can be expected.

In Russia, price variations are well above Central and Eastern European levels. The cost for district heating companies to generate and deliver heat to consumers ranges from USD 8 up to USD 300 per MWh<sup>2</sup>. Affordability of district heating services will vary similarly. However, it is clear that at the higher end of the price scale, heat would be unaffordable without significant amounts of financial support from the government.

## 6. MARKET TRENDS

On a per capita basis, district heating in the Bank's Countries of Operation is concentrated in Russia, Belarus, the Baltic States, the Czech Republic, Romania and Poland. The table below demonstrates the percentages of households serviced by district heating as of 1999<sup>3</sup>. Where these numbers will be in coming years is not entirely clear but it is expected that district heating will retain a market share in the range of 60% for Central and Eastern Europe<sup>4</sup>.

Examples of trends away from district heating are:

- between 1990 and 2000 district heating demand fell by an estimated 15% in Poland and 30% in Hungary;
- it is estimated that up to 20% of all owners of flats in multi-story buildings in Moldova have installed autonomous boilers;
- in Romania, disconnections have ranged from the low teens to nearly 80%; but
- in Russia the rate of disconnections remains relatively modest and is confined to more affluent areas in the more affluent cities.

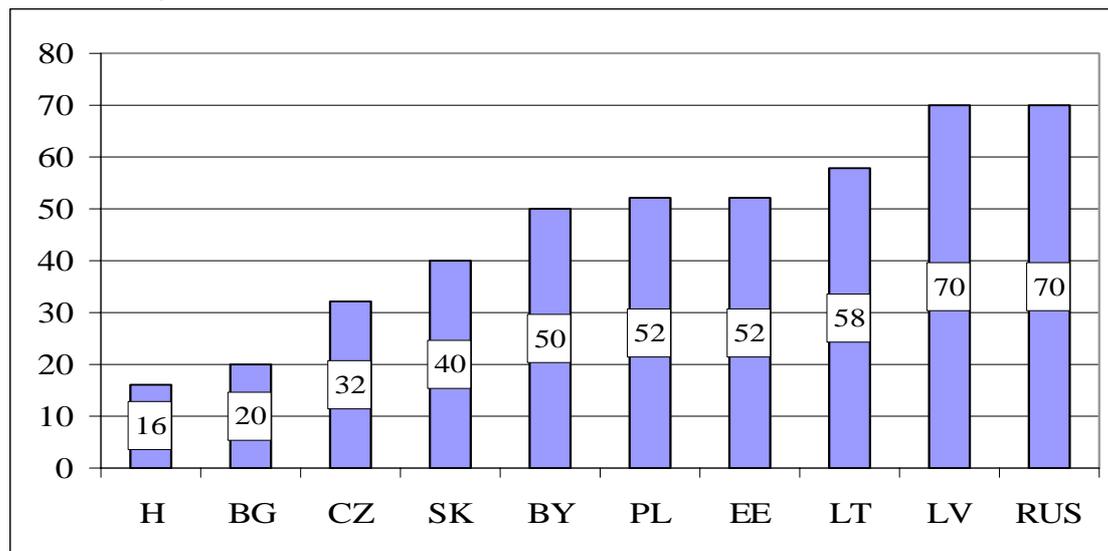
<sup>1</sup> International Energy Agency.

<sup>2</sup> Center for Energy Efficiency, Moscow, Russia.

<sup>3</sup> World Energy Council.

<sup>4</sup> World Energy Council.

### *District heating Market Penetration*



There are a number of drivers for the trend toward disconnection from district heating. Among them are:

- Access to natural gas distribution networks by individual consumers and the ability of consumers to afford the purchase and installation of an autonomous heating system.
- The ability of heating systems to deliver heat – in particular, some Moldavian heating companies have been unable to buy fuel. Thus, consumers were forced to seek their own alternatives.
- A decision by district heating managers to rationalise heating systems and concentrate on areas where district heating is the least cost option.

However, in most cases, disconnections are the result of the combination of poor services levels and comparatively high heat tariffs. Both of these factors can be attributed to under-investment in the district heating infrastructure. As stated above, inefficiency leads to high tariffs. In some instances, city administrations are unconvinced on the long term viability of district heating and thus are hesitant to provide the municipal district heating company with the financial support required for financing the investment needs. Without the investments the heating system will continue to lose its customer base until it is no longer viable and the system will eventually either collapse or be abandoned.

While the general trend has been toward disconnections from district heating, there has also been reconnection and actual growth in some cities. Most notable is Belgrade where consumers who had previously opted to heat with cheap electricity have returned to district heating now that electricity and gas prices have been increased to market levels. Flats in buildings connected to the district heating network currently sell at a premium compared to flats that rely on gas or electricity for heat.

## **7. COMPETITION**

District heating is most frequently the least cost option in areas with high population densities (i.e. urban areas where residents live primarily in blocks of flats). Conversely,

district heating is the least cost option less frequently in low population density areas (i.e. suburbs and rural areas where residents live in low-rise blocks and/or single family houses). Although there are other factors for this (such as the length and intensity of the heating season), the main rationale is that in high density areas the investment costs per unit of heat delivered is lower.

As stated above in Section 4, heat delivered by district heating companies has declined. There are a number of factors that contribute to this trend. Among the factors are increased efficiency, decline in industrial activity, rationalisation of heating networks, etc. However, the primary reason for the decline in district heating (and district heating companies) is generally accepted to be the expansion of natural gas distribution networks.

District heating does not always compete with natural gas on a level playing field. In many instances natural gas has benefited from cross subsidies between industrial and residential consumers<sup>1</sup>. This has meant that district heating companies pay for gas a price that is equal or greater to the price paid by the end consumer. Generally, heat distribution costs are roughly equal to heat generation costs. Thus, the district heating tariff will be twice the cost that the consumer would pay for heating with natural gas. In the short term this benefits the residential consumer that elects to install an autonomous gas boiler. However, in the longer term when gas prices increase to their normal market levels the autonomous boiler may prove to be a more expensive option.

Suppliers of boilers have seized this opportunity and are aggressively marketing their products, frequently offering attractive financing terms. Even in areas where district heating is the least cost option, consumers are attracted to natural gas by the control and comfort offered by a fully autonomous system.

The erosion of the district heating utility's customer base could result in district heating ceasing to be the least cost option for consumers and endangering the long term viability of the district heating company. Just as low income levels for many households is a barrier to installing boilers when natural gas is subsidised, low income levels will remain a significant barrier for purchasing boilers in the event of the demise of a district heating company. Thus, the poorest segments of the population will be hardest hit.

Conditions in the social sector have a direct bearing on district heating. In particular, heating companies customers are frequently the end consumer. However, the design of the system makes it difficult to meter heat (and in many cases hot water) and nearly impossible to disconnect for non-payment on an individual basis. Under this system individuals have little incentive to reduce heat wastage as they are billed based upon consumption norms that may bear little resemblance to their actual consumption. In addition, energy continues to be wasted on a collective level as there is no ability to borrow to finance improvements to the building envelope and the internal systems.

The Bank will encourage the development of housing associations that will assume the legal and financial responsibility for accurately allocating the heat consumed on a building level, collecting from the individual households and paying the heating company for the heat consumed by the building.

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<sup>1</sup> Euroheat & Power

## 8. SECTOR REFORM NEEDS

The table below demonstrates that, in comparison with other types of energy, regulations relating to district heating have been in large part neglected.

*Status of energy reforms in Central and Eastern Europe<sup>1</sup>*

Country	Energy Act	Electricity Act	Natural Gas Act	DH/ Heat Law	CHP Law	Energy Efficiency Law
Bulgaria	Yes	No	Yes	No	No	Yes
Czech Republic	Yes	No	No	No	No	Yes
Estonia	No	Yes	Yes	Yes	No	No
Hungary	No	Yes	No	Yes	No	Yes
Latvia	Yes	No	No	No	No	No
Lithuania	Yes	Yes	Yes	Yes	No	No
Poland	Yes	No	No	No	No	No
Romania	No	Yes	No	No	No	Yes
Slovakia	Yes	No	No	No	No	Under preparation

Among the reforms needed to revitalise the district heating sector are:

- encourage the development of small scale CHP for the provision of baseload heat supplies. This must include regulations that price waste heat appropriately;
- eliminate existing price distortions between district heating and, in particular, natural gas. In nearly all markets electricity is priced well above heat and is not a practical substitute;
- increasing transparency in the regulation of district heating and to allow the inclusion of all reasonable expenses in tariff calculations. This will allow heating companies to invest in improved and efficient technologies and will reduce the support from municipal and sovereign budgets required for them to secure financing;
- introduction of private sector participation at the appropriate level and at the appropriate time; and
- introduction of service contracts that provide heating company management with appropriate incentives for increased operational efficiency. This could include incentives for the heating companies to introduce cost effective metered consumption on at least a building level. It could also introduce a tariff cap rather than the more common “cost-plus” system.

## 9. SOURCES OF FINANCE

Allocations from municipal budgets – this type of financing is normally only sufficient for urgent repairs and small scale rehabilitation:

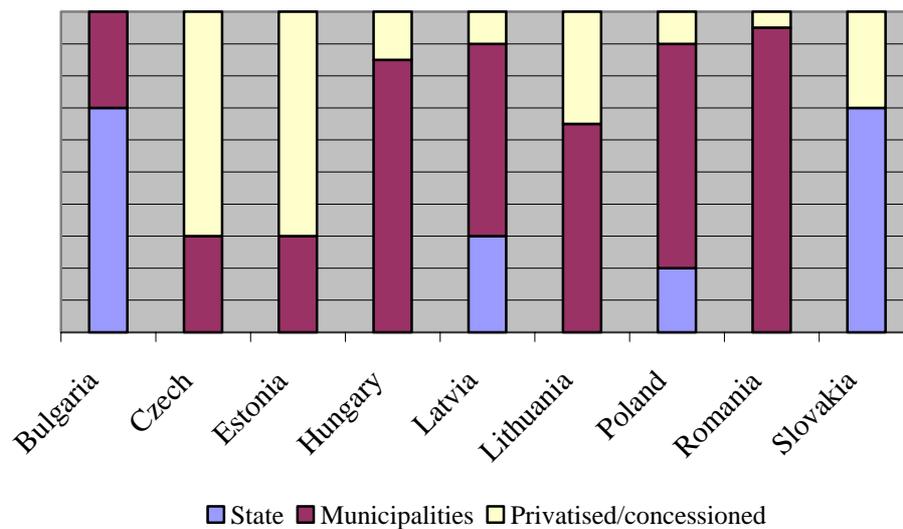
- IFIs (EBRD, WB, IFC) – as most district heating companies are municipally owned, IFI lending activities usually require municipal financial support. As heating companies are unlikely to meet the Bank’s credit standards, without

<sup>1</sup> Euroheat & Power.

municipal (and in some cases sovereign) support, the district heating infrastructure will not have access to external funding sources.

- Grants – in general, district heating has not benefited from the large scale infrastructure grants common in other sectors. Although this may change to some degree in the future for countries able to access structural and cohesion funds, it is improbable that grants will become a major financing component. Grants will remain a very important factor in the project development and implementation phases.
- Sale of “Carbon Credits” – large scale district heating projects may produce saleable quantities of emission reductions. However, the revenue generated by selling carbon credits will not be sufficient to finance the needed investments and cannot be considered a primary source of income.
- Commercial banks – although local banks are listed here as a potential financing source, it is improbable that banks will offer the necessary grace periods and tenors that district heating projects require.
- Private capital – although there has been some privatisation of district heating companies, private investment has been primarily confined to the advanced transition countries (below). A number of attempts to create PPPs in Eastern Europe have met with very limited success, due greatly to the limited number of strategic investors active in the sector.

#### *Ownership structures in Countries of Operation*



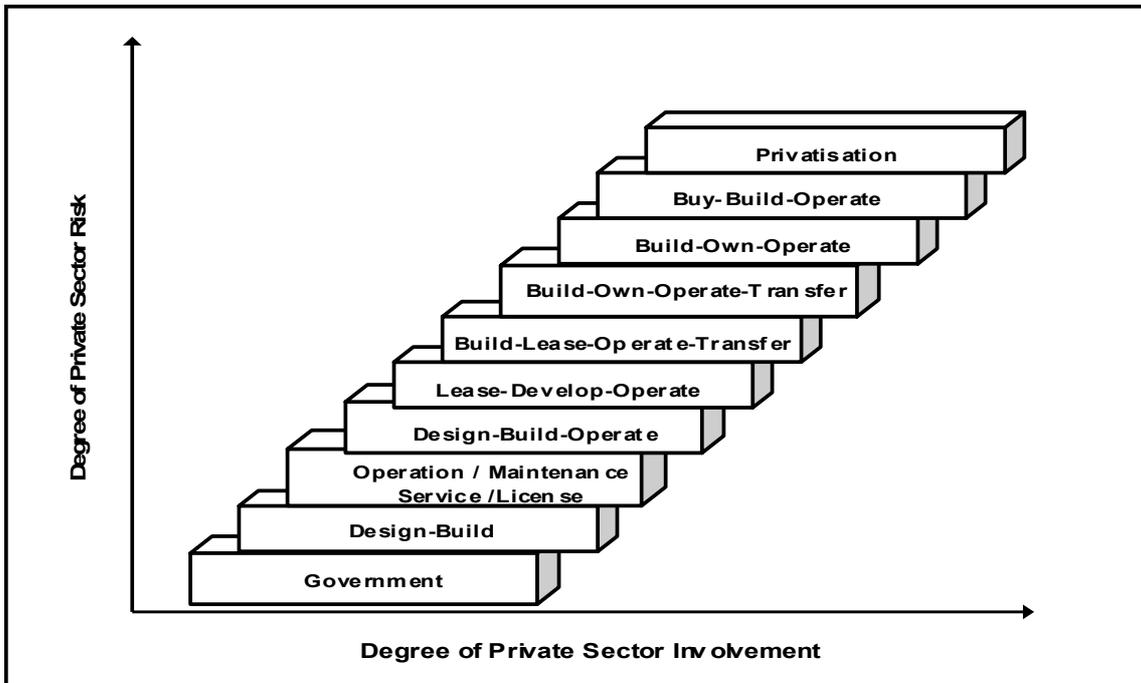
## Annex 5 Private Sector Participation

### 1. DEFINITION OF PPP

A PPP<sup>1</sup> is a contractual agreement between a public agency (federal, state or local) and a for-profit entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.

The agreements between the public and private entities differ in their allocation of risks and responsibilities, in the ownership of the assets and their duration. However, all involve a partnership between a public and private entity.

#### Main Options for PSP and Degree of Risk Transfer



### 2. POTENTIAL BENEFITS FROM PRIVATE SECTOR INVOLVEMENT

Local infrastructure can be extremely expensive to develop or rehabilitate. Local authorities often seek to mobilize private capital, where the magnitude of the capital investment required compared with a local authority's ability to incur debt renders projects unfeasible. The private sector may be willing to provide direct equity in the project and be able to attract public sector grants and external finance, generally in the form of non-recourse or limited-recourse financing.

<sup>1</sup> In this text PPP and PSP have the same meaning.

The private sector is also often considered to provide greater levels of efficiency when operating and managing local service companies than the public sector. This increased efficiency results from various factors including greater cost-effectiveness and lower operating costs, commercial approaches to problem solving, insulation from political considerations and a better allocation of risk between the public and private sector.

An important source of efficiency is the private sector's need and ability to focus on efficient operations to maximise returns. The local authority will benefit from the sponsor's pursuit of profitability by reducing operating costs and increasing efficient capital investment, as long as operating costs are not reduced to the detriment of the project company's quality of service or long-term interests. By creating incentives and/or sharing benefits, the authority can encourage further increases in efficiency, such as the implementation of new management techniques or new technology and know-how. Know-how includes new technologies, approaches to management and methods of operation and maintenance.

Public sector managers must often limit their focus to short-term goals owing to political agendas, the annual budgeting process and the general drive to win votes for the next election. This short-term attitude is often incompatible with the long-term demands of infrastructure development. As a lease or concession granted to a project company can last for long periods (i.e. up to 25 years for concessions), the project company is forced to adopt a more long-term commercial approach to project development and problem solving.

PSPs may provide better value for money than traditional methods of procurement and finance. Value for money assessment techniques are complicated and the factors for determining value for money vary between projects and sectors. However, PPPs will usually generate value improvements in a number of areas, including reduced life cycle costs, better allocation of risk, faster implementation, improved service quality and generation of additional revenue. A recent survey commissioned by the UK Treasury Taskforce on PPPs identified that the average percentage saving in net present cost terms of using PPPs was estimated at 17% over the contract duration.<sup>1</sup>

### 3. KEY TRENDS IN PPPs

- *Despite high expectations arising from the perceived market potential and investment drive through EU Directives, there is has been a relatively low penetration of PPPs.*

In Central and Eastern Europe, PPP arrangements in the water sector cover approximately 4% of the population, compared to 42% in Western Europe, 21% in North America, and 16% in Central and South America.<sup>2</sup> There has been a general slowdown in PPPs globally in the water sector, due to various reasons including high profile setbacks (Bangkok, Thailand, Tucuman, Argentina, and Kelantan, Malaysia, Cochabamba, Bolivia, Buenos Aries, and Manila, Philippines), and reduced capital expenditure programmes of operators. Water and wastewater

<sup>1</sup> European Commission, *Guidelines for Successful Public Private Partnerships (Toolkit)* (2003) at 55.

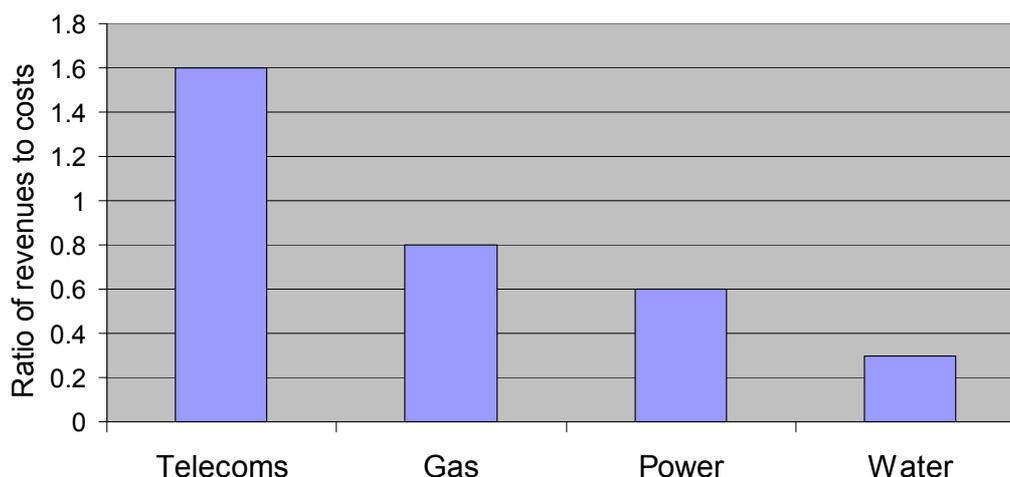
<sup>2</sup> David Owen, "International Water Markets" (Address to the British Water Conference, 19 February 2003) [unpublished].

projects have suffered a higher rate of cancellation at 3.5% against 1.9% for infrastructure projects in general. In terms of investment value, cancelled water and wastewater projects account for 11.3% against 3.2% of infrastructure projects in total.<sup>1</sup> Most water and sewage projects that were cancelled confronted controversies over price increases and difficulties in collecting from consumers. Public service companies have generally kept prices below costs and had low collection rates. Attempts to raise prices or increase collections with the shift to private participation led to opposition from some consumers and politicians.<sup>2</sup>

Sector	Projects reaching financial closure in 1990-2001		Projects cancelled in 1990-2001		Cancelled projects as a share of total (percent)	
	Number	Committed Investment (2001 US\$ billion)	Number	Committed Investment (2001 US\$ billions)	By	By
					Number	Investment Value
Energy <sup>a</sup>	978	247.7	10	5.8	1.0	2.4
Natural gas	146	34.5	1	0.7	0.7	1.9
Electricity generation	600	150.3	5	4.7	0.8	3.1
Electricity distribution or integrated utilities	220	63.0	4	0.5	1.8	0.7
Telecommunications	650	331.4	8	1.4	1.2	0.4
Transport	662	135.3	23	12.5	3.5	9.3
Airports	82	12.5	1	0.1	1.2	1.1
Ports	177	18.0	2	0.2	1.1	1.0
Rail	76	28.8	1	- <sup>b</sup>	1.3	0.0
Toll roads <sup>c</sup>	327	76.0	19	12.2	5.8	16.1
Water and sewerage <sup>d</sup>	202	39.7	7	4.5	3.5	11.3
Total	2,492	754.1	48	24.2	1.9	3.2

a. Including 12 electricity and water projects.  
b. No investment commitments were made.  
c. Including the Bangkok Elevated Road and Train System.  
d. Including the SOGEA lease, which covered electricity and water.  
Source: World Bank, PPI Project Database.

### *The Legacy of Public Provision of Infrastructure: Cost Recovery Levels in Developing Countries in the Early 1990s*



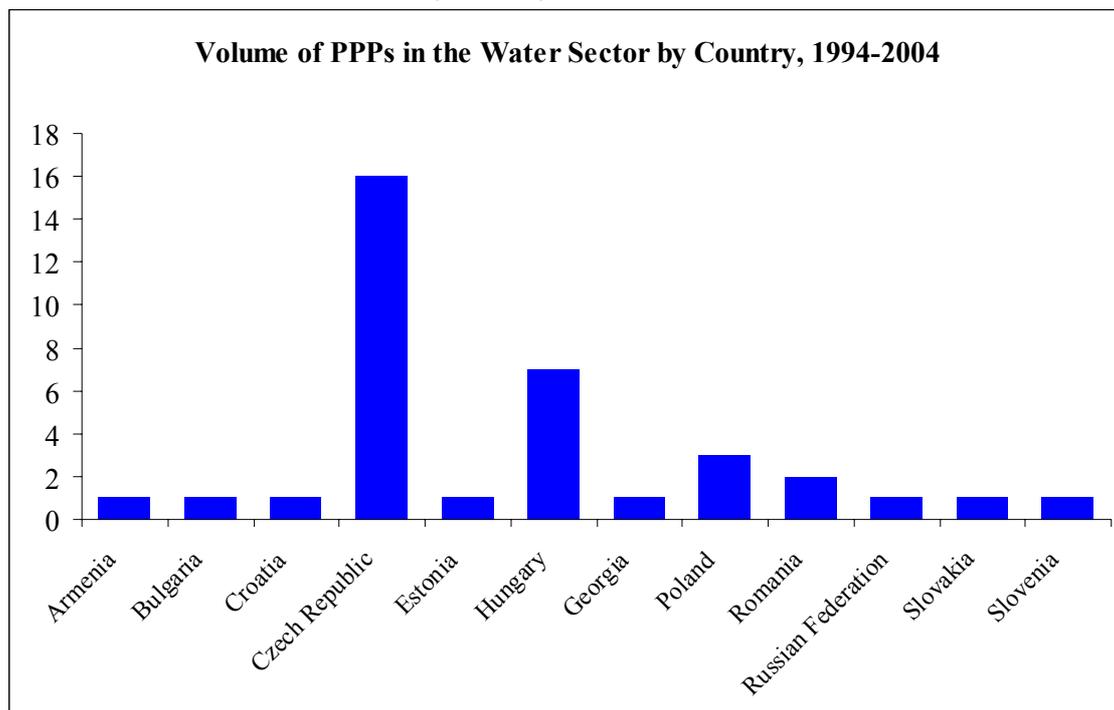
Source: Daniel Hoornweg, "Public Private Partnerships and Sustainable Development" (Address to Globe Conference, 31 March 2004) [unpublished].

<sup>1</sup> World Bank Website, May 2003.

<sup>2</sup> C. Harris et al., "A Review of Cancelled Private Projects" (January 2003) note no. 252 Public Policy for the Private Sector at 4.

Some local authorities in the Bank's region have been reluctant to proceed with PPPs due to various factors, including the perceived complexity, high costs, intense resource requirements and long preparation schedules of PPPs, and the potentially negative perceptions of voters regarding private sector involvement in a sector that is perceived to satisfy a basic need. Local authorities have also become pre-occupied with obtaining EU grant funding, in preference to any potential efficiency gains and/or capital investments from the private sector. Consequently there have been few water and sewerage projects completed in the Bank's region, with the exception of the Czech Republic which underwent a mass privatisation programme in the early 1990s.

***Volume of PPPs in the Water Sector by Country, 1994-2004***



Source: Summary table at end of this Annex.

- *Since 2001, there has been a shift in focus of the major water operators active in Central and Eastern European countries and an increase in consolidation and disposal activities.*
  1. RWE Thames Water (Germany) has indicated its intention in 2004 to consolidate its water activities and sell-off its assets in the water and wastewater sector outside the group's two core regions of USA and Western Europe.
  2. Suez Environnement (France) has begun implementing an aggressive plan to reduce its debt and has disposed of more than €5.4 billion of assets since the start of 2003. Suez's sale of Northumbrian Water last year, its UK water and wastewater business valued at around US\$ 3.5 billion, emphasizes the rapid execution of Suez of its action plan.
  3. AWG (UK) has sold its assets in the Czech Republic in 2003, following a decision to divest of its international water and wastewater assets, and to refocus its business on the UK Private Finance Initiative market.

4. Bechtel (Italy) and Edison (United States), who jointly own International Water Limited (“IWL”), sold all of IWL’s shareholdings in 2003, following a decision to exit the international water business and focus on respective core businesses.
5. In 2003, the local utilities Stadtwerke of Bochum and Dortmund (Germany) acquired a majority shareholding from E.ON in Gelsenwasser, the second largest water utility in Germany.
6. Azurix North America (United States), a water and wastewater services provider and a former subsidiary of Enron, withdrew from the European market following its acquisition by American Waterworks in 2001.

It appears that some sponsors are stepping forward to fill the gap to some extent, and it is encouraging to see operators such as Canal de Isabel II (Spain), Cascal (England/Netherlands), and Berlinwasser International (Germany) bidding on the Constanta Water Concession, a project sponsored by the Bank. Other operators such as Acea (Italy), Aguas de Barcelona (Spain), and Aquamundo (Austria) pursued interests in management contract arrangements in the region. See chart entitled “Private Operators and Investors” on page 10 below for full chart on the main players in the water sector.

- *The remaining water operators active in the region have indicated a move towards a operational approaches which are more selective and emphasise value added of private sector in the maintenance and operations of assets.*

The largest private water company in the world by population served is Suez Environnement, with a customer base of 119 million. Véolia Environnement is the world’s largest private water company in terms of water-related revenues, while RWE Thames Water is the largest company in terms of water assets. These three water groups have all indicated plans to reduce average capital expenditure and financial investment. Industry analysts are of the opinion that Suez Environnement wants “to exit emerging markets where they are exposed to political, currency and regulatory risk.” Suez Environnement has announced that it intends to reduce its exposure to emerging markets by 50%.<sup>1</sup> Suez Environnement’s retreat, from its previous position as leading champion of private sector participation in the delivery of water services in the developing world, reflects failures in former high profile transactions (i.e. Atlanta (United States), Buenos Aires (Argentina), Jakarta (Indonesia) and Manila (Philippines)), project-specific problems, country-related risks, and pressure from the rating agencies to strengthen the group’s credit measures (i.e. decreasing net debt-to-EBITDA ratios).

Véolia Environnement has reduced its overall debt to preserve its ratings (currently rated BBB+/A-2 by Standards & Poor) and has also indicated a more selective approach to investing in traditional BOT or concession projects and an emphasis on transactions where the operational value added of the private sector comes to the fore. RWE Thames Water has indicated that the profitability of any potential water transactions would be reviewed against transactions in the group’s other sectors in determining the allocation of investment capital. The retreat from financing capital intensive projects in emerging markets is reflected across the water industry. In the Bank’s recent market soundings, operators have consistently communicated their

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<sup>1</sup> “Multilateral Headache” Global Water International.

growing reluctance to provide capital commitments to concessions, BOTs and similar long-term PPP arrangements in the Bank's region.

- *OECD and other emerging markets currently play a significantly more important role for international water operators than the Bank's Countries of Operation.*

The three big water companies are focusing available capital in developed markets or specific emerging markets. The Bank's Countries of Operation accounted for about 8% of Véolia Environnement consolidated turnover. In addition to Eastern Europe, countries like China play a key role in the plans of both Véolia Environnement and Suez Environnement. In the case of Véolia Environnement, it has a total of 11 projects in the water and wastewater sector in China, as of May 2004. Its 50-year contract to provide water services to Pudong alone is expected to generate a turnover in excess of €10 billion due to the expected growth of Pudong in the coming years. The business district is forecast to be home to five million people in the long term.<sup>1</sup> Suez Environnement has begun operations of its 50-year water concession in Congqing, which added to its existing contracts in China (a total of 18, as of May 2004), and reportedly generated revenues of €400 million. RWE Thames Water has announced that it will limit its strategic focus for water and wastewater projects to the United States, Western Europe and the accession countries (with the exception of Croatia).

- *Within the Bank's region, there are markets that operators generally consider too risky for capital intensive PPP development.*

A recent study for the World Bank<sup>2</sup>, in which EBRD participated, drew up four country groupings according to the general feasibility of PPPs, using the criteria of market size, levels of economic liberalisation, the degree of democratic transformation, GDP per head and foreign direct investment per head. The resulting groupings were as follows:

**Group 1 - PPPs feasible:** Czech Rep, Hungary, Poland, Slovakia, Slovenia.

**Group 2 - Difficulties to be overcome for more PPPs:** Romania, Bulgaria, Croatia, Estonia, Latvia, and Lithuania.

**Group 3 - PPPs more problematic:** Russia, Ukraine, Kazakhstan, Kyrgyz Rep, Albania, Bosnia/Herzegovina, FYR Macedonia, and Serbia/Montenegro.

**Group 4 - PPPs not feasible:** Belarus, Moldova, Armenia, Azerbaijan, Georgia, Tajikistan, Turkmenistan, and Uzbekistan.

Although the Group 4 classification has not prevented two PPP contracts being concluded in Georgia and Armenia: a lease agreement with Véolia Environnement and a management agreement with ACEA, respectively, these projects have been difficult to implement. In the Tbilisi project, the government has experienced a funding shortfall arising from changes in the financing of the project<sup>3</sup>; while ACEA has experienced a host of problems in the Yerevan project, including unrealistic performance targets due to a lack of reliable base data, inconsistencies between the

<sup>1</sup> "Quarterly Report on Water Industry Developments in Asia" (28 September 2002) Morrison & Foerster.

<sup>2</sup> M. Sohail, B. Gentry & O. Maslyukivska, WEDC, Loughborough University.

<sup>3</sup> Jean-Patrice Poirier, "PSP in ECA" (Address to World Bank/OECD Conference on PSP in Europe and Central Asia, (July 2003).

management contract and the applicable law, and difficulties in increasing tariffs.<sup>1</sup> The Almaty Potable Water Project, a concession with Véolia Environnement in Kazakhstan, was cancelled last year due to difficulties in obtaining tariff approvals from the regulator.

In the Bank's region, further PPPs are likely to be developed in Bulgaria, Croatia, and Romania in the near future. While Poland has received a Group 1 classification, there have been only three PPPs developed in the water sector (with United Utilities International, RWE Thames Water and Saur/Bouygues), reflecting the scepticism with which PPPs are viewed by local authorities in Poland.

- *The capital investment constraints of operators have led to a renewed interest in PPP structures which are perceived as less risky, with earlier and more secure returns.*

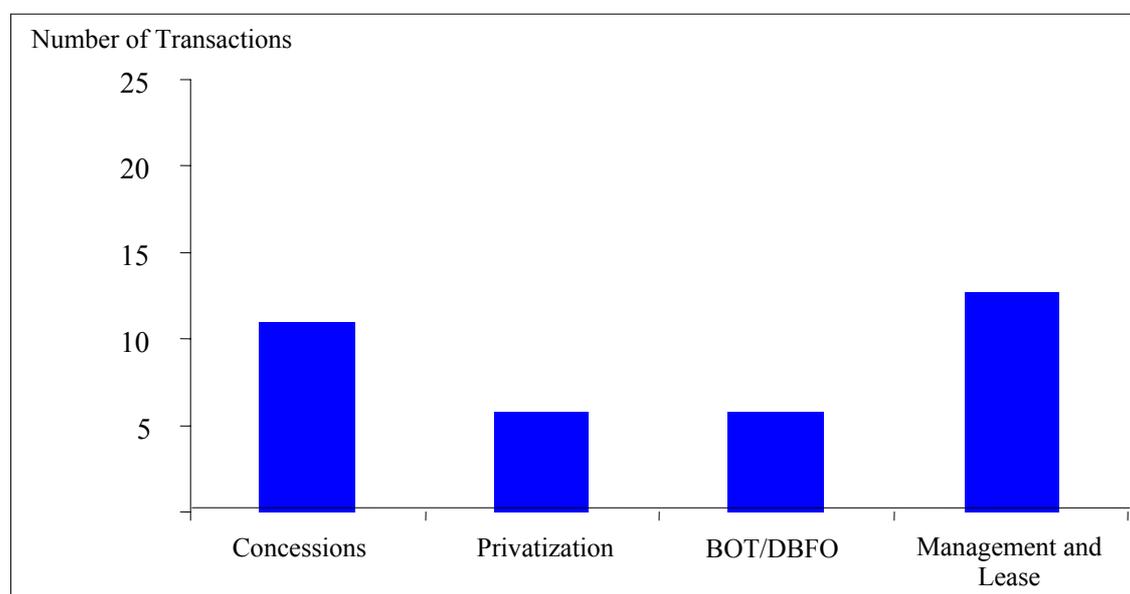
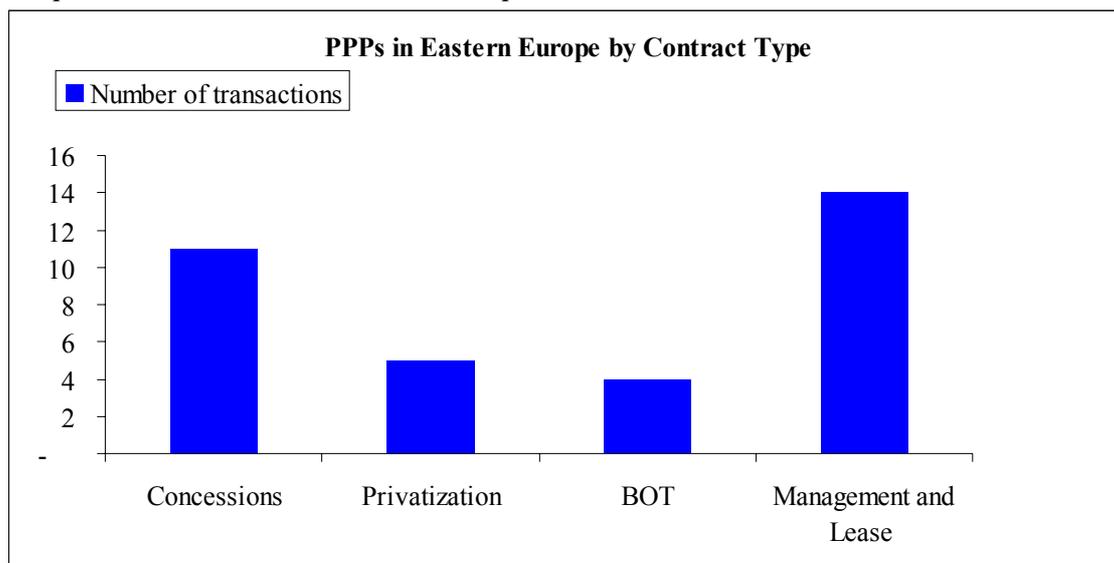
PPP models such as leasing contracts and operation and management contracts, result in off-balance sheet treatment of debt, require less capital investment, and are generally shorter than concessions in duration (although this is not always the case).<sup>2</sup> Under a leasing contract or “contrat d'affermage”, the operator makes periodic lease payments to the local public authority for usage of assets and is responsible for the operation, maintenance, and repair of the assets. The ownership of the assets lies with the local authority, which is responsible for major repairs and the remaining capital expenditures in the assets. While this model works well in projects where there is little capital commitment required, its application is more difficult in projects where the main requirement is access to private capital for urgently needed up-grades (which is generally the case in the non-accession countries). Another approach which is used extensively in France and the Czech Republic is the concession allied with the splitting of water and wastewater entities into operating and asset holding companies.

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<sup>1</sup> Acea, “PSP in ECA” (Address to World Bank/OECD Conference on PSP in Europe and Central Asia, (July 2003).

<sup>2</sup> BOTs can be structured to be off-balance sheet in the UK, but not generally in the Central and Eastern European countries.

**Comparison of PPP models in Eastern Europe**



*Note: the majority of the management and lease contracts were concluded in the Czech Republic where management and service efficiency gains (and not capital investment) were main drivers for private sector involvement.*

*Source: Summary table at end of this Annex.*

- *There are other new PPP markets that the Bank is actively promoting.*

In addition to water and wastewater projects, the Bank is actively developing PPP projects in sectors such as urban transport, car parking, solid waste management, district heating and similar areas which are particularly suited to project finance.

For example, the Bank is currently developing PPP structures for waste incineration plant projects in Belgrade, Bulgaria, Croatia and Russia, car parking projects in Bulgaria and Croatia, a bus operations project in Ukraine, among others. While each sector is specific in its risks and structure, the Bank may use its experience gained in PPPs in the water and wastewater sector to develop PPPs in other sectors.

- *The emergence of private transport operators in the region has tended to be spontaneous.*

As public transport systems declined through then 1990s, the private sector came forward in some cities to provide local transport services required by citizens – in those cities, minibus services developed, sometimes quite rapidly and often without any planning or regulatory framework. The private sector initiatives were a market response to customers' needs, but very often the long-term public interest was not secured in terms of health and safety issues. Most local authorities were poorly equipped to tackle the regulatory challenges. As situations matured, some local governments, such as in Warsaw, organised tenders for the provision of bus services that required high quality equipment and services.

While private sector companies are very active in the road sector by providing design, construction and even maintenance services, there are virtually no examples of companies investing and taking operational risk in the local roads sector. This is due to a combination of factors, including the unfamiliarity of local authorities and companies with PPP structures, and the restrictive nature of local laws in relation to design standards and contract lengths.

- *The growing involvement of private transport operators has led to some development towards PPP structures.*

As outlined in Annex 2 on Urban Transport, car parking is a major cash generator and there are numerous examples of local authorities delegating private contractors to manage on-street parking in the region. Once a local authority has effective enforcement of paid on-street parking, it can initiate measures to leverage the cash-flow to encourage the private sector to invest or co-invest in off-street parking facilities. Nonetheless, PPPs in urban transport and car parking are relatively undeveloped in the region and significant progress is required to develop the requisite regulatory and legal framework and institutional capacity.

- *There may be growth potential for PPPs in the solid waste management sector.*

There is a growing role of the private sector in solid waste management services (see Section 2.1 of Annex 3). The role of these private sector operators is strongest in the areas of recycling, waste to energy treatment technologies, and in the management and operation of sanitary landfills where these services had not been provided previously by the public sector. While some international operators have successfully secured collection contracts, these contracts are generally more difficult to fulfill for the private sector where collection service has been previously provided by the public sector. It may be difficult to displace the incumbent public service provider and achieve operational efficiencies due to restrictive labour legislation.

The main obstacles or barriers to enter for the private sector are the (a) difficulty in securing approved sites for the legal treatment and disposal of wastes; (b) lack of enforcement of waste legislation by authorities at national level to ensure that waste is treated and disposed of in legally compliance facilities, and (c) the fragmentation of the market outside major cities due to public administration law which makes it difficult to achieve efficiencies through consolidation and concentration. However,

it can be expected that there will continue to be a growing involvement of private sector operators in the region, as authorities move towards meeting EU policies and legislation on waste management.

- *While there may be opportunities in the district heating sector, PPPs in this sector engenders significant challenges*

Outside of the Czech Republic and Poland, there have been few PPP projects in district heating in the Bank's region. In 2001, Dalkia Termika won the privatisation of PEC Poznan, the district heating company, with the Bank providing one third of the finance. The sponsor, Dalkia International, is a subsidiary of Véolia Environnement. The operation has allowed the company to become a leading energy supplier in Poland, with over 1,200 MW under management, and to expand the scope of its activities.

Nonetheless, the development of PPP arrangements in district heating has been difficult:

- a) District heating plants in the Bank's region typically suffer from a high degree of under-investment;
- b) Such plants typically serve lower-income consumers and affordability constraints limit the ability to increase tariffs;
- c) Regional authorities are restricted by budgetary constraints and, in some instances, are unconvinced of the long-term viability of district heating;
- d) The regulatory environment may not be conducive to PPP development (i.e. the interface is unclear between the State, who may regulate prices, and the local authority, who is the owner of the assets);
- e) EU grant financing is not available to develop district heating plants (to make them economically viable candidates for PPP arrangements), as there are no EU Directives addressing district heating networks.

While there is a general trend toward disconnections from district heating, there has been some reconnection and growth in district heating. In the cases where the assets are in good condition (i.e. PEC Poznan), the local authorities may opt to privatise the district heating plant (although only rarely the associated heat distribution network). Where the assets are not in such a good state, but a PPP arrangement is still economically viable, the private sector may bring considerable operational efficiencies.

**Private Operators and Investors**

<b>Service Providers</b>				
<b>Water/Wastewater</b>	<b>Waste Management</b>	<b>Urban Transport</b>	<b>Car Park</b>	<b>District Heating</b>
Véolia Environnement Suez Environnement, RWE Thames Water United Utilities International Aguas de Barcelona SAUR (Bouygues) Severn Trent Cascal Canal de Isabel II ACEA Gelsenwasser Berlinwasser Holding International Municipal Communal Services <sup>1</sup>	Onyx Sita RWE Umwelt FCC Cleanaway Biffa Rethmann Alba Cespa Van Gansewinkel CNIM Befesa Ragn-sells Lassila & Tikanoja Shanks ASA	Arriva First Group Go Ahead Group National Express Group Stagecoach Holdings Connex Group KEOLIS TRANSDEV	Acesa Financiere Sogeparc Fabège Town Centre Securities Apcoa parking Estacionamientos Subterraneos Cos. Gen. d'Exp. De Parcs et Garages Garages Souterrains et Fonc des Régions	Dalkia MVV Energie Harpen Energiecomfort

<b>Co-financiers of EBRD-led PPPs</b>				
<b>Commercial banks</b>	<b>International Financial Institutions</b>	<b>Public Agencies</b>	<b>Development Agencies</b>	<b>Donors</b>
Bank Austria Creditanstalt Dexia Credit Local DePfa Bank Depfa Investment Bank Landesbank Schleswig-Holstein Girozentrale Hypovereinsbank Nordea Bank Nordea Bank Sweden Raiffeisen Zentralbank Swedbank Kommunalkredit Austria Bayerische Hypo- und Vereinsbank	World Bank	National environmental funds	SIDA Kreditanstalt für Wiederaufbau (KfW) Nordic Investment Bank DEG FMO (Netherlands Development Finance)	European Commission <sup>2</sup> FinnFund SwedFund

**4. TRANSITION CHALLENGES**

The investment required for Advanced Transition Countries to meet the EU Directives for water and wastewater treatment and collection is estimated at between €100 to 180 billion. The investment required for meeting the EU Directive on air pollution and

<sup>1</sup> A Russian joint-stock company formed by a handful of large national companies offering public services (i.e. water, power, heating) to municipalities. The company currently has extended services to approximately 6 million people. This is the most prominent example of a local quasi-private operator in the Bank's region.

<sup>2</sup> Through the EU Phare Programme and EU-TACIS.

waste is estimated at €71 billion.<sup>1</sup> While variations in the different estimates for investment requirements are striking, making precision impossible, what is significant is that the amount is extraordinarily high compared to the GDP of countries and the availability of financial resources.

Between 1991 and 2001, EBRD, EIB and World Bank invested approximately €1.1 billion in Central and Eastern Europe in the water and wastewater sector.<sup>2</sup> Adopting an EU Commission assumption that each € of IFI funding is matched by €6 of investment by national governments or private companies, the total investment in the water sector during such 10 year period was only €7.7 billion, just 4.3 to 7.7% of the future investment requirement to bring water and wastewater into compliance.

Comparing the total investment for water and sewerage treatment (€180 billion) against the total infrastructure investment required (€515 billion) in Central and Eastern European countries, water and wastewater makes up 35% of the total investment required to meet EU Directives. However, between 1991 and 2001, water and wastewater investments only equated to 5% of the total infrastructure investments made in Central and Eastern Europe, much less than transport (48%), energy (18%) or telecommunications (14%).<sup>3</sup>

It is estimated that PPP market penetration could increase from a coverage level of 4% in Central and Eastern Europe to up to 17% by 2015.<sup>4</sup> If this increase occurs, the public sector would still be responsible for providing water and wastewater services to 83% of the population. As it is likely that the public sector will continue to be restricted by budgetary constraints in carrying out capital investments, the level of investment will depend heavily on the grant funding available from the EU and other sources.

- *The regulatory reform process has been slow and further progress is crucial for increased PPP market penetration.*

While the regulatory regime in Advanced Transition Countries is significantly more developed than elsewhere, even Advanced Transition Countries still demonstrate regulatory deficits. These relate both to insufficient measures in terms of liberalisation and privatisation, and to meeting the EU's legal norms, which have not yet been implemented in some areas despite a formal agreement on reform programmes.

In countries such as Romania and Bulgaria, where the Bank introduced the first PPPs in the water sector with the Apa Nova and Sofia Water transactions, the PPPs were structured so that there would be "regulation by contract". In these cases, it was particularly appropriate as there were no other PPPs in the country and effectively no regulatory framework for water and wastewater projects. The effectiveness of "regulation by contract" requires consideration in structuring of the role of the regulatory unit, its powers and interface between the public and private

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<sup>1</sup> Christian von Hirschhausen, *Infrastructure Development in Central and Eastern European EU Applicant Countries: On the Road to Europe* (DIW, 2002), at 334.

<sup>2</sup> *Ibid*, at 335.

<sup>3</sup> *Ibid*, at 336.

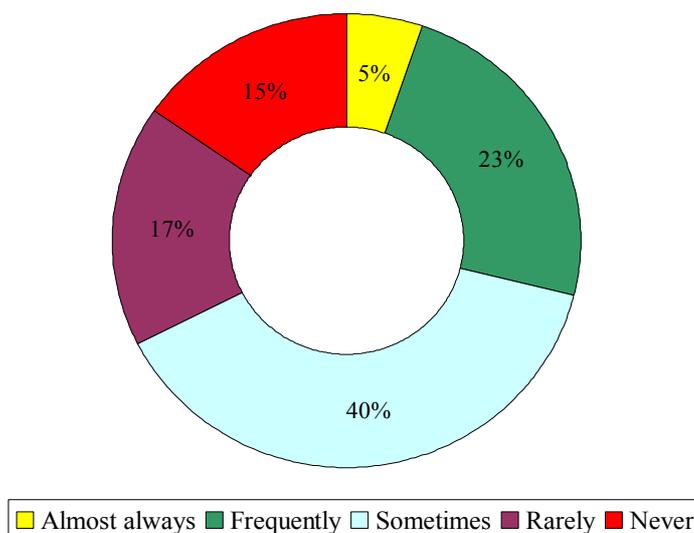
<sup>4</sup> David Owen, "International Water Markets" (Address to the British Water Conference, 19 February 2003) [unpublished].

participants, and its independence from political influence. The skills and capacity of the regulatory unit are also key in ensuring its effectiveness. The Bank's role in mitigating the regulatory risks is important in providing comfort to sponsors, especially in non-accession countries where there may be a non-existent or insufficient regulatory framework.

- *The Bank has played a role in encouraging open and transparent selection procedure, although the market continues to demonstrate a lack of transparency.*

An essential aspect of competitive tendering is the provision of sufficient information on the process to enable bidders to understand the project, the authority's requirements and the nature of a compliant bid. Failure to provide that information may reduce transparency and efficiency in the tendering process and result in otherwise non-compliant bids from otherwise desirable bidders. Open and competitive tendering also encourages acceptance of PPP's from local authorities, politicians and the public. The Bank's procurement policy on concessions has made been instrumental in encouraging open and transparent practices. The Bank should continue its dialogue with local authorities, private sponsors, commercial banks and other interested parties to communicate the Bank's policy and the rationale behind the policy.

#### ***Transparency and Fairness of Concessionaire Selection Process***



*Note:* Survey respondents were asked whether in their view the concession selection process in their particular country was fair and transparent.

*Source:* EBRD legal Indicator Survey, 2000.

- *Despite efforts of reform, the legal and institutional framework for concessions in the region is still relatively limited.*

According to the EBRD Legal Indicator Survey in 2000, in regards to the perception of the adequacy of the legal framework for concessions in transition countries, no country in the region received a rating of "Comprehensive" and only a quarter of the countries in the Bank's region had "Adequate" concession laws. The remaining three-quarters of the countries had "Barely Adequate", "Inadequate" or "Detrimental" concession laws. In 2004, eight countries in the region will be in the

process of reforming their framework concession law: Azerbaijan, Armenia, Czech Republic, Poland, Russia, Estonia, Kazakhstan and Slovenia. Most of these countries have draft legislation, to be submitted or already submitted, for approval. Estonia is the only one that has a sector-by-sector approach.<sup>1</sup> The contractual framework is especially important for lenders in limited or non-recourse project financings, as the credit risk is to a large extent dependant on the reliability of the contractual arrangements. The legal framework for operators is also essential in ensuring the enforceability of tariff increases and the resulting flow of revenues, and in managing and limiting project, commercial, political and regulatory risk. In projects such as the Constanta Water Concession, amendments to the existing concession laws have been implemented prior to the commencement of the tender process.

- *There is limited institutional capacity in local authorities to develop and complete PPP transactions.*

Approximately 40 PPPs, in the water and sewerage sector and in the Bank's region, have been successfully completed from the early 1990s to 2004 (see Appendix 1 attached for a detailed list of all transactions). The majority of these transactions have been arranged through the initiative and sponsorship of EBRD or other IFIs (with the exception of the Czech Republic which went through a mass privatisation in the early 1990s). In Romania, Slovenia, Estonia and Croatia, the water and/or wastewater projects sponsored by EBRD are the only PPPs existing in these countries, indicating a significant need for IFI support in completing PPP transactions.

## 5. BANK ACTIVITIES TO DATE IN PPPS

### *MEI Portfolio of PPP Transactions*

	<b>Countries</b>	<b>Project Name</b>	<b>Type</b>	<b>Sponsor</b>	<b>Total Investment (€m)</b>
1.	BU	Sofia Water System	Concession	United Utilities	95.5
2.	CR	Zagreb Waste Water Treatment Plant	BOT	RWE Thames Water, WTE	288.0
3.	CZ	Brno Waste Water Treatment Plant Upgrading	Operating Contract	Suez Environnement	82.8
4.	ES	Tallinn Water	Concession	United Utilities	176.0
5.	HU	Budapest Waste Water	Concession	Véolia Environnement/Berlinwasser Holding	40.2
6.	KA	Almaty Potable Water	Concession	Véolia Environnement	40.0
7.	RO	Apa Nova Water Treatment Plant	Concession	Véolia Environnement	188.4

<sup>1</sup> Alexei Zverev, Legal Transition Team, EBRD.

8.	SL	Maribor Waste Water Treatment Plant	BOT	Suez Environnement /RWE	53.7
9.	RE	International Water United Utilities	Acquisition <sup>1</sup>	United Utilities	61.1
10.	RU	St. Petersburg South-West Wastewater Treatment Plant	BTO	Skanska, NCC YIT Corporation	190.0
		<b>Total</b>			<b>1,215.7</b>

The Bank has been active in promoting innovative structures and forms of financing, in order to reflect specific project, sector and country risk. For example, the International Water United Utilities transaction signed in 2003 was the first project in our region where an IFI has acquired a significant equity stake in mature water facilities. Part of the rationale for the project, was that the transaction would demonstrate to other investors that successful private equity investments in water concession companies could be achieved despite the absence of a liquid securities market.

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<sup>1</sup> Transaction consisted of acquisition of three water and wastewater facilities, alongside United Utilities: AS Tallinna Vesi, Sofiyska Voda and Aqua. The PPP arrangement of Aqua is based on a service contract.

Summary Table of PPPs in Countries of Operation 1<sup>20</sup>

IFI Involvement	Country	Location	Contract	Company	Parent Company	Population Served		
						Water	Sewerage	Total
World Bank	Armenia	Yerevan	Mgmt&lease	Yerevan Water and Sewerage Enterprise	ACEA (Italy)	-	-	-
EBRD	Bulgaria	Sofia	25-year water and sewerage concession	Sofiyska Voda	United Utilites (UK)	1,200,000	1,200,000	1,200,000
EBRD	Croatia	Zagreb	BOT Sewage treatment	ZOV	RWE Thames Water (Germany)/WTE	-	1,000,000	1,000,000
EIB	Czech Republic	Prague & Central Bohemia	Privatization	PVK	Véolia Environnement (France)	1,200,000 200,000 <sup>21</sup>	-	1,200,000 200,000
		South Bohemia	Mgmt&lease	VAK Jizny Cechy	Energie AG (Austria)	330,000	330,000	330,000
		Karlsbad	Privatization	Severomoravske VAK	Penta (Czech) / Suez Environnement (France)	750,000	750,000	750,000
		Pilsen	Mgmt&lease	Vodarna Plzen	CTSE (Véolia Environnement / Bouygues, France)	230,000	230,000	230,000
		South Moravia	Water & sewerage concession	South Moravia	Suez Environnement (France)	350,000	350,000	350,000
		Horny Slovak	Mgmt&lease	Horny Slovak	Suez Environnement (France)	9,000	9,000	9,000
		South and South-West Bohemia	Mgmt&lease	I. JVS	Véolia Environnement (France)	190,000	190,000	190,000
		Beroun	Mgmt&lease	S Berounske Vodovy	Energie AG (Austria)	65,000	65,000	65,000

<sup>20</sup> Mason's Water Yearbook 2001-2002; World Bank Website March 2003; Dealogic; Veolia Website.

<sup>21</sup> For inhabitants in the Central Bohemia region.

EBRD		Brno	Operating contract	Brnenske VAK	Suez Environnement (France)	420,000	420,000	420,000
ISPA		Ostrava	Mgmt&lease	Ostravske VAK	Suez Environnement (France)	330,000	330,000	330,000
		Karlsbad	Mgmt&lease	VAK Karlovy Vary	Suez Environnement (France)	120,000	120,000	120,000
		Moravia & East Bohemia	Mgmt&lease	Stredomoravska Vodarenska	Véolia Environnement (France)	162,000	-	162,000
		Sokolov	Mgmt&lease	Vodohospodarska spolecnost Sokolov	CTSE (Véolia Environnement / Bouygues, France)	100,000	-	100,000
		Pribram	Mgmt&lease	Aqua Pibram	CTSE (Véolia Environnement / Bouygues, France)	75,000	75,000	75,000
		North and North-East Bohemia	Mgmt&lease	Severoceske vodovody a kanalizace	Véolia Environnement (France)	1,200,000	1,200,000	1,200,000
		Sumperk	Privatization	SPVS	Suez Environnement (France)	120,000	120,000	120,000
EBRD	Estonia	Tallinn	Privatization	AS Tallinna Vesi	United Utilities (UK)	405,000	405,000	405,000
EBRD	Hungary	Budapest	25-year sewerage concession	FCSM	Véolia Environnement (France) / Berlinwasser (Germany)	-	2,000,000	2,000,000
		Budapest	25-year water provision concession	Budapest Water	Suez Environnement (France) / RWE Thames Water (Germany)	2,217,000	217,000	2,217,000
		Debreen	20-year water and sewerage concession	Eurawasser		-	-	-
		Kapsovar	25-year water and sewerage concession	Eaux de Kaposvar	Suez Environnement (France)	75,000	75,000	75,000
ISPA		Pescs	25-year water and sewerage concession	Pecsi Vizma	Suez Environnement (France)	20,000	20,000	20,000
		Borsod	20-year water and sewerage concession	Borsodviz Rt.	Gelsenwasser (Germany)	150,000	150,000	150,000

EBRD		Duna	DBFO	Duna Refinery	Earth Tech Engineering (United States)			
	Georgia	Tbilisi	Lease		Véolia Environnement (France)			
World Bank	Poland	Bielsko Biala	Partial Privatisation	Aqua	United Utilites (UK)	300,000	300,000	300,000
		Gdansk	Mgmt&lease		Saur (France)	n/a	n/a	n/a
		Dabrowa Gornicza	Privatization	PWiK	RWE Thames Water (Germany)	n/a	n/a	n/a
World Bank		Bucharest	25-year water concession	Apa Nova Bucuresti	Véolia Environnement (France)	2,000,000	-	2,000,000
EBRD	Russian Federation	St. Petersburg	BOT	Norvod	Skanska (Sweden), NCC (Finland), YIT Corporation (Finland)	-	-	-
		Moscow	BOT	Wastewater Treatment Plant	WTE Wassertechnik (Germany)	n/a	n/a	n/a
ISPA	Slovakia	Trencin	20-year water concession	TVS	Suez Environnement (France)	150,000	-	150,000
EBRD	Slovenia	Maribor	BOT	Aquasystems	Suez Environnement (France)/ RWE Thames Water (Germany)	-	160,000	160,000