

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

**MUNICIPAL AND ENVIRONMENTAL
INFRASTRUCTURE
SECTOR STRATEGY**

As approved by the Board of Directors at its Meeting on 26 June 2012

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AFD	Agence Française de Développement
AfDB	African Development Bank
Bank	European Bank for Reconstruction and Development
CHP	Combined Heat and Power plant
CO ₂	Carbon Dioxide
CSO	Civil Society Organisation
CTF	Clean Technology Fund
DH	District Heating
E5P	Energy Efficiency and Environment in Eastern Europe Partnership
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EnPC	Energy Performance Contract
ESCO	Energy Service Company
ESP	EBRD Environmental and Social Policy
ETC	EBRD Early Transition Countries (Armenia, Azerbaijan, Belarus, Georgia, Kyrgyz Republic, Moldova, Mongolia, Tajikistan, Turkmenistan and Uzbekistan)
EU	European Union
EU-9	EU member-states in the EBRD region (Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia)
EUR	Euro
EvD	EBRD Evaluation Department
GAP	Gender Action Plan
GDP	Gross Domestic Product
GEF	Global Environment Facility
HOB	Heat-Only Boiler
IFC	International Finance Corporation
IFCA	EU Investment Facility for Central Asia
IFI	International Financial Institution
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IsDB	Islamic Development Bank
ISPA	EU Instrument for Structural Policies for Pre-Accession

JASPERS	Joint Assistance to Support Projects in European Regions
KfW	Kreditanstalt für Wiederaufbau
MEI	Municipal and Environmental Infrastructure
MELF	Romanian Municipal Environmental Loan Facility
MUDP	Romanian Municipal Utilities Development Programme
NDEP	Northern Dimension Environmental Partnership
NEFCO	Nordic Environment Finance Corporation
NIB	Nordic Investment Bank
NIF	EU Neighbourhood Investment Facility
OCE	EBRD Office of the Chief Economist
OECD	Organisation for Economic Cooperation and Development
PPP	Public Private Partnership
PPR	EBRD Procurement Policies and Rules
PSC	Public Service Contract
R2CF	Romania Regional Cohesion Fund Water Co-Financing Framework
SCCF	GEF's Special Climate Change Fund
SECO	Switzerland's State Secretariat for Economic Affairs
SEI	EBRD Sustainable Energy Initiative
SEMED	EBRD Southern and Eastern Mediterranean region (Egypt, Jordan, Morocco and Tunisia)
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium Enterprise
SSF	EBRD Shareholder Special Fund
TC	Technical Cooperation
TIMS	EBRD Transition Impact and Monitoring System
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	United States dollar
WBIF	EU Western Balkans Investment Framework
WHO	World Health Organisation

INTRODUCTION

The previous MEI operations policy (BDS04-68(Final)), was approved by the Board in 2004. The Evaluation Department (EvD) carried out a 'Special Study' on compliance with this policy, which was rated as successful. They also concluded that the core direction of the MEI business was appropriate, with only limited changes to the emphasis of the policy required. In preparing this Strategy, EvD's comments have been reflected.

This Strategy sets out the past performance of MEI under the 2004 policy, identifies the sector challenges together with a sector vision in the ever changing economic landscape, discusses the new geographical areas of engagement including the Southern and Eastern Mediterranean (SEMED) countries, and details operating priorities and instruments for funding.

1. EXECUTIVE SUMMARY

The Strategy for the Municipal and Environmental Infrastructure (“**MEI**”) sector comes at a critical juncture in the development of EBRD’s activities in its countries of operations. First, the region remains embroiled in the continuing financial and economic crisis, which is having a severe and lasting impact on most EBRD countries of operations, with aftershocks still being feared. Second, the EBRD is in the process of expanding its geographic coverage to the Southern and Eastern Mediterranean countries as a result of the hoped-for democratisation of the ‘Arab Spring’, a development full of promises but also uncertainties.

The MEI sector should be a driving force in this changing environment, with its focus on people’s welfare and quality of life; decentralised, transparent and accountable institutions; engagement with stakeholders; and economic and environmental efficiency. The new Strategy therefore represents an opportunity to reinforce key operating principles that remain fully relevant in the new period as well as develop new approaches towards challenges that have emerged in recent years.

1.1 PAST PERFORMANCE UNDER THE 2004 POLICY

The most recent EBRD Municipal and Environmental Infrastructure Operations Policy was approved by the Bank’s Board of Directors in October 2004 (“**2004 MEI Policy**”).

Since entering the MEI sector in 1994, the EBRD has signed 289 transactions up to the end of 2011 and committed EUR 4.8 billion of its own resources. Over the 2004 MEI Policy period i.e. the seven years from 2005 to 2011, the EBRD signed 178 MEI transactions and committed EUR 2.6 billion of its own resources. Average transaction size was EUR 16 million, with individual transactions varying from less than EUR 1 million to EUR 115 million.

The credit quality of the MEI portfolio has remained very good despite the crisis, with only one impaired private sector asset as of the end of 2011, while public sector assets have proven particularly resilient.

With regard to transition, 87 per cent of the Bank’s new projects signed in the MEI sector since 2004 were rated ex-ante as ‘Good’ or ‘Excellent’. In 2009-10, the Bank’s Evaluation Department (“**EvD**”) carried out a ‘Special Study’ of the 2004 MEI Policy with the assistance of an independent consultant and reported to the EBRD Board of Directors in May 2010. Overall, the implementation of the 2004 MEI Policy was rated ex-post by EvD as ‘Successful’. These achievements are presented in Section 2.

While EBRD staff play the primary role in guiding project structuring, preparation and implementation, technical co-operation (“**TC**”) is frequently a key ingredient in a project’s success. TC commitments in the sector grew from EUR 10.7 million in 2005 to EUR 25.6 million in 2011, and the annual number of TC assignments grew from 80 to 180. Investment grant co-financing grew over the same period from EUR 7 million in

2005 to EUR 40 million in 2011¹, notably in the Early Transition Countries (“**ETC**”) and Western Balkans. Numerous donors generously contributed TC funding and investment grants, as detailed in Section 2.

Finally, the EBRD considerably expanded its cooperation with other international financial institutions (“**IFIs**”) as a response to the growing complexity of projects and the credit crunch that started in 2008.

1.2 SECTOR CHALLENGES

Municipal infrastructure is probably one of the areas where challenges are the most daunting in the EBRD countries of operations. In 2010, an estimated 26 million people in the EBRD region did not have access to an improved² water supply – and six countries had more than one million people without such provision. Eighty-six million people only had access to substandard or shared sanitation. More than 150 million people in the EBRD countries of operations depend on district heating and yet about 10,000 towns and cities in Russia alone and 2,000 in Central Europe await rehabilitation of their systems.

The scale of ‘needs’ across the MEI sector is large and there are many investment opportunities – but at the same time, the challenges in structuring and delivering ‘bankable’ and sustainable projects are large too.

The goal is therefore to achieve the sustainable delivery of essential services throughout the EBRD region. To reach this goal, the MEI sector faces three over-arching challenges, outlined in Section 3:

- providing essential services in areas with very different demographics;
- fostering transition to a market economy in order to create sustainable organisations, infrastructure and services; and
- making more efficient use of energy and water and adapting to climate change.

The EBRD will seek to operate where the challenges intersect, and will apply transitional, market-based solutions to deliver essential services and generate environmental and social benefits. Where not all three challenges are present, the Bank will proceed as long as sufficient transition impact is achieved.

1.3 SECTOR VISION

By nature, the MEI sector is focused on people in their capacities as citizens, economic agents and infrastructure users. The Bank’s vision is therefore to respond to sector goals and challenges with stakeholders in mind.

¹ These figures exclude European Union (“**EU**”) Structural Funds. In 2005, EBRD loans mobilised EUR 52 million in EU Instrument for Structural Policies for Pre-Accession (“**ISPA**”) grants in Poland and Croatia. In 2011, EBRD loans contributed to mobilising EUR 1.35 billion in EU Cohesion Fund grants for projects in Bulgaria, Poland and Romania.

² The term ‘improved’ is defined in Section 3.

First, the Bank will seek to promote decision-making at local level so as to deliver quality, sustainable, market-based and demand-driven infrastructure; this will be responsive to people as citizens.

Second, the Bank will support projects that focus on effective, affordable, customer-oriented services tied to regulatory and tariff reforms, restructuring and market-focused investment; this will assist people as economic agents.

Third, the Bank will place environmental, health and safety, social and low-carbon imperatives at the core of operations; this will contribute to address concerns of infrastructure users.

The Bank aspires to long-term sustainability for its investments through the application of market-based approaches and instruments. This means creating sustainable urban infrastructure and services, attaining environmental and social sustainability, achieving financial and budgetary sustainability and gradually transitioning towards an energy efficient, low carbon economy.

As detailed in Section 4, the core themes of the Bank's actions will therefore remain **decentralisation, commercialisation and environmental improvement**. Independent scrutiny found these to be very appropriate over the 2004 MEI Policy period and these themes are retained for the forthcoming Strategy period.

1.4 MAINSTREAMING THE NEW FRONTIERS

As the focus of EBRD operations continues to shift east and south, the Bank's local working environment changes and new challenges arise. Section 5 describes some of the issues entailed in penetrating markets in the ETC, the Russian regions and the Southern and Eastern Mediterranean ("**SEMED**") states that are in the process of becoming EBRD countries of operations further to the 'Arab Spring'.

Section 5 also addresses certain themes at the forefront of stakeholders' concerns across the region: widening the EBRD footprint by working with smaller municipalities; raising social awareness and stakeholder participation; and making energy efficiency and adaptation to climate change central to EBRD's MEI operations.

In addition, Section 5 reviews certain financial consequences of the crisis that require special efforts in the new Strategy period: the need to carefully manage portfolio quality in a context of magnified credit risks; and the challenge of mobilising capital in times of turbulence, not only through syndication but also from IFI co-financing and capital markets; and the promotion of private sector participation through adequately structured public private partnerships ("**PPPs**") or performance-based outsourcing transactions in the traditional sub-sectors (water, wastewater, urban transport, district heating, solid waste) but also potentially in infrastructure facilities management projects, provided that the Bank can demonstrate strong transition impact and additionality.

1.5 OPERATING PRIORITIES AND TOOLS

This new Strategy is expected to guide the Bank's operations in the MEI sector for a period of five years from the date of its approval by the EBRD Board of Directors. Bank activities in the sector will continue to be demand-led and based on needs assessments carried out by clients or during due diligence, project-based and transition-focused i.e.

being responsive to people's needs while focusing decision makers on more effective and efficient delivery. New transactions each year will result from balancing stakeholders' concerns, client requests, market requirements, anticipated transition opportunities and risks, geographical spread and institutional relationships. Section 6 therefore sets out some signposts to where opportunities and EBRD transactions are expected to arise in the new Strategy period and Annexes C, D, E and F set out sustainability goals in each of the four main sub-sectors.

Large transition gaps remain with regard to commercialisation and regulatory reforms, notably in South-Eastern Europe, Eastern Europe, the Caucasus, and Central Asia. Similar challenges in delivering and sustaining services await in the SEMED region, alongside a need to widen access, and decentralise decision-making and service delivery. Where and when feasible, the Bank will continue to support private sector involvement in infrastructure.

EBRD will continue to leverage its investment projects to pursue broader reform objectives through targeted policy dialogue. Integrated approaches will be used where feasible to address broad policy reforms that advance the market reform agenda over the medium-term.

The range of financing instruments on offer will be flexible and include sub-sovereign loans, corporate debt, equity, guarantees and targeted credit lines. The Bank will expand the use of framework or fund structures to reach out to smaller communities and smaller investment projects, and use local currency lending, where feasible.

In response to the financial crisis, cooperation with other IFIs will be further pursued as a tool to leverage and complement EBRD financing capabilities. The existing close cooperation with the EU is expected to continue, and joint activities expanded in step with EU funding initiatives.

As EBRD penetrates deeper into challenging environments with its market-driven business model, the use of investment grants will be important where market failures and policy deficiencies must be addressed. All such grants will need to meet criteria that ensure longer-term market sustainability. The Bank will seek to mobilise donor funding on a predictable basis to deliver investment, policy reform and transition progress in a manner consistent with EBRD's market building mandate.

Finally, the Bank intends to measure and monitor performance against the three overarching vision statements set out above, including through the monitoring of selected physical indicators evidencing on-the-ground impact in addition to the transition benchmarks over the Strategy period.

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2. PAST PERFORMANCE

2.1 EVALUATION OF THE 2004 MEI POLICY

The most recent EBRD Municipal and Environmental Infrastructure Operations Policy was approved by the Bank's Board of Directors in October 2004. The core objective was:

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

The main themes were decentralisation, commercialisation and environmental improvement.

As mentioned in Section 1, the EvD ‘Special Study’ of the 2004 MEI Policy rated it as ‘Successful’ (see table below):

Table 1. EvD Special Study Evaluation Ratings

Criteria	Rating
Relevance	Verified in Full
Effectiveness	Good
Efficiency	Good
Impact and Sustainability	Good
OVERALL	Successful

The Special Study concluded:

“ ... it is clear that the majority of the EBRD's operations in the MEI sector are having a major positive impact on the efficiency and quality of municipal services.”

“The core directions in the policy of decentralisation, commercialisation and environmental improvement are very appropriate, and in line with the EBRD's overall mandate. There should be some changes of emphasis to the Policy, and to the framework for its implementation, which would further enhance the EBRD's positive impacts in the sector.”

The Special Study's suggestions and the related responses are summarised in Annex A.

2.2 PORTFOLIO DEVELOPMENT

MEI portfolio development. Since entering the MEI sector in 1994, the EBRD has signed 289 transactions up to the end of 2011 and committed EUR 4.8 billion of its own resources.

Over the 2004 MEI Policy period (2005-2011), the EBRD signed 178 MEI transactions and committed EUR 2.8 billion of its own resources, with year 2011 setting an all-time record for MEI projects and commitments signed.

Figure 1. MEI Annual Commitments 2005-2011

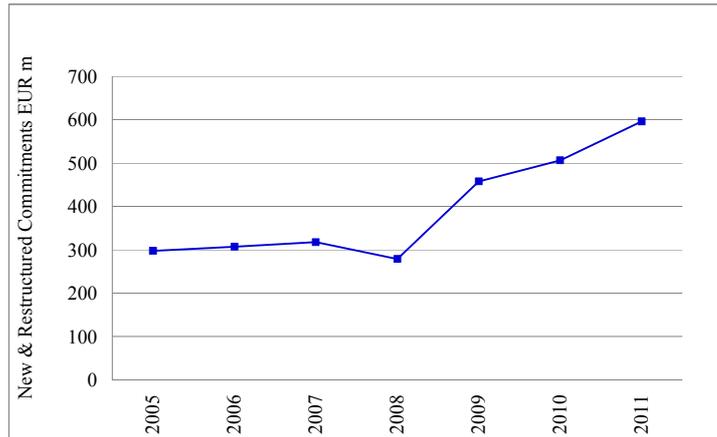


Figure 2. MEI Commitments by sector, 2005-2011

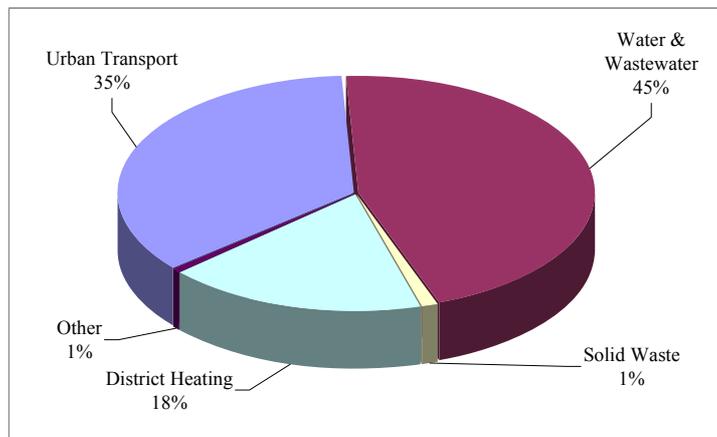
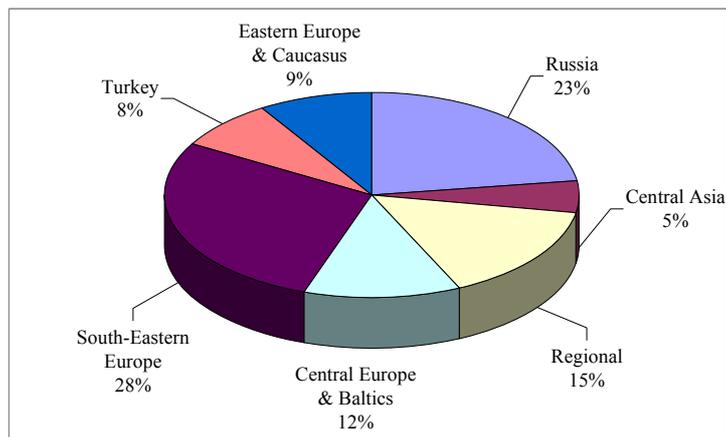


Figure 3. MEI Commitments by region, 2005-2011



In terms of net cumulative business volume at the end of 2011: nine per cent was invested in equity and 91 per cent in debt; 23 per cent was classified as ‘private’ and 77 per cent as ‘public’; and of the public sector investments, 76 per cent were classed as ‘non-sovereign’.

The average MEI transaction size was EUR 16 million, with individual transactions varying from less than EUR 1 million to EUR 115 million.

MEI portfolio quality. Despite market turbulence during recent years, the EBRD’s procedures and close monitoring have protected the MEI portfolio, and the Bank has only one impaired MEI asset, a relatively small private sector loan for which adequate security is in place. There are no impaired public sector loans although there have been occasional repayment delays.

2.3 TRANSITION ACHIEVEMENTS

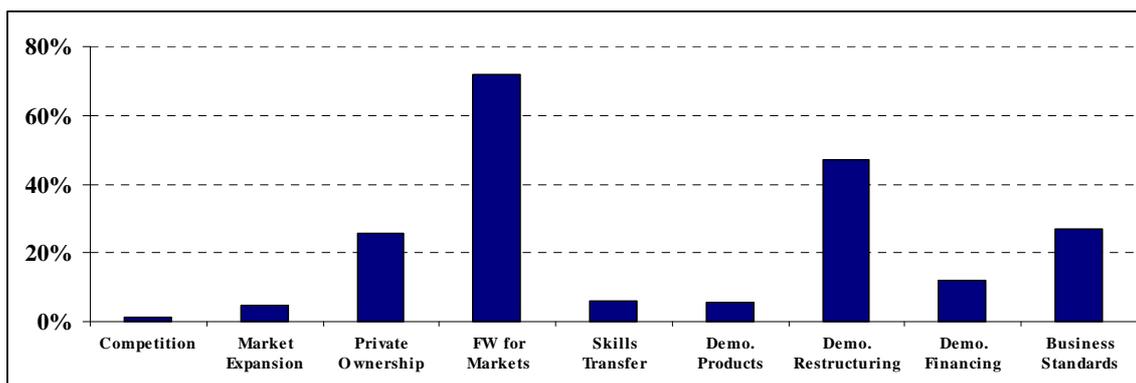
Strong transition ratings. With regard to transition, 87 per cent of the new MEI projects since 2004 were rated ex-ante by the EBRD Office of the Chief Economist (“OCE”) as ‘Good’ or ‘Excellent’, which is above the Bank-wide target of 80 per cent to be assessed as ‘Good’ or better (see Annex B). In 2011, 94 per cent of new MEI operations were classed as ‘Good’ or ‘Excellent’.

Twenty new operations (14 per cent) were rated ‘Excellent’ since 2004, the majority in the water sector. Six were in the ETC, including three forming part of a so-called ‘Integrated Approach’ in Tajikistan. This approach involves the development of a tariff methodology and tariff increases to cost recovery levels, the improvement of collection rates, the establishment of an independent water regulator, and implementation of a stakeholder participation programme. The remaining ‘Excellent’ rated projects predominantly addressed complex transition objectives such as: commercialisation and restructuring of water municipal providers; supporting early-stage energy efficiency markets; and public transport sector reforms.

Nineteen operations (13 per cent) were assessed as ‘Satisfactory’ transition impact. Around half were in Central Europe and the Baltic region, where this sector tends to be characterised by smaller transition gaps. The remaining ‘Satisfactory’ rated projects were assessed to have relatively lower transition impact due to weaknesses in addressing major transition challenges.

Main transition objectives pursued. The transition objectives of projects signed since 2004 broadly reflect the Bank’s response to the main sector challenges: weak institutional and regulatory environments; the lack of skills; weak operational and financial performance; and to a lesser extent private sector involvement. Around three quarters of all projects addressed improved frameworks for markets, and about half supported successful restructuring of the client organisations and positive demonstration effects (figure below). Around one quarter of sector operations signed since 2004 addressed increased private ownership and participation, as well as improvements in business practices and corporate standards.

Figure 4. Targeted transition objectives (share of projects), 2008-2011



2.4 IMPORTANCE OF CO-FINANCING AND DONOR SUPPORT

IFI co-financing. Since 2004, the Bank has considerably increased its cooperation with other IFIs or national development institutions. EBRD co-financed twelve MEI investments with other IFIs (namely the European Investment Bank (“EIB”), the International Finance Corporation (“IFC”), the Nordic Environment Finance Corporation (“NEFCO”), the Nordic Investment Bank (“NIB”) and the World Bank) over the period 2005-11, investing some EUR 410 million of EBRD money alongside EUR 765 million investments by other IFIs. Of the latter, 80 per cent was concentrated in the last years under review, i.e. 2009-2011, thus showing the dramatic acceleration of IFI cooperation.

Technical Cooperation. While EBRD staff play the primary role in guiding project structuring, preparation and implementation, TC is frequently a key ingredient in a project’s success. Clients are often first time borrowers, even in the more advanced countries, so capacity to prepare and implement new projects and to pursue transition goals can be limited.

Box 1. Growth in TC Assignments in MEI

TC funding in the MEI sector grew from EUR 10.7 million in 2005 to EUR 25.6 million in 2011. Over the same period, the number of new pre-signing TCs almost trebled from 45 to 120 per year whilst the number of post-signing TCs increased from 35 to 60.

The growth in TCs between 2005 and 2011 was due to three main factors. Firstly, TCs are fundamental to achieving transition at the project level and the steady growth of MEI activities has therefore implied a proportional increase in TC needs to further the transition agenda. Secondly, as EBRD has ventured further east and south and to smaller municipalities, the need for capacity building TCs has intensified in order to prepare and implement projects that continue to uphold the same high standards of bankability and transition. Thirdly, TCs continue to play a crucial role in more advanced countries where the remaining transition gaps need to be addressed through more sophisticated project or financing structures, or modification of policies or regulatory frameworks.

An EBRD-supported MEI public sector project typically requires around EUR 400,000 in pre-signing TC support and up to EUR 900,000 post-signing, almost irrespective of the size of the underlying investment. TC activities range from financial and environmental audits, feasibility studies, financial and operational performance improvement programmes, through support to project implementation units with procurement, reporting and other matters, creditworthiness enhancement programmes and, occasionally, advisory services to help reform the legal and/or regulatory environment. As the Bank penetrates further into challenging environments, the role of TC will become even more important.

Investment grant co-finance. The EBRD increasingly co-finances alongside investment grant donors in some low income locations in order to address basic infrastructure needs. EBRD applies its skills to structure projects, while donors help address affordability and other issues. Typically, such projects aim at implementing infrastructure and services to EU standards, which would not otherwise be affordable by local populations, especially in view of legacy issues.

Box 2. Examples of EBRD collaboration with investment donors

The facilities described below, among others, enabled the Bank to provide carefully designed financing packages including investment grants, as well as to use new approaches to financing, including for climate change adaptation and mitigation:

- In the ETC over the period 2005-2011, the EBRD co-financed alongside ten donors, who provided EUR 115 million in investment grants to 23 projects;
- The Northern Dimension Environmental Partnership (“**NDEP**”) has sought since 2001 to co-finance investments in the North Western region of the Russian Federation and more recently in Belarus. To date it has provided EUR 63.6 million for both grant co-financing and TC in support of EBRD’s environmental projects as a concerted effort to address issues in the Northern Dimension Area;
- EU investment support facilities (Neighbourhood Investment Facility, Investment Facility for Central Asia and the Western Balkans Investment Framework) provided EUR 69.6 million in grant and TC support in the EU Neighbourhood, Central-Asia and Western Balkans regions;
- Swedish International Development Cooperation Agency (“**SIDA**”), through bilateral grants and its Environment and Climate Change Fund, provided EUR 22 million equivalent over 2009-2011 to support municipal, environment and climate projects aiming at sustainable resource use, environment protection, gender equality, institutional reform;
- Switzerland’s State Secretariat for Economic Affairs (“**SECO**”), alongside the EBRD Shareholder Special Fund (“**SSF**”) and IFCA, are supporting the ongoing development of the water sector in Tajikistan with grant co-financing of approximately EUR 25 million which, once completed, will have enabled investments in every city with a population over 20,000;
- The Eastern Europe Energy Efficiency and Environment Partnership (“**E5P**”) was created under the aegis of Sweden during its Presidency of the EU in 2009. To date, E5P has approved grant co-financing of EUR 25 million in support of EBRD’s energy efficient investments in Ukraine;
- The Green Energy Special Fund (“**GESF**”) was established in 2011 thanks to a contribution from Taipei China of USD 80 million to offer subsidised loan co-financing in support of green energy technologies such as solar energy, light emitting diode lighting, and smart metering across the spectrum of municipal services.

EBRD gratefully acknowledges the generous contribution of numerous TC donors³ and investment donors⁴, acting either bilaterally or multilaterally.

By blending donor and EBRD funds in ‘bankable’ structures, the Bank benefits target populations, helps donors meet their own objectives and advances the transition agenda.

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³ TC donors during the period 2005-2011 included: Austria, British Petroleum, Canada, the Czech Republic, Denmark, the European Union (Neighbourhood Investment Facility, Investment Facility for Central Asia, Western Balkans Investment Framework), Finland, France, Germany, Italy, Israel, Japan, Korea, Mongolia, the Northern Dimension Environmental Partnership, the Netherlands, Norway, Portugal, the World Bank Public-Private Infrastructure Advisory Facility, Singapore, Slovakia, Spain, Sweden, Switzerland, Taiwan, the United Kingdom and the United States of America, as well as the EBRD Early Transition Countries Multi-Donor Fund, EBRD Shareholder Special Fund, EBRD Water Fund and EBRD Western Balkans Fund.

⁴ Investment donors during the period 2005-2011 included: British Petroleum, the Energy Efficiency and Environment in Eastern Europe Partnership (E5P), the Netherlands, the European Union (Neighbourhood Investment Facility, Investment Facility for Central Asia, Western Balkans Investment Framework), Germany, Millennium Challenge Georgia, the Northern Dimension Environmental Partnership, Sweden and Switzerland, as well as the EBRD Early Transition Countries Multi-Donor Fund, EBRD Shareholder Special Fund, EBRD Water Fund.

PAST PERFORMANCE | KEY MESSAGES

MEI ANNUAL BUSINESS VOLUME AND THE NUMBER OF SIGNED OPERATIONS MORE THAN DOUBLED BETWEEN 2008 AND 2011, REACHING AN ALL-TIME RECORD IN 2011. DESPITE THIS RAPID GROWTH, THE MEI PORTFOLIO QUALITY REMAINED STRONG.

SINCE 2004, 87 PER CENT OF NEW MEI PROJECTS WERE RATED EX-ANTE BY THE BANK'S OFFICE OF THE CHIEF ECONOMIST AS 'GOOD' OR 'EXCELLENT' FOR THEIR TRANSITION IMPACT, INCLUDING 20 (14 PER CENT) AS 'EXCELLENT'.

THE SUCCESS OF THE BANK'S MEI BUSINESS OWES TREMENDOUSLY TO DONOR GENEROSITY AND THE BANK GRATEFULLY ACKNOWLEDGES THIS CRITICAL CONTRIBUTION.

IMPLEMENTATION OF THE 2004 MEI POLICY WAS RATED 'SUCCESSFUL' BY THE BANK'S EVALUATION DEPARTMENT. THEY RECOMMENDED NO MAJOR CHANGES TO THE POLICY, ALTHOUGH SOME CHANGES IN EMPHASIS WERE SUGGESTED.

3. SECTOR CHALLENGES

To achieve its goal of promoting the sustainable delivery of essential services throughout the EBRD region, the MEI sector faces three over-arching challenges:

- providing essential services in areas with very different demographics;
- fostering transition to a market economy in order to create sustainable organisations, infrastructure and services; and
- making more efficient use of energy and adapting to climate change.

The EBRD will seek to operate where the challenges intersect, and will apply transitional market-based solutions to deliver essential services and generate environmental and social benefits. Where not all three challenges are present, the Bank will proceed as long as sufficient transition impact is achieved.

3.1 CONTEXT

An estimated 607 million people live in the EBRD region, with 130 million living in the four countries of the SEMED region⁵. All these people need shelter, access to clean water and sanitation, heating in winter, disposal of their solid waste, and local transport to and from schools, jobs, health services and other activities. And local businesses need suitable municipal infrastructure and services to function effectively in the various emerging markets.

Demographics. Demographics vary considerably across the region, and have a big impact on demands. While total population is relatively stagnant in the existing EBRD region of operations⁶, population has been growing in 16 countries (notably Mongolia, Azerbaijan and Turkey) and declining in twelve (notably Moldova, Bulgaria and Ukraine). In contrast, the population in the four SEMED countries has been growing at an average of 1.4 per cent per year, and is expected to add around 17 million people by 2020, most of whom will require municipal services given the high levels of urbanisation.

The age structure varies considerably between countries and has a profound impact on demand. Ageing populations pose specific social challenges. The percentage of inhabitants under 25 years old (most of whom are dependent on public transport) ranges from 24 per cent in Bulgaria to 59 per cent in Tajikistan. An estimated 49 per cent of the population in the four SEMED countries are under 25 years old.

Urbanisation. The percentage of people living in urban areas (termed here 'urbanisation') varies from 26 per cent in Tajikistan to 73 per cent in Russia, averaging 60 per cent over the EBRD region. In the long-term, if the region were to follow global urbanisation trends and reach the current rates of urbanisation in Russia and in the EU (74 per cent), the EBRD region would have around 80 million additional urban inhabitants. All would need services. If episodes of climate-related disruption take

⁵ As at July 2010; source United Nations, Department of Economic and Social Affairs, Population Division (2011). World Population Prospects: The 2010 Revision, CD-ROM Edition, April 2011.

⁶ i.e. excluding the four SEMED countries.

place, it is probable that rural-to-urban migration will rise, increasing still further demands for urban services. It is therefore crucially important to develop and sustain institutions capable of planning, investing in and managing future urban infrastructure and services.

Budget outlook. The financial crisis and recent developments in the global economy are expected to have a profound and long-term impact on budgets and the public financing of infrastructure. All countries are likely to face tighter budgetary environments in the short-term, and the ability of public budgets to finance infrastructure will be constrained. The economic situation is likely to impinge on individuals' incomes too and affect consumers' willingness and ability to pay for the higher costs of services, associated with the required investments. However, resource rich countries are likely to remain in a better fiscal position, but may be affected by turbulence in the global economy. The longer-term impacts are likely to affect the balance between the contribution of user-charges and direct budget financing of infrastructure provision.

EBRD's approach to user affordability. Changes in tariffs for essential services that are important for human health and well-being may particularly impact vulnerable and low income groups. While the definition of 'vulnerable' and 'low-income' is a decision for each country/city, economic theory and best practice suggest that the most effective support system is to target vulnerable groups directly through welfare transfers in an environment where users pay the full cost of service delivery, rather than to indiscriminately subsidise all user groups through low tariffs.

3.2 PROVISION OF ESSENTIAL SERVICES

Water supply. In 2010, an estimated 19 million people in the existing EBRD region did not have access to an improved water supply⁷. Of these, only 16 per cent lived in urban areas, which is the primary focus of the Bank's MEI activities. The largest deficiencies were in Central Asia and Russia; over nine million were located in the ETC. Five countries are estimated to have more than around one million people without access to improved water: Azerbaijan; Romania; Russia; Tajikistan; and Uzbekistan (see Annex C). In addition, an estimated eight million people in SEMED lacked access to an improved water supply.

Water may become scarce in quantity and quality due to changes in climate and precipitation patterns, resulting in increased frequency of flooding and droughts (note the River Danube floods in 2006 and 2009). Many factors contribute towards the scarcity of drinking water: consumption and run-off; an increase in water-intensive industrial activities; a lack of adequate pre-treatment arrangements; leaks and losses from inefficient water distribution; and inadequate wastewater collection systems. While inadequate access to water remains a serious challenge, water *quality* is generally not in line with EU standards across the region, resulting in serious health issues.

⁷ Source: World Health Organisation and UNICEF database. Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 litres a person a day from a source within one kilometre of the dwelling.

Wastewater and sanitation. In 2010, some 71 million people in the existing EBRD region did not have access to improved sanitation. Seven countries had more than one million inhabitants without access to improved sanitation (of whom one-third lived in urban areas): Azerbaijan; Mongolia; Poland; Romania; Russia; Turkey and Ukraine. The ETC had more than five million people without improved sanitation. An estimated 15 million people in SEMED lacked improved sanitation⁸. Wastewater collection and treatment is often inadequate or absent, leading to substantial ground and watercourse pollution, and negative impacts on public health. Associated sludge management is often inadequate and can lead to long-lasting pollution of large areas.

Urban transport. People require mobility to access schools, jobs, health facilities, shops, markets and other locations in their daily lives. Car ownership has already reached: 450 per 1,000 inhabitants in Central Europe and the Baltic states; is around 220 per 1,000 inhabitants in South-eastern Europe; 140-150 per 1,000 inhabitants in Eastern Europe, Caucasus and Central Asia; and averages less than 100 per 1,000 inhabitants in SEMED. Yet traffic congestion already exists in many locations due to a combination of poor traffic and parking management, and inadequate public transport provision, and is perceived to be growing throughout the region. If car ownership were to rise over the long-term to say 500 cars per 1,000 inhabitants⁹ throughout the EBRD region, this would mean a more than doubling of the car fleet from around 105 million to 235 million and the number of cars in SEMED would increase tenfold. Increasing motorisation has major implications for balance of payments, urbanisation patterns, CO₂ emissions, public health and so on. At the same time as the region is steadily motorising, there is a great need to modernise and expand public transport, a task that is both capital intensive and institutionally demanding (see Annex D).

District heating. Around 180 million people depend on district heating systems in 25 countries in the EBRD region. There is a legacy of inefficient heat generation and distribution, losses in networks, poor insulation in houses and public buildings, high energy intensity of municipal infrastructure, and under-investment resulting in poor environmental performance. However, the scope for ‘bankable’ investments in the district heating sub-sector is limited by: substantially under-priced energy resources; inappropriate organisational and legal structures; the weak creditworthiness of many operating entities; a lack of metering and ability to charge customers for their own consumption; and affordability issues in view of the large legacy of past under-investment (see Annex E).

Solid waste. The Organisation for Economic Cooperation and Development estimates that by 2020, annual solid waste generation globally will be more than 45 per cent higher than it was in 1995 and, in emerging market economies, will rise by almost 60 per cent. The waste management sub-sector is estimated to account for three per cent of global greenhouse gas emissions and substantial improvements are required across the region. This will present technical, organisational, legal, regulatory and environmental challenges. Opportunities to ‘Reduce, Reuse and Recycle’ – the ‘3Rs’ – should be utilised before final disposal of waste into a landfill. Supply chain optimisation coupled

⁸ According to the World Health Organisation and UNICEF database, an ‘improved sanitation facility’ is one that likely hygienically separates human excreta from human contact. Improved sanitation facilities include: flush or pour-flush to piped sewer system, septic tank or pit latrine, ventilated improved pit latrine, pit latrine with slab and composting toilet.

⁹ Still short of the EU average of around 600 cars per 1,000 inhabitants and way below the 800 cars per 1,000 inhabitants reached in the United States.

with integrated technologies (e.g., waste-to-energy, waste-to-bioenergy) will be required to optimise the full recovery of value from solid waste (see Annex F).

Landfills are used as the primary end-point for waste disposal throughout the region and many receive both municipal and industrial waste. Patterns of increasing consumption with related abundant packaging aggravate the situation. There is a need to promote sustainable consumption and production through a ‘life cycle’ analysis along the entire value chain to identify the optimal solutions for maximum recovery of useful waste streams¹⁰. This approach can impact solid waste management initiatives across the region as businesses will need to improve efficiency and sustain competitiveness, while pursuing a sustainable path.

3.3 TRANSITION CHALLENGES

Dimensions. The Bank assesses transition impact in three broad areas: (a) the structure and extent of markets; (b) the institutions and policies that support markets; and (c) market-based behaviour patterns, skills and innovation. EBRD projects pursue reforms along these three main dimensions (Annex B).

Application to MEI. The Bank’s aim in pursuing transition impact in all its operations is to create efficient, professionally-capable organisations that deliver customer-oriented services cost-effectively, applying user-pays principles. The Bank therefore supports the reform and market-based commercialisation of municipal operators. In this way, organisations delivering services can generate revenue streams that are sufficient to develop, operate and maintain infrastructure and services, become creditworthy and thus attract commercial financing to underpin long-term sustainability.

Box 3. Romania | Pathway to long-term transition in the water sector

This case study illustrates EBRD’s ability to evolve its role in support of transition in a particular country over many years – in this case 17 years in Romania – through policy dialogue, investment and technical cooperation, all supported by strong capacity located in the Bucharest Resident Office:

- EBRD entered the Romanian MEI sector in 1995 through a sovereign loan under the Municipal Utilities Development Programme (“**MUDP**”, signed in 1995), with on-lending to municipally-owned utilities. A second sovereign loan followed in 1997. The sovereign loans opened the door to policy dialogue with the central government and helped restructure Romanian water utilities, and promote commercialisation and efficiency;
- Based on the success of MUDP, the Bank developed the Municipal Environmental Loan Facility, (“**MELF**”, signed in 2000) as a means of co-financing with EU-ISPA. Under MELF, EBRD provided loans to commercialised utilities, with financial guarantees from local authorities. The loans focused on financing priority water and wastewater investments to comply with EU Accession requirements, building institutional capacity, improving creditworthiness, and applying covenants related to maintaining cost-recovery tariffs and improving collections. In addition, the first PPP in Romania was signed by the Bank with Apa Nova Bucharest in 2002;
- In response to client requests, EBRD created the Regional Cohesion Fund Water Co-Financing Framework (“**R2CF**”, signed in 2010). It is designed to support regional water utilities seeking EU Cohesion Funds in order to meet EU environmental standards. The loans are non-recourse and are based on a Delegated Management Contract and a Project Support Agreement structure, thereby freeing up local finance for non-revenue generating activities;

¹⁰ As outlined by the EU Resource Roadmap.

- Since 1995, the Bank has invested EUR 718 million in 54 projects and facilities in Romania, in support of total investment amounting to around EUR 1.7 billion. The Bank will continue this evolutionary path as investments are made, regulatory frameworks improve, and clients develop their capacity. The pathway also illustrates the success of starting in the water and wastewater sector, and then diversifying to other sub-sectors: the first district heating, urban transport and solid waste projects in Romania being signed in 1997, 2003 and 2006 respectively.

Emerging economies sometimes advance and sometimes regress due to various factors: for example, public finances may weaken (e.g., due to the financial crisis), key staff may leave, political turbulence may intervene. Although the institutional process of transition to a market economy is progressing, temporary fluctuations and set-backs can occur. Generating momentum and getting transition to take root in a given country requires sustained action over time, generally through a series of projects over the various sub-sectors.

3.4 ENERGY EFFICIENCY

Energy consumption. Energy use in urban areas is multi-faceted, with complex interactions. Stationary use of energy for heating and lighting features highly, as does mobile use for motorised transport. Industries and commerce require heating, cooling, steam and power. In turn, they drive settlement and traffic patterns.

The built environment is estimated to account for around 39 per cent of final energy consumption throughout the region, mostly through heat, and is thus the largest single opportunity for energy efficiency.¹¹ A study of low carbon opportunities in Russia highlighted great potential to improve heating efficiency in buildings, where demand side measures could cut energy use by half and emissions by 40 per cent¹². These measures include improvements in the insulation of the existing housing stock, more widespread use of thermostats, and stricter energy efficiency standards for new construction (further information is presented in Annex G).

Carbon emissions. Several of the world's most energy- and carbon-intensive economies are located in the EBRD region, notably Kazakhstan, Mongolia and Uzbekistan, with more than 1.5 kilogrammes of CO₂ from energy use per USD of Gross Domestic Product at 2000 prices and purchasing power parity exchange rates (compared to 0.48 kilogrammes in the USA and 0.28 kilogrammes in the EU-15)¹³. CO₂ emissions per capita from energy use in 2008 ranged from 3.7 tonnes in Turkey to 11.2 tonnes in Russia (EU-15 emissions were 7.9 tonnes).

3.5 ADAPTATION TO CLIMATE CHANGE

Adaptation to climate change. Climate change poses threats in the EBRD region in the form of shifts in precipitation and temperatures, rising sea levels, and changes in the frequency and severity of storms and floods. Areas such as Central Asia, the Caucasus and SEMED are particularly vulnerable. Increased stress on water resources is one of the main vulnerabilities.

¹¹ Source: EBRD Property Sector Strategy, March 2010.

¹² Pathways to an energy and carbon efficient Russia; McKinsey & Company; 2009.

¹³ The Low Carbon Transition. Special Report on Climate Change. European Bank for Reconstruction and Development and Grantham Research Institute on Climate Change and the Environment.

Building resilience to climate change involves helping municipalities to strengthen critical infrastructure and its management. Where climate change is expected to increase water stress, investing in improved and less wasteful water infrastructure is essential. Other types of infrastructure may also need to be made more resilient to climate change impacts, such as sea level rise and extreme events such as storms and floods.

International cooperation. Municipalities are key players in addressing climate change, both for mitigation and adaptation activities. This is reflected in their participation in the EU Covenant of Mayors¹⁴ initiative: 191 municipalities from 21 EBRD countries of operations have signed the Covenant, voluntarily committing to increasing energy efficiency and use of renewable energy sources and aiming to meet and exceed the European Union 20 per cent CO₂ reduction objective by 2020.

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SECTOR CHALLENGES | KEY MESSAGES

THE SCALE OF ‘NEEDS’ IN THE MEI SECTOR IS VERY LARGE. THERE ARE MANY INVESTMENT OPPORTUNITIES, BUT THE CHALLENGES IN STRUCTURING AND DELIVERING ‘BANKABLE’ PROJECTS ARE LARGE TOO.

DEMOGRAPHICS VARY CONSIDERABLY FROM ONE COUNTRY TO ANOTHER: POPULATION IS GROWING IN 20 COUNTRIES AND DECLINING IN TWELVE. AGE STRUCTURES VARY GREATLY AND AFFECT DEMANDS FOR SERVICES.

URBANISATION IS INCREASING THROUGHOUT THE REGION, TOGETHER WITH PEOPLE’S NEEDS FOR BASIC SERVICES SUCH AS RELIABLE ACCESS TO CLEAN WATER, SANITATION, LOCAL TRANSPORT AND WASTE MANAGEMENT.

INFRASTRUCTURE AND SERVICE DELIVERY ARE HAMPERED BY FINANCIAL CONSTRAINTS, A LEGACY OF OBSOLETE INFRASTRUCTURE AND PAST UNDER-INVESTMENT, SOMETIMES LEGAL IMPEDIMENTS AND OFTEN INSUFFICIENT INSTITUTIONAL CAPACITY. INVESTMENTS AND ASSOCIATED INSTITUTIONAL REFORMS NEED TO ADDRESS THESE OBSTACLES IN A SUSTAINABLE MANNER.

IN THIS RESPECT, ENERGY EFFICIENCY AND ADAPTATION TO CLIMATE CHANGE WILL BE MAJOR PRIORITIES IN THE NEW STRATEGY PERIOD.

¹⁴ The Covenant of Mayors is the mainstream European movement involving local and regional authorities with around 3,000 signatories. www.eumayors.eu

4. SECTOR VISION

Cities evolve in relation to the societies and economies they serve. The urban context is changing in many places due to factors such as demographic shifts, energy challenges, economic pressures, communications technologies and so on. Various thinkers are working on concepts for ‘cities of the future’. Many innovative ideas are being developed, with pilot activities and projects as precursors for possible long-term evolution. The EBRD vision for the MEI sector is mindful of the many exciting developments, but is grounded in the needs of its clients over the forthcoming Strategy period.

The Bank’s goal is to assist its clients to create sustainable infrastructure and demand-responsive service delivery in the MEI sector.

The Bank will support projects focused on regulatory and tariff reforms, restructuring, and market-driven investments that deliver effective, affordable, customer-oriented services as well as place environmental, social and low-carbon imperatives at the core of operations. The Bank aspires to long-term sustainability for its investments. This means creating sustainable urban infrastructure and services, attaining environmental and social sustainability, achieving financial and budgetary sustainability and gradually transitioning towards an energy efficient, low carbon economy.

The core themes of the Bank’s actions will remain **decentralisation, commercialisation and environmental improvement**. Independent scrutiny found these to be very appropriate over the 2004 MEI Policy period and these themes are retained for the forthcoming Strategy period.

4.1 DECENTRALISATION AND STRENGTHENING INSTITUTIONAL STRUCTURES

Municipal and environmental services affect local communities and require devolution of service provision and decision-making closer to the end-users. Infrastructure and service delivery will be more sustainable when the entities responsible have sufficient management and financial independence, and when local authorities truly represent the needs of the users, and have the capacity and willingness to plan and regulate service delivery effectively. Decentralisation needs to be fine-tuned to take into account the economies of scale that can be extracted from institutional restructuring such as water-basin focused utilities (where small-scale entities resulting from the historical set-up are merged), regionalisation (where the larger utility of a regional urban centre absorbs the smaller and less efficient utilities of surrounding communities) and benchmarking.

Institutional aspects. Considerable gains can be derived from the delineation of clear responsibilities for both company management and local authority supervision. These can be enshrined in public service agreements that establish management by objective (technical, commercial and financial targeting) and predictable resource allocation (multi-year tariff-setting, and payments linked to quantitative and qualitative service benchmarks).

Regulatory reform. The region has wide gaps in approaches to regulating infrastructure, particularly as economic tools are insufficiently used. Further progress is required to build institutional capacity at the local level to deliver economic regulation

of local infrastructure. This includes: (1) planning and contracting the delivery of services; (2) adequately addressing social, economic and political constraints such as affordability or the pricing of utility services; and (3) implementing professional monitoring of service delivery without undue interference in utility operations that distracts staff from service delivery.

Budgetary burden. Despite significant progress in acknowledging the principle of cost-reflective tariffs in several countries of operations, the extent of implementation is patchy, thus keeping many operators dependent on budgetary contributions for capital and often operating expenses. The aftermath of the financial crisis highlighted vulnerabilities in the existing model of infrastructure delivery and the balance of contributions towards cost coverage is likely to shift from tax-payers towards users.

Private sector participation. Private sector initiatives have inevitably been affected by the financial crisis. Even so, 15 per cent of MEI signings and 31 per cent of the MEI annual business volume in 2011 were with the private sector. While the majority of the Bank's MEI clients are expected to remain in the public sector, the Bank will continue to emphasise support for private sector initiatives, where value for money can be demonstrated.

Role of the Bank. EBRD will promote institutional change through: (1) a mix of projects focused on strengthening contractual relationships, improving planning and regulatory capacity, building capacity in local utilities and attracting the private sector; (2) policy dialogue on matters such as budget code reform, concession framework amendment, regulatory reform to introduce cost recovery tariffs, and new ways to do business such as performance-based contracts; and (3) technical cooperation (e.g. governance reorganisation, service contracts, benchmarking programmes, tariff methodologies).

4.2 COMMERCIALISATION AND STREAMLINING OPERATIONAL STRUCTURES

The Bank aims for reliable, efficient, appropriate quality, customer-oriented services to be delivered in a self-supporting way by commercialised utilities. The main model pursued is that of a professional and commercially oriented service provider that delivers cost-effective services to users and has an arms-length relationship with the local authority. The core infrastructure services should be delivered on a commercial basis with users paying for the cost of service, combined with adequate support for vulnerable consumers.

The burden of past practices. Challenges remain in many cases relating to legacy issues such as: (1) persistent under-investment associated with inefficient and politicised utility service provision; (2) insufficient skills and know-how; and (3) a continued inability to recover costs in full, which undermines adequate maintenance and development as utility providers tend to be under-resourced. The situation remains dire in some places and insufficient attention has been paid to these issues over the past 20 years due to lack of awareness, the low priority on political agendas, unaffordability of capital projects, or the sheer complexity of solutions.

Sharpening finances. Continuing efforts are required simultaneously at two levels: (1) a focus on revenue generation through improvements in tariffs and collection rates, plus innovative approaches to other revenue streams (e.g., advertising on public transport); and (2) a search for cost-efficiencies through reduced energy intensity,

improved labour productivity, modern operation and maintenance practices, and better technology.

Access to finance. The ability to access long-term external finance is essential (both equity and debt), but requires adequate sources of repayment, focused primarily on user-generated revenues. This is especially critical in an economic downturn when capital expenditures tend to be cut first and furthest. Commercial bank financing is expected to remain scarce due to the financial crisis and regulatory factors. The Bank will therefore seek to mobilise finance from alternative commercial sources, such as pension and sovereign wealth funds. The Bank will seek to structure affordable debt facilities at municipal company or city level and encourage private sector investment, with efforts targeted both at grantors (policy dialogue and implementation support) and private investors (equity and debt contributions).

Role of the Bank. The Bank will continue to focus on providing capital (equity and debt) to well prepared projects that remedy under-investment, fill service gaps, promote energy efficiency, and advance transition. Some public sector clients and many private companies are also interested to have EBRD involved because of the rigour and oversight the Bank brings to tendering, contract award and management. This is especially true in environments where corruption is an issue. The Bank will also roll out technical cooperation that facilitates operational improvements in service delivery and commercialisation (e.g., implementation support, financial and operational performance improvement, and know-how transfer).

4.3 ENVIRONMENTAL IMPROVEMENT

Infrastructure is still marred by issues affecting the disposal of waste, the treatment of effluents and other externalities of urban activity. Environmental and social sustainability is at the core of EBRD's operations and projects will continue to be structured with the aim of raising environmental standards, promoting social engagement with citizens (in their capacity as users and/or affected people), supporting a low carbon economy and adapting to climate change.

Environmental dimension. The municipal sector is about creating a favourable framework that facilitates human and economic activity, while protecting the physical environment. Bank operations aim at rehabilitating or developing facilities in an environmentally and socially sustainable and responsible way, with a view to: guaranteeing access to clean and affordable services; improving public health; reducing water-borne and air-borne diseases; supporting sustainable resource use, waste minimisation and recycling; protecting biodiversity; generally promoting high environmental standards to the extent reasonably feasible within affordability constraints; ensuring compliance with environmental standards; and supporting regional agreements for the protection of international water bodies. EBRD is committed to seeking compliance with relevant EU standards at the project level as set forth in the EBRD Environmental and Social Policy; for the MEI sector, these requirements are outlined in the relevant EU Directives on drinking water¹⁵, urban wastewater

¹⁵ EU Drinking Water Directive (98/83/EC).

treatment¹⁶, sewage sludge¹⁷, waste¹⁸, air quality, environmental impact assessment and others.

Social dimension. Engagement with people and public consultation are key factors that contribute towards the success of investments. In the Bank's experience, the promotion of certain types of behaviour is essential to ensure sustainability and popular adherence to reform. This can be supported through stakeholder engagement plans. There are also opportunities to promote measures targeted at certain population groups such as women (e.g., the design of services, employment), the elderly or people with disabilities (e.g., low-floor public transport). Infrastructure development often affects people's neighbourhoods and/or livelihoods in a temporary or a permanent way, requiring early and adequate management plans to mitigate impacts. The social dimension of MEI projects also encompasses the construction phase, for example through labour and working conditions, and occupational health and safety issues.

Climate change. The development of a low carbon and climate-resilient economy is a mainstream objective of the Bank and is particularly relevant in the MEI sector. Projects may include the application of best-available low carbon techniques, switch to renewable energy where possible, demand-side management, building stock rehabilitation, productive use of waste, efficient transport solutions, active management of traffic congestion, and the mainstreaming of climate resilience. Also opportunities for carbon credits monetisation will be pursued through the framework of Joint Implementation and the Clean Development Mechanism.

Role of the Bank. The Bank will continue to incorporate the environmental and social dimensions in all its MEI investments. It will also address both climate change mitigation and adaptation through its investments and policy dialogue. It will promote mitigation by structuring projects from an energy efficiency and low carbon perspective, including the systematic evaluation of opportunities, the design of specifically targeted investment programmes, the establishment of an appropriate institutional and regulatory framework, and the roll-out of TC. The Bank will contribute to adaptation by conducting climate risks analysis and integrating climate resilience features into project design. The selective application of policy dialogue, TC and capital co-financing will be important in some circumstances to ensure the right priorities are set.

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¹⁶ EU Urban Waste Water Treatment Directive (91/271/EEC).

¹⁷ EU Sewage Sludge Directive (86/278/EEC).

¹⁸ EU Directive on Waste (2008/98/EC), EU Landfill Directive (99/31/EC), EU Directive on Incineration of waste (2000/76/EC); EU Directive on hazardous waste (91/689/EEC).

SECTOR VISION | KEY MESSAGES

THE MEI SECTOR IS ALL ABOUT RESPONDING TO PEOPLE'S NEEDS AS CITIZENS, ECONOMIC AGENTS AND INFRASTRUCTURE USERS. EBRD'S GOAL IS TO ASSIST ITS CLIENTS TO CREATE SUSTAINABLE INFRASTRUCTURE AND DEMAND-RESPONSIVE SERVICE DELIVERY IN THE MEI SECTOR, FOR THE BENEFIT OF STAKEHOLDERS.

THE BANK'S OPERATING PRIORITIES WILL REMAIN DECENTRALISATION, COMMERCIALISATION AND ENVIRONMENTAL IMPROVEMENT, AS IN THE 2004 MEI POLICY.

THE BANK WILL HELP CLIENTS TO ACCESS FINANCE AND USE COMMERCIALISATION AND TARIFF REFORM TO SUPPORT COST-EFFICIENCIES AND CREATE RELIABLE REVENUE STREAMS TO UNDERPIN LONG-TERM FINANCIAL SUSTAINABILITY.

THE BANK WILL INVEST IN EFFECTIVE, AFFORDABLE, CUSTOMER-ORIENTED SERVICES THAT PLACE ENVIRONMENTAL, SOCIAL AND LOW-CARBON IMPERATIVES AT THE CORE OF ITS OPERATIONS.

WHERE APPROPRIATE, THE BANK WILL ENGAGE IN BROAD POLICY DIALOGUE IN PURSUIT OF ITS GOAL.

5. MAINSTREAMING THE NEW FRONTIERS

While the core principles of the MEI Strategy remain substantially unchanged, the new Strategy period will seek to mainstream certain dimensions that were identified in the 2004 MEI Policy period but with limited implementation to date. These relate to the penetration of new markets, the challenges of working with smaller municipalities; the approach to mobilising investment grants; raising social awareness and stakeholder participation; mobilising private capital during continuing turbulence in financial markets; and making energy efficiency and adaptation to climate change central to EBRD's MEI operations.

5.1 EXPANDING GEOGRAPHIC REACH

While transition gaps remain in all EBRD countries of operations and well-designed projects will continue to deliver transition even in more advanced countries, the Bank will seek to expand MEI operations to the east, south and to more remote areas, where the working environment changes and additional challenges arise. Some illustrative examples are presented below for the ETC, Russia and SEMED regions.

Early Transition Countries¹⁹. The ETC have lagged behind the rest of the region in their transition to market economies: more than one out of every two people live below the national poverty line.

The ETC share features that generally set them apart from the other countries of operations: relatively greater political instability; deteriorated and under-developed infrastructure; low incomes and greater affordability issues; and lower implementation capacity. The Bank focuses on meeting essential needs such as water supply, public transport and, where possible, solid waste management.

Institutional capacity in city administrations and utilities tends to be very weak, so local entities are not able to identify and prepare 'bankable' projects without assistance. EBRD staff and TC inputs support project scoping, preparation, implementation and transition. The EBRD approach follows a model of an initial priority investment project financed by a small loan, combined with grant co-financing generously contributed by international donors. As the absorption capacity in the local economy increases during project implementation, a second phase investment programme can then be launched.

Water supply projects are commonly the first priority in ETC cities. Water supply systems are largely depreciated, experience large leakage losses, and low quality water is provided on an *ad hoc* basis, e.g., for a couple of hours per day. Water supply is also increasingly vulnerable to climate change impacts. It is important to focus on physical rehabilitation and improvement of the quantity and quality of supply. Only once these are restored do tariff increases become more acceptable to consumers and improvements in collection rates take place. Stakeholder participation programmes are key to raising public awareness and promoting willingness to pay for public services.

¹⁹ The Early Transition Countries are: Armenia, Azerbaijan, Belarus, Georgia, Kyrgyz Republic, Moldova, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

Unsanitary handling of solid waste is a major health hazard throughout the ETC. Due to the low priority given to solid waste issues at central and local levels, low willingness to pay and limited affordability by vulnerable groups, high grant co-financing amounts are required to generate support for such projects among national and local stakeholders and to make projects financially feasible.

Public transport projects are also important to underpin economic development. The Bank intends to focus on small-scale public transport projects, with a few well-designed transition objectives. Once minimum levels of service have been restored, follow-up transactions can address wider sub-sector improvements.

While Bank clients are selected for their willingness to aim for international standards and advance the market-based transition agenda, the achievement of best practice requires time and often more than a single transaction. For a first-time client, transition objectives should be suitably ambitious, but also realistic and implementable; the level of ambition can be increased during follow-on projects.

Box 4. Tajikistan | Improving the water sector across the country

Following years of under-investment, most of the country's population is unable to rely on an efficient water supply and the environment is endangered by poor wastewater handling. In some areas, water is only available for a couple of hours every other day. This affects health and hygiene and the population experiences outbreaks of waterborne diseases, especially during the summer. Also, water resources are expected to progressively come under pressure from projected impacts of climate change.

The severe deterioration of assets results in high operating and maintenance costs. This, in combination with weak institutional capacity to manage and financially sustain services, leads to sub-standard water supply and wastewater services. The EBRD has invested across the country through a series of multi-city loan operations totalling EUR 43 million equivalent as of the end of 2011, covering 15 small and medium sized cities in the Khujand, north, south and central regions of Tajikistan.

The projects comprise individual priority investment programmes designed for each participating city with a focus on restoring a reliable water supply and critical wastewater improvements, as well as institution-building through corporate development and stakeholder participation programmes. Operations include supply sustainability through improved maintenance procedures; financial sustainability through improved billing, collection procedures and financial management; and environmental improvements including energy conservation and climate change mitigation measures.

These Tajik water rehabilitation projects are co-financed by investment grants generously donated by Switzerland, the EBRD SSF and the EU IFCA amounting to EUR 27 million equivalent as of the end of 2011. These investment operations are supported by TC assignments funded by Norway, Sweden, Switzerland, IFCA, the EBRD's Water Fund and ETC Fund as well as the Global Environment Facility's Special Climate Change Fund ("SCCF").

The support from the ETC Fund and other donors is critical in achieving project objectives, adding strength to implementation capacity and enhancing monitoring quality.

Russia. EBRD's first transaction in the Russian MEI sector was in 1997, in Saint Petersburg. Since then the Bank has been steadily adapting to the specifics of the Russian market and growing its portfolio: the Bank signed 13 transactions up to and including 2004 and 31 between 2005 and 2011. However, there are hurdles to EBRD doing business in Russia, including regulatory factors, distorted pricing and

procurement issues²⁰. In order to address the various challenges, the EBRD is heavily engaged in policy dialogue with the federal and local governments on a range of issues, including: water, sanitation and district heating tariffs; energy efficiency; procurement; concession law; and PPPs.

Russia is an immensely diverse country: some regions are highly advanced in terms of transition, with extensive private sector activity; there is a vast ‘middle ground’ with important remaining transition challenges; and a small fraction of the total population lives in remote regions where the long-term sustainability of market-based service delivery is extremely challenging. Smaller, remote municipalities and single industry communities have particularly acute needs and are disadvantaged vis-à-vis centrally located and larger cities. It will be important to recognise this diversity when assessing the objectives of individual EBRD projects.

There is a large unmet ‘need’ for MEI infrastructure across all MEI sub-sectors – for existing settlements and for their expansion. EBRD aims to be active in all MEI sub-sectors over the new Strategy period, notably through the following:

- EBRD will be drawing on its experience of framework and fund structures elsewhere to work with intermediary local banks to finance smaller municipalities and share risks. The challenge is to streamline transaction processing by creating structures that respect EBRD credit, procurement, environmental and social, and integrity requirements and, at the same time are consistent with Russian legal requirements and good practice. Once a feasible and efficient structure has been proven, the Bank will roll it out in order to gear up the mobilisation of commercial co-financing and risk sharing for much-needed MEI investments;
- EBRD has financed six private sector transactions in Russia, with exposure in the range of EUR 9-43 million per transaction. There are relatively few large PPPs, mainly because risks are still perceived as unacceptably high by many private sector players. Nevertheless, EBRD will continue to support the development of full PPPs in large and second-tier cities as well as in the regions, where the Bank’s high standards for business practices can be demonstrably upheld in line with Bank policies. There are also numerous potential smaller private sector transactions (e.g. long-term operation and maintenance contracts) that might attract Russian and foreign companies to invest in the water and district heating sub-sectors (e.g. pumps), urban transport (e.g. parking and street lighting), and solid waste. The Bank is working with local companies to create acceptable templates for tenders, legal agreements etc. that would enable efficient mobilisation of private sector expertise and finance for public infrastructure;
- The Bank is also developing innovative security arrangements for the Russian market, drawing on experience in Central and Eastern Europe and elsewhere. This includes partial guarantees, limited recourse lending with appropriate legal documentation, monitoring and risk-sharing arrangements with local banks;

²⁰ Some clients, especially in small communities and more remote areas, tend to be inhibited from using the EBRD Procurement Policies and Rules (“PPR”). Also, Russian public sector corporations face certain regulatory hurdles before being able to use the PPR.

- There are opportunities to introduce and finance performance-based contracts, to be executed by commercial companies, especially in the urban and regional roads sub-sector;
- The Bank will continue to promote integrated energy performance contracts (see Annex G), which could cover the needs of individual blocks through to entire settlements, and offer commercially-structured, private sector solutions.

As lessons are learned and these initiatives bear fruit in the early years of the Strategy period, the Bank will refine and apply the successful approaches and will continue to innovate in subsequent years.

Southern and Eastern Mediterranean. SEMED comprises four countries: Egypt and Morocco (which have been EBRD shareholders since 1990) plus Jordan and Tunisia (which became members of the Bank at the end of 2011). EBRD is part of the so-called ‘Deauville Partnership’ that was launched at the G8 Summit held in Deauville, France, in May 2011. The Bank strongly endorses the partnership’s economic framework, tailored to support each country’s economic programme in the following areas: (1) governance, transparency and accountability of economic activities; (2) social and economic inclusion; (3) economic modernisation and job creation; (4) private sector led economic growth; and (5) regional and global integration.

The SEMED countries are diverse and their demographics and culture are very different to those found in other EBRD countries of operations. The Bank will tailor its approach and products to the specific needs of this region, noting in particular that it is highly vulnerable to climate change, especially worsening water scarcity. The key transition challenges are a lack of decentralised fiscal control, decision-making and asset ownership. Tariff reforms are also required since most tariffs are below cost-recovery levels, energy prices are subsidised, and direct subsidies to supplier and distribution companies are prevalent. Separation of regulatory and operational responsibilities has not yet taken place across most municipal services, and regulatory independence is not yet in place. All these factors negatively impact efficiency. Also private sector participation in service provision started only recently in the region.

From a financing perspective, local banks have liquidity and long term financing is available from various agencies. In particular, numerous IFIs such as the African Development Bank (“**AfDB**”), the EIB, the Islamic Development Bank (“**IsDB**”) and the World Bank, as well as bilateral organisations such as Agence Française de Développement (“**AFD**”), Kreditanstalt für Wiederaufbau (“**KfW**”) and the United States Agency for International Development (“**USAID**”) have been active in these countries for many years. Therefore, the EBRD will seek to learn from others’ experience, act where the EBRD has a comparative advantage, and coordinate its efforts with its peers.

In terms of priorities, EBRD will focus on its comparative advantages of: engaging in policy dialogue to help de-link municipal infrastructure and services from the sovereign; promoting decentralisation, local ownership and inclusion; creating creditworthy entities at the local level; supporting regulatory independence and tariff reform; and establishing a pathway to sub-sovereign lending. EBRD also has relevant expertise to contribute to successful and transparent PPPs, particularly in the water and urban transport sub-sectors.

5.2 WORKING WITH SMALLER MUNICIPALITIES

Streamlining the approach. Based on the Bank's operating principles of decentralisation and commercialisation, the EBRD's focus has been and will remain on urban infrastructure. However the Bank is increasingly working with smaller municipalities. Experience gained in countries such as Romania or Tajikistan may be replicated or adapted elsewhere. Fund structures and framework operations have been developed that enable the Bank to approve an investment programme 'in-principle' once a pipeline of projects has been identified, and then process individual investments on a more efficient basis. Framework approaches can also result in more efficient use of TC resources and advance the Bank's transition agenda.

Early successes. Such a streamlined approach has proven potent in the context of EU accession countries benefiting from EU Structural Funds. The Bank's role is to fill a gap at two levels: project preparation to help municipalities commission the relevant studies leading to approval of an EU funded project; and project co-financing to provide municipalities with the portion of local funding required under EU regulations. A successful example is being rolled out in Romania through the EUR 200 million Romania – Regional Cohesion Fund Co-Financing Framework to co-finance with EU Structural Funds investment programmes undertaken by regionalised water companies (approved by the Bank in 2010).

New approaches. Beyond framework operations, the Bank is considering the feasibility of regional funds or risk sharing facilities involving commercial banks as a way to more widely distribute Bank financing among smaller municipalities while upholding high standards. Various concepts are being studied, notably in the Western Balkans and in Russia, aiming at developing workable structures in the course of 2012.

5.3 RAISING SOCIAL AWARENESS AND PROMOTING INCLUSION

The Bank, through its MEI investments, shall continue to facilitate access to the benefits of its projects and to ensure that its projects are accessible to all sections of society, including women and vulnerable or excluded groups.

Stakeholder participation – a key reform tool. Project-related stakeholder participation programmes have been implemented with good results. Such programmes are becoming standard components of MEI projects as a tool to make reform acceptable and influence people's behaviour towards conservation and good practice. The main results to date are: (1) increased awareness of issues related to a given service e.g., water scarcity; (2) management of expectations as to the result of a project (timing, scope, service improvement and potential construction impacts); (3) wider community participation in project implementation; (4) wider public participation in the design of projects so they meet as many different needs and priorities as possible, and (5) demonstrating the link between service improvement and tariff reform, hence facilitating acceptance of tariff increases.

Civil society engagement. This activity is rather new in many countries of operations. The combination of inexperienced civil society organisations ("CSOs") and first-time clients in young, democratic societies has led in the past to heated discussions about publicly available information, and expectations about project outcomes and impacts. In many countries, there is no tradition of sharing information or undertaking consultative processes that allow potentially affected people to take part in making decisions that

could affect their lives. The Bank will provide advice and guidance to its clients on how to involve stakeholders in the preparation and optimisation of projects to address potential concerns that affected people might have, as well as the importance of a continuous dialogue with civil society and community-based organisations to manage expectations of project outcomes and mitigate impacts.

Gender experience to date. An objective of the EBRD’s Gender Action Plan (“GAP”) is to assist clients to mainstream best practices related to gender into their operations and policies. The GAP builds upon the Bank’s 2008 Environmental and Social Policy which addresses gender during due diligence and at other project stages. Accordingly, the Bank has been developing gender products and services, including guidance materials, to assist clients to address gender considerations at all project stages, including during environmental and social due diligence, project design, project implementation and as part of continuing operations. Gender pilot projects in the areas of urban development, transport, water, and solid waste, as well as pilot projects to promote equal opportunities in human resources policies and practices have been completed or are being implemented, and relevant guidance materials incorporating lessons learned are being prepared. In 2011, GAPs were rolled out in six MEI transactions with a good example of gender mainstreaming being the Bishkek Public Transport Project, as case-studied below.

Box 5. Kyrgyz Republic | Bishkek public transport gender action plan

‘Gender awareness’ was introduced to the City Administration during the preparation of the Bishkek Public Transport project (signed in 2011). As a result, it was decided that 40 per cent of the trolleybuses to be purchased would be low-floor vehicles, facilitating easy access for people with children or mobility difficulties.

The project included a loan to the Kyrgyz Republic for EUR 7.2 million equivalent, to be on-lent to the Bishkek municipal trolleybus company. The project will enable the company to purchase approximately 80 modern trolleybuses and finance a partial upgrade of the related network infrastructure.

It was found during the gender study that women’s daily travel patterns tended to be more complex than men’s, often in off-peak hours as many women combined work with childcare, care of elderly parents, shopping and other commitments. This meant that women’s trips tended to be shorter, more frequent and characterised by ‘trip chaining’ (multiple purposes and destinations within one trip). Women tended to value flexibility and cost-saving over time-saving in their travel choices.

Recommendations were developed related to safety, vehicle design (low floor), speed control and traffic management, maintenance of bus stops, and improved communication between the users and providers of public transport. Recommendations were also made in relation to strengthening the client’s capacity to consider gender in public transport design, human resources and equal opportunities. These were all incorporated into the covenanted Environmental and Social Action Plan.

Lessons learned from gender pilot projects. The Bank has undertaken gender pilot projects in the MEI sector in two areas, i.e. municipal services and equal economic opportunities:

- In municipal services, project case studies have shown that men and women often have different priorities and concerns about the way in which services are provided. This is sometimes due to the different allocation between men and women of responsibilities for household tasks as well as cultural values. Concrete examples observed by the Bank through recent projects involving a GAP include: women using public transport more than men and valuing

flexibility over time savings in their travel choices; women stressing the importance of street lighting as they tend to feel threatened when visibility is scarce; women playing a key role in waste management and the use of domestic water for cooking and washing, while men are in charge of watering the garden;

- Regarding equal economic opportunities, the pilot projects have shown that many municipal organisations and companies have few women at decision making levels while they are over-represented for certain tasks such as administration and human resources. Of note is that public sector employers tend to focus on inputs (the number of hours worked) rather than outputs (the quality or speed at which tasks are completed) and therefore decision-making positions are closely associated with a higher number of hours worked and the ability to work extra hours flexibly, which represents an obstacle for women to progress in these organisations given their household and child care responsibilities.

Next steps in gender mainstreaming. The Bank will develop some generic tools for the Bank's municipal clients to build their capacity to incorporate lessons learned in their investment planning, preparation and implementation of municipal services projects. A particular focus will be on ETC countries, where the impacts and benefits can be greatest or where the approach taken in the capital city can be replicated to secondary cities (e.g. in Tajikistan, Kyrgyz Republic). With respect to the promotion of equal economic opportunities, the Bank's experience in supporting best human resources standards and practices accumulated in Turkey and Romania will be used to promote equal opportunities in the work place in other countries. Mainstreaming gender into the MEI operations in the SEMED region shall provide different challenges, but the experiences and lessons learned in Central Asia will be a useful starting point.

Inclusion. There is scope to improve the equality of economic opportunities for people across the region, through wider and more effective access to infrastructure services. Broader inclusion is needed in many of the EBRD countries of operations, particularly in the SEMED region, to improve the social and political support for market reforms and to generate economic opportunities for all in the medium and long term. Some of the approaches adopted for mainstreaming gender can assist in designing projects that meet the needs of certain vulnerable groups in accessing services, or help these groups to exploit economic opportunities. If during this process, affordability issues are identified for poor and other vulnerable groups, targeted grant funding may be mobilised.

5.4 ENERGY EFFICIENCY AND CLIMATE CHANGE

A core issue. The Bank will continue to incorporate energy efficiency measures in its MEI activities, for example, efficient water pumps and district heating boilers. Leaks from water distribution pipes can be in the 30-50 per cent range and reducing such leaks reduces the volume of water to be pumped and consequently reduces energy consumption. Large potential exists too in the solid waste and urban transport sub-sectors. The Bank's MEI and Energy Efficiency and Climate Change teams are jointly developing innovative approaches towards tackling the efficiency of district heating and domestic energy consumption, especially in Russia (see Annex G). The building stock there is indeed highly energy inefficient – approximately twice as energy intensive per unit as in countries with comparable climatic conditions. This inefficiency is particularly important in public buildings, the majority of which were constructed in the 1960s and 1970s. Regional governments face steadily increasing energy bills for heating and lighting due to rising energy costs, at the same time as facing tougher budget

constraints. For all energy efficiency projects, realistic opportunities for emission reduction monetisation will be pursued through the framework of Joint Implementation and the Clean Development Mechanism.

Innovation. In some countries, the legislation allows public institutions such as municipalities and regions to sign long-term Energy Performance Contracts (“**EnPC**”) with private companies known as Energy Servicing Companies (“**ESCO**”). EBRD will actively support the development of the EnPC market by: (1) providing finance to ESCOs (either directly or through intermediaries); (2) supporting major companies to set up ESCOs, which will initially act as subsidiaries and subsequently be spun off; and (3) assisting regions or cities to develop and implement tenders for EnPCs, to be awarded to private sector ESCOs, starting with public buildings and street lighting. In Russia where the legislation was recently changed to allow EnPCs, EBRD is working alongside the IFC to assist the Russian Ministry of Regional Development to develop financing mechanisms for energy efficiency measures in support of the Government’s Long-term Programme for the Modernisation of the Housing Stock to 2020. Another example is the ‘Green Energy Special Fund’, designed by the Bank and established in 2011 with an up to USD 80 million contribution from Taipei China, intended to provide loans carrying a smart subsidy element in support of the roll-out of advanced energy efficient technology. Operations commenced in 2011 with a street lighting transaction in Chisinau, Moldova.

Adaptation to climate change. Awareness is growing that countries in the EBRD region are vulnerable to the impacts of climate change. Droughts, floods and heat waves, with their associated risks, are becoming more common, together with rising sea levels. In some countries, resilience to climate change has been weakened by decades of poor environmental and financial management. The poorer countries of Central Asia, the Caucasus and SEMED are especially vulnerable. These impacts pose risks for infrastructure, as well as for sectors such as power and energy, and agribusiness. It is therefore important to develop approaches that identify and address climate risks systematically and efficiently. Through its Sustainable Energy Initiative (“**SEI**”), the Bank has already successfully integrated climate change mitigation into its activities. Now, in order to manage the adverse impacts of climate change and to exploit beneficial impacts, the Bank is developing ways of mainstreaming climate change risk assessment and the identification of adaptation measures into its investments.

Box 6. Tajikistan | North Tajik Water Project climate change adaptation

Securing drinking water supplies in the face of climate change impacts on the availability of surface water is a major challenge for the water-stressed countries of Central Asia. In Tajikistan, the Bank is using methodologies developed under a TC project (funded by the UK Department for International Development) and piloted the integration of a climate change assessment and necessary adaptation responses into the feasibility study for the USD 25 million North Tajik Water Rehabilitation Project, signed in 2010. As a result, provision is being made for the construction and rehabilitation of more sustainable and climate-resilient sources of drinking water, which will be supported by a USD 2.7 million grant from the GEF’s Special Climate Change Fund to cover the costs of additional climate resilience measures within the project.

Building on this success, the Bank intends to cooperate with other multi-lateral development banks through a new partnership for climate action in cities. The aim is to better coordinate and deepen support to cities in adapting to and mitigating climate change, through developing a common approach for cities to assess climate risk,

standardise greenhouse gas emissions inventories, and encourage a consistent suite of climate finance options.

5.5 MANAGING PORTFOLIO RISKS IN A CRISIS ENVIRONMENT

Testing environment for MEI clients. The Bank's countries of operations and their local authorities have been deeply affected by the on-going financial and economic crisis. The primary impact was a reduction in revenues, forcing local authorities to cut short-term expenditures, thus delaying critical investment projects and jeopardising the long-term sustainability of local services. While shrinking budgets could be compensated in 2009 by additional borrowings, local authorities were then affected by a secondary impact: debt capacity is usually assessed against the previous year's budget execution, so borrowing in 2010 became constrained due to weak budgetary performance in 2009. These two elements were later compounded by the tertiary impact of bulging national public debt, thus driving central governments to try and limit borrowings by local authorities.

Magnified credit risks. The creditworthiness of EBRD's clients varies enormously and the Bank has well-developed tools to assess credit risk, design appropriate structures and security measures, and price risk. Realised credit risks in the MEI portfolio have been low to date and the quality of the portfolio is good. However, the financial and economic crisis can affect credit performance in various ways. First, demand for services declines, particularly from industry and businesses. Second, political authorities tend to be reluctant to approve tariff increases required for full cost recovery or make full service payments on time during an economic downturn, when the finances of the population and governments are stretched. Third, public revenues tend to lag a recession, so even once the economy does pick up, the positive effects are not felt until the next year. And finally, municipal budgets can be politicised, and consequently budget approval can be delayed and impact payments to municipal utility companies or loan repayments.

Local currency. Local currency financing is very important since most MEI sector clients generate income only in local currency. EBRD has provided local currency loans to municipalities and corporate clients in Kazakhstan, Poland, Romania, Russia and Turkey, and is looking to adopt a similar approach in the SEMED region. However, this approach has shown mixed results because while local currency loans do mitigate exchange rate risk, clients still face interest rate risks with a volatility of interest rate usually greater in local currencies than in Euro or United States dollar. EBRD will therefore seek to evolve local currency instruments and promote them prudently, distinguishing between clients able to apprehend and manage macro-risks and those that should be protected through both currency and interest rate hedging.

Good credit performance to date. Despite market turbulence during recent years, the EBRD's procedures and close monitoring have protected the MEI portfolio, and the Bank has only one impaired MEI asset, a relatively small private sector loan for which adequate security is in place. There are no impaired public sector loans although, as mentioned above, there are occasional repayment delays. As the Bank structures future transactions with limited or non-recourse financing, the Bank will remain vigilant with respect to credit performance.

5.6 MOBILISING CAPITAL IN TIMES OF TURBULENCE

Post-2008 capital shortage. The financial landscape has changed dramatically since 2008 and is expected to evolve still further over the coming years. Issues affecting the supply of capital surfaced rapidly, with many commercial banks curtailing their lending (especially where local banks were subsidiaries of international groups under pressure from the international crisis), bond markets restricting to short to medium term issuances and private investors facing liquidity problems of their own. Mobilising capital from all possible sources for investment in the MEI sector will be a major challenge. Furthermore, commercial banks are increasingly unlikely to provide long-term loans of the nature required by MEI projects. Commercial banks are under increasing regulatory pressure, e.g. the Basel III standards, to match assets and liabilities more closely, especially in terms of tenor, and long-term funding is scarce.

Loan syndication. EBRD successfully syndicated loans in several MEI sub-sectors, notably in Romania, using the Bank's A-loan/B-loan structure. With the onset of the financial crisis, commercial banks refocused their lending strategies in light of the changing risk profile of municipal borrowers, resulting in difficulties with some existing B-loans and in mobilising new commercial co-financing in the sector. It should be also noted that in many countries, the EBRD is one of few institutions that can fund in local currency, hence the more wide-spread denomination of EBRD loans in local currency may hinder their syndication potential. However, syndication over the new Strategy period will be re-emphasised, and will be driven by market confidence and appetite, differentiated by market sector and client. It will focus not only on traditional B-loan structures, but also on parallel financing with commercial banks, notably local banks. In 2011, for example, the Bank mobilised EUR 535 million in commercial co-financing in the MEI sector, of which 95 per cent was through parallel lending with domestic institutions.

IFI co-financing. Extensive IFI cooperation is expected to take place in the new Strategy period with co-financing expanding in light of the continuing capital scarcity in commercial markets. The crisis years have seen growing multilateral cooperation with various IFIs²¹ and national development banks²². This trend is expected to be even stronger in SEMED, where EBRD as a newcomer will seek to learn from other institutions and play a complementary role. The Bank has also undertaken to tap funds established to fight climate change such as the Global Environmental Facility (“GEF”) or the Clean Technology Fund (“CTF”), which could become significant sources of finance at attractive conditions for projects in the climate change sphere.

Innovative financing. Some recent shifts in financial markets seem to be structural in nature. The traditional role of commercial bank lenders in infrastructure finance is expected to continue to diminish as capital and liquidity remain scarce, and return on risk may prove to be unattractive under the new regulatory regimes. In such an environment, innovative approaches will be required to complement the traditional sources of finance. In particular mechanisms that will mobilise parallel funding from

²¹ Including Asian Development Bank, Black Sea Trade and Development Bank, Council of Europe Development Bank, European Investment Bank, International Finance Corporation, Islamic Development Bank, Nordic Environment Finance Corporation, Nordic Investment Bank and The World Bank.

²² Including Agence Française de Développement, Kreditanstalt für Wiederaufbau, Millennium Challenge Corporation, Vnesheconombank, etc.

pension funds, insurance companies and sovereign wealth funds via, for example, project bonds, infrastructure equity and/or debt funds or the development of a private placement market. Revenue bonds offer one possibility, as pioneered in the EBRD region in Poland (see case study below).

Box 7. Poland | Bydgoszcz Water Company revenue bond

Revenue bonds are typically issued by municipal companies or other budgetary entities and rely for their repayment on specifically identified revenue streams. Likely buyers of revenue bonds are investors with long-term investment horizons, such as pension funds and life insurance companies.

The Bydgoszcz water revenue bond proceeds were used to co-finance a PLN 1,041 million long-term capital investment programme in water and wastewater infrastructure, which was one of the first EU environmental projects in Poland. EBRD assisted the municipal company to arrange the financing and subsequently invested EUR 26.4 million equivalent in the bonds.

The Bydgoszcz water revenue bond issue was the first revenue bond transaction in the region and provided an instrument for pension funds to participate in municipal infrastructure financing. EBRD acted as an anchor investor for the issue in 2009 and improved the transaction perception by investors, facilitating a successful financial closing.

5.7 PROMOTING ADEQUATE PRIVATE SECTOR PARTICIPATION

Background. Since 2005, EBRD has financed 19 private sector projects in the MEI sector, with EBRD investment of EUR 716 million leveraging total investment of EUR 2.1 billion. Private sector transactions during that period therefore accounted for 25 per cent of total Bank commitments in the sector. Experience to date has been diverse, with some clear successes (like the district heating privatisation in Poland) and some more difficult cases (like the water concession in Sofia, Bulgaria, which had to be restructured in 2008 with EBRD acting as honest broker). Overall however, private sector involvement has been positive, and the Bank will continue to pursue these transactions when value for money can be demonstrated. In the same vein, the Bank will continue to support the mobilisation of private sector capital and know-how where high standards can be upheld, value-for-money can be delivered and clients are capable of managing contractual arrangements effectively. Various forms of private sector participation can be involved in the MEI sector, namely privatisations, PPPs and outsourcing, representing very diverse business and transition potential.

Privatisations. The Bank has been involved to date in only two cases of initial public offerings or full privatisations in the MEI sector, namely the Tallinn Water Company in Estonia, privatised and later publicly listed out of a series of EBRD transactions in 1994, 2000, and 2002, and the Istanbul Ferries privatisation in Turkey, signed in 2011. While future privatisation transactions can be envisaged, this approach is not expected to represent a major part of EBRD's activities in the forthcoming period and private sector participation is more likely to take other forms.

Public Private Partnerships. PPPs in their various legal structures will continue to be an important means of engaging the private sector in the development of municipal infrastructure and services, with the primary focus being on public transport, parking, solid waste, district heating, water and wastewater. In practice, PPPs are more likely to be pursued by public authorities in locations where grant funding for public sector investment in infrastructure is not available. Beyond these traditional sub-sectors, there are demands in some countries (notably Russia, Turkey and in the SEMED region) for

PPP financing related to facilities construction and management in public infrastructure. Typically these projects aim to attract private know-how and capital to expand the capacity and quality of public services in the face of growing needs but scarce government resources. The Bank will consider financing such PPPs where they are consistent with the EBRD's mandate and the Bank can demonstrate sound banking criteria, robust transition impact and proven additionality.

Outsourcing. Services outsourced to the private sector using performance-based contracts offer a promising structure for the forthcoming Strategy period. Such contracts indeed allow entities to mobilise private sector expertise and share risk while avoiding the legal complexity of fully fledged concessions and the political hurdles involved in public assets transfer. The approach is applicable across the various MEI sub-sectors, for example: performance-based street rehabilitation and maintenance; EnPCs signed with ESCOs for energy efficiency or street lighting investments; water leak detection; etc. Outsourcing also allows a relatively broad range of potential contractors, including small and medium enterprises (“SME”), both international and local. The Bank already has experience of working with local SMEs, e.g. for bus services, but other opportunities could arise in areas such as street maintenance, meter reading, leak detection, and solid waste collection, sorting and recycling.

Need for selectivity. While private sector participation is a major objective, it needs to be managed in an adequate way to ensure that high standards are upheld. Such projects can be supported by the Bank with TC, either stand-alone or associated with an EBRD public sector project, assisting the public client in the structuring of an effective project. Continuing vigilance will be required to ensure open competition, avoid corruption and promote fair and balanced contracts, particularly where municipalities and their staff have little experience with private sector participation. EBRD has well-established procedures and policies to screen proposals and focus its resources on likely successes. However projects involving private sector participation will remain challenging and resource-intensive because:

- Intense policy dialogue is generally required in order to put in place a legal environment that will support substantial private investment in public infrastructure for the long-term;
- Compliance with the best practice requirements under the Bank's Policy for the Financing of Private Parties to Concessions²³ can be problematic in the sector;
- Lead times are long because of tendering requirements, and the need to achieve fair and balanced contracts between the public and private partners;
- The costs of financial, legal and technical advisers are considerable; and
- Even if the Bank commits staff and TC resources to support a PPP tendering process, the preferred bidder may ultimately not choose EBRD financing.

Despite these constraints, the development of PPPs, where value for money can be demonstrated, will remain an aim in all EBRD countries of operations.

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²³ <http://www.ebrd.com/downloads/procurement/concess.pdf>

THE NEW FRONTIERS | KEY MESSAGES

THE EBRD AIMS TO PENETRATE DEEPER INTO CHALLENGING PARTS OF ITS REGION, NOTABLY IN THE ETC AND RUSSIA, AND WILL START OPERATIONS IN SEMED IN CASES WHERE THE BANK HAS A COMPARATIVE ADVANTAGE.

THE BANK INTENDS TO: FURTHER DEVELOP WAYS TO REACH SMALLER COMMUNITIES; RAISE AWARENESS OF SOCIAL ISSUES AND PROMOTE STAKEHOLDER INVOLVEMENT. IT WILL ALSO ASSIST ITS CLIENTS ACROSS THE REGION TO ADAPT TO CLIMATE CHANGE AND HELP MAKE THEIR INFRASTRUCTURE AND SERVICES MORE 'CLIMATE-RESILIENT'.

EBRD WILL ALSO FOCUS ON PROTECTING ITS PORTFOLIO QUALITY AND MOBILISING CAPITAL FOR CREDITWORTHY CLIENTS, EVEN UNDER CHALLENGING CIRCUMSTANCES. THIS WILL INCLUDE THE PROMOTION OF ADEQUATE PRIVATE SECTOR PARTICIPATION TO ATTRACT CAPITAL AND KNOW-HOW IN PROJECTS ACROSS THE MEI SECTOR.

6. OPERATING PRIORITIES AND TOOLS

The new Strategy is expected to guide the Bank's MEI operations for a period of five years from the date of its approval by the EBRD Board of Directors.

6.1 SECTORAL FOCUS

Demand-driven approach. Bank activities in the sector will continue to be demand-led and based on needs assessments carried out by clients or during due diligence. New transactions each year will result from balancing client requests, market requirements, anticipated transition opportunities and risks, geographical spread and institutional relationships. The market is very volatile and a relatively high proportion of potential signings are lost at an advanced stage of project preparation, due to a variety of political and other reasons. Indeed while needs are very large in the EBRD region and project ideas abundant, the number of bankable projects with reform-minded counterparties that can deliver transition is relatively limited.

Business steering. In sectoral terms over the forthcoming Strategy period, activities in the water and wastewater sub-sector are expected to continue at about the current level in terms of annual business volume, but to diminish in percentage terms as the Bank will do relatively more in other sub-sectors. Urban transport lending is expected to grow further in response to strong market demands. Energy efficiency investments will grow not only in the district heating sub-sector but also in other areas as the EnPC/ESCO model is being proven and rolled out. A particular challenge for the new Strategy period is solid waste management where the Bank will endeavour to sign a greater number of projects (while project size may be small). The Bank will also consider demands for PPP investments in facilities management, provided projects meet the Bank's mandate and operating criteria. For each MEI sub-sector, operating priorities and sustainability goals are detailed in Annexes C, D, E, F and G.

6.2 GEOGRAPHIC SPREAD

Potentially large transition impacts can be envisaged notably in South-Eastern Europe, Eastern Europe, the Caucasus, and Central Asia. This section sets out some broad indications of the likely geographic distribution of MEI operations over the new Strategy period, subject to annual business planning.

Central Europe and Baltic States. Thanks to past progress, the transition challenges in this region are now generally 'small' (Annex B). There are country/sector cases where EBRD projects can still assist the transition process, particularly advanced project structures or financing instruments, private sector led delivery of investments in energy efficiency and utility service provision (e.g. ESCOs), and in some cases sub-sovereign lending. Depending on market conditions, some relatively sophisticated transactions may be possible during the new Strategy period.

Other areas of potential investment are largely related to EU grants. When Croatia becomes a member of the EU in 2013, EBRD may co-finance alongside EU instruments there too. The Bank will seek to leverage grant funds and try to replicate the Romania water co-financing framework, where Bank funds are blended with EU Cohesion Funds. Another tool being investigated is a municipal infrastructure fund, with Bank resources

being blended with grant allocations, to be accessed by small municipalities with limited borrowing capacity.

South-Eastern Europe. This remains a relatively immature market in comparison with some other regions. Infrastructure needs are immense. The Bank will continue to work in the main cities and also address the needs of secondary cities. This will be challenging since the latter's creditworthiness and debt capacity are generally low. In Romania and Bulgaria, EBRD will continue to support EU Cohesion Fund projects to build on existing transition. Energy efficiency, market-based or private sector based urban road rehabilitation, and support for district heating companies, will be key priorities in these countries.

There remains an appetite for PPPs, despite the limited success in this region and the difficult market conditions. This approach will remain the mainstay of engaging the private sector. The Bank will continue to support municipalities wishing to tender viable PPPs, even though the process is resource-intensive and there is no guarantee EBRD finance will be chosen by the preferred tenderer. Activity is expected to cover a broad range of sub-sectors including parking, transport terminals, water and solid waste.

TC will remain an important tool to support reform, both for commercialisation and implementation capacity. This will become even more important given the envisaged shift to the secondary cities, where institutional weaknesses are more acute. The EU's Western Balkans Investment Framework is expected to remain a key source of funds.

Turkey. The Bank's activities in the MEI sector are growing steadily in Turkey leading to four signed projects in 2011, including the first EBRD sub-sovereign, local currency, fixed rate loan to a small municipality. There is a large need for improved municipal infrastructure and services and, with a growing economy and population this need will continue to grow. Turkey is a relatively mature market with many active IFIs with a long history. Iller Bank, the state-owned bank for local governments, also provides subsidised loans and channels grants from the state. Local commercial banks currently have modest municipal portfolios, but there is a growing interest in extending financing for those needs not met by state grants, Iller Bank or IFIs. The EBRD is positioning itself by supporting PPPs and non-sovereign lending in secondary cities. Encouraging sound banking principles, and local ownership and control of capital projects, is seen as a commonality of the state, local governments and the EBRD. Affordability is not a major issue in the metropolitan and larger tertiary cities, where there is a culture of paying for services and cost-recovery is high. However, corporatisation of service delivery remains an important transition challenge as does project delivery in small or remote municipalities. PPPs and privatisations have been a major theme in the initial years of operation and are expected to continue thanks to investor interest and available funding. The Bank will seek to support this process.

Eastern Europe and the Caucasus. The Bank has a relatively large presence in Georgia, with a distribution of water projects across the country. Other IFIs have recently extended large loans, which has reduced EBRD's scope in Georgia while the new funds are absorbed. EBRD MEI activity is growing in Armenia, with a portfolio similar in reach and scope to that of Georgia. In Moldova, the challenges are the small size, difficult local economic conditions and high levels of debt, which have constrained activity for some years. However, operational activity has increased recently with the use of structures such as smaller non-sovereign loans secured against ring-fenced revenues, or potential PPPs for the smaller municipalities. In Belarus, EBRD is engaged

alongside other IFIs and donors in wide-ranging policy dialogue on tariff reform, as a condition of executing investment projects in the environmental sector.

In Ukraine, the Bank will continue financing investments across all municipal sub-sectors. The key themes include: (1) financing energy efficiency and environmental investments, in particular in the context of the Energy Efficiency and Environment in Eastern Europe Partnership, (2) continuing to support commercialisation of municipal utilities and enterprises, (3) supporting PPPs and private sector involvement in the provision of municipal services, (4) working on innovative approaches to improve energy efficiency in buildings through EnPCs and ESCOs or involving private housing maintenance companies to finance energy efficiency measures, (5) developing new products and intermediated facilities to reach out to small and mid-sized municipalities. Where the preferred sub-sovereign financing model is not practicable for structural or credit reasons (including large infrastructure projects which are regional in nature or not affordable for the local communities), the Bank will consider sovereign financing.

Russia. The Bank will continue to offer its decentralised financing products across all sub-sectors and regions of Russia. There is immense scope to improve the energy efficiency of street lighting, public and residential buildings, and the Bank is working on innovative approaches using EnPCs and ESCOs and involving private housing and building maintenance companies (see Annex G). The Bank will consider financing urban and regional transport infrastructure and services (including e-ticketing), suburban transport, traffic management systems, urban and regional roads. There is potential to invest in urban development infrastructure to facilitate housing construction by the private sector. The Bank will pursue suitable PPPs and other structures involving the private sector to reach out to small municipalities and ‘mono-cities’ through integrated investment programmes covering all buildings as well as engineered infrastructure in a settlement. In the solid waste sector, the Bank will consider the use of waste-to-energy and waste-to-heat technologies, and the use of biomass for heating.

The Bank also aims to offer new products, including funded and unfunded risk-sharing instruments with Russian commercial banks, allowing EBRD to mobilise domestic co-financing or reach out to smaller municipalities through an intermediated facility. The Bank will continue to work with municipal and regional utilities and multi-utility companies as well as with private operators. EBRD will continue with full regional and municipal guarantees where appropriate, but will seek to move towards partial guarantees, support agreements and other security as creditworthiness improves.

Kazakhstan. The focus will be on investments that bring operational and financial improvements, including energy efficiency and improved environmental standards. The EBRD will continue with project support agreements with the Kazakh municipalities, due to their legal inability to borrow or guarantee third party debt. The Bank will look to assist eligible municipalities with bond issuances to finance priority infrastructure projects. In parallel, the Bank will provide input to the government’s plans for reforming the municipal sector. As part of policy dialogue and institutional development, the EBRD will support the government’s efforts to develop alternative mechanisms for project financing. To this end, the Bank will continue its support for the preparation of PPPs (both in Almaty and secondary cities). The Bank will also assist the government with implementation of new waste management standards through TC.

Central Asia ETC. The key themes are likely to include: (1) financing water supply improvements and wastewater collection and treatment in capital cities and secondary

municipalities to restore reliable, sustainable and climate-resilient service levels; (2) supporting cities to restore or improve public transport services with both public sector and private sector providers; (3) responding to the growing awareness among local authorities of the need for sustainable solid waste management with core investments required in landfills combined with campaigns to reduce, reuse and recycle waste; (4) seeking out energy efficiency projects in district heating, particularly in those countries more heavily dependent on energy imports. The Bank will try to streamline operations through multi-city or multi-sector projects. It will also seek to establish long-term partnerships with grant providers so as to facilitate project planning.

Southern and Eastern Mediterranean. The Bank is defining its SEMED strategy and identifying opportunities, and therefore the pointers given in this document are preliminary and will be elaborated during the Strategy period. The EBRD will commence operations with policy dialogue and TC support to encourage the decentralisation of responsibilities to the local level, the commercialisation of operating entities and capacity building in selected municipalities. These elements could be important drivers supporting the democratisation and inclusion agenda in those countries. The Bank will focus on enabling sub-sovereign financing of services and on PPP opportunities. However, experience elsewhere has shown that an initial sovereign operation is sometimes needed as a means of demonstrating the Bank's commitment, opening the path to meaningful policy dialogue, and initiating essential changes to legal structures and administrative arrangements.

Early indications suggest that in Egypt there are large, short-term needs in the water and wastewater sub-sector and there could be PPP opportunities in due course in transport, solid waste and other infrastructure. In Jordan, the Bank will explore non-sovereign opportunities in all MEI sub-sectors (e.g., with the city of Amman and public water utilities). Morocco is pursuing the regionalisation of municipal infrastructure as well as several PPP projects on a medium-term horizon, while immediate opportunities include working with the state-owned water and wastewater company. In Tunisia, the Bank will investigate the scope to finance municipalities such as Tunis and will explore sovereign and non-sovereign financing of state companies. In view of the specifics of the SEMED countries, the Bank's MEI portfolio in this region could turn out to be quite different to those in other EBRD countries of operations.

6.3 POLICY DIALOGUE

Approach. The Bank will continue to promote reforms that advance transition and specifically address the challenges set out in Annex B. This will be based on two approaches: (1) project-based policy dialogue on an *ad hoc* basis, in line with existing practices, and (2) selected topics where deeper involvement may be warranted in the context of 'Integrated Approaches' that address key reform challenges. EBRD will continue to develop and adapt its 'Integrated Approach', in which the Bank agrees with the client a framework programme of investments and policy reforms that the partners agree to follow together through a sequence of projects over the medium-term. This approach enables the client to plan its sectoral investments more confidently and the Bank to support transition in measured steps over an appropriate duration rather than on a single project basis. The Integrated Approach has been used in Belgrade, Serbia, Almaty, Kazakhstan, and in Tajikistan, and will be rolled out in other locations.

Some concrete examples. Some of the candidates for policy dialogue work to be undertaken during the new Strategy period include:

- improvements in the PPP framework in countries where the authorities understand and are willing to pursue PPP solutions, and the economies are mature enough to sustain PPPs;
- demand-side energy efficiency in Russia and Ukraine, with the aim of establishing private sector ESCOs to finance and operate energy efficiency investments under EnPCs;
- a comprehensive reform programme for district heating in Ukraine, including tariff reform to achieve full cost recovery and incentivise investment, as well as introduction of a standard public service contract across the country;
- corporatisation of utility services to enhance commercialisation and improve investment and performance prospects in Turkey and the SEMED countries; and
- promotion of the low carbon agenda, through both policy and project activities around renewables, green urban transport, energy efficiency and waste management.

Creation of an environment in which PPPs can thrive requires the conjunction of many factors. Political will is a pre-requisite, together with a real desire to see market-based investment, rather than being dependent on grant funding. Very often substantial work is required to adapt the legal framework, especially with respect to tendering, investor rights, dispute resolution and so on. And since PPPs require public employees to act in a commercial manner, staff recruitment and training are key elements in building a successful public sector client organisation. EBRD can potentially help clients with all these aspects, through the knowledge of Bank staff, by mobilising advisers through TCs, or by putting new clients in contact with Bank clients that have successfully implemented a PPP. Time scales tend to be long and the process resource-intensive. EBRD is engaged in such policy dialogue in Kazakhstan, Russia and elsewhere.

Where a new approach offers major benefit in terms of improving people's lives, advancing transition and addressing the climate change agenda – as in the case of energy efficiency through ESCOs and EnPCs (see Annex G) – the Bank will invest resources in order to create an appropriate national policy framework that will enable local, national and international players to deliver the desired investments and encourage behavioural change.

Pre-requisites. Securing successful outcomes in policy dialogue initiatives requires strong commitment from the relevant authorities and stakeholders in the country. The Bank will consider investing substantial resources in policy dialogue when and where support and approval from the national and local authorities are secured.

6.4 FINANCING INSTRUMENTS

Gradual approach. The Bank has established a successful trajectory for financing municipal infrastructure and services, and bringing clients to the point of being able to access commercial funds in the market. The transition process starts when the Bank enters the MEI sector in a given country, typically by extending a sovereign loan for on-lending to local entities. The sovereign loan lends weight to policy dialogue at both national and local levels, finances urgently needed investments, enables EBRD to help frame an appropriate legal framework to support decentralisation and fiscal reform, and

positions EBRD as a reliable, long-term partner. Once the legal framework is in place, EBRD can shift to sub-sovereign lending to municipalities and municipal companies with a municipal guarantee. Thereafter, the Bank and its clients can move on to partial or non-recourse corporate lending to municipal enterprises with a support agreement or public service contract. At some point along the path, private sector investment becomes feasible, whether through a PPP, a concession or some other structure. The exact path may vary from place to place, but the long-term transition is a shift from dependency on central government to an ability to raise commercial funds and deliver local services efficiently on a long-term, sustainable basis.

Range of instruments. The Bank will continue to offer a broad range of financing instruments, including sub-sovereign loans, corporate debt, equity, quasi-equity or junior debt, guarantees, targeted credit lines and local currency financing where feasible. MEI sector sovereign financing is minimal, but the option will be retained for rare cases where financial engagement with central government is necessary to influence and effect major sector reforms. The Bank will continue to use framework structures to reach out to smaller communities and smaller investment projects, and the ‘Integrated Approach’ to stage investments in support of transition objectives over the medium-term. EBRD financing to public sector clients will continue to be supported by the professional inputs from EBRD staff and by TC and investment grants, where appropriate.

The Bank will continue to offer relatively sophisticated instruments, notably in support of PPPs, but market appetite is weak and EBRD will bide its time until confidence recovers and clients, authorities and investors are willing and able to pursue and reach financial close for PPPs and other sophisticated project structures.

EBRD will continue to position itself in relation to local commercial banks in each country, depending on prevailing market conditions. Pricing is expected to remain a key factor.

Selective grant involvement. The Bank designs and implements projects that have high transition impact through building the capacity of regulators, local authorities and corporate providers (public and private), and enabling those providers to mobilise market-based finance to invest and provide services that consumers want and are willing to pay for. Environmental and social issues are also central to project design. Where the costs of infrastructure investment are higher than the local population can afford – because of a legacy or an external requirement to meet standards higher than the population can afford (e.g., EU norms) – the Bank works with donors to mobilise grant funding.

6.5 IFI AND EU COOPERATION

Financing cooperation. Since 2004, the Bank has considerably increased its cooperation with other IFIs, in the context of donor funded efforts (e.g., the NDEP and E5P instruments), through memoranda of understanding (with EIB and ADB), or via a common focus on certain areas (e.g., the Deauville Partnership for SEMED involving AfDB, EIB, IsDB, World Bank/IFC and others). By extension, cooperation is also developing with bilateral financial institutions such as AFD or KfW in sectors or countries of common interest. This trend is expected to continue in years to come as the financial crisis dents the volumes of commercial bank lending and constrains public and private investment. EBRD will seek to share experience with its peers, focus where it

has a comparative advantage, and coordinate efforts with others, to ensure complementarity.

EU cooperation. EBRD cooperates closely with the EU and its different instruments (WBIF, NIF, IFCA, Cohesion Fund) in many different ways ranging from policy dialogue through project preparation to co-financing. The Bank will continue to work with the various EU funds and expand joint operations where countries of operations of the Bank become eligible for new funding sources (e.g. as in the case of Croatia). The Bank has also joined forces with the EU and the EIB in the partnership for Joint Assistance to Support Projects in European Regions (“**JASPERS**”) mobilising technical expertise to facilitate the preparation and approval of EU Cohesion Fund applications by recipient countries. This joint effort is expected to accelerate the absorption of EU Structural Funds, resulting in earlier compliance with EU directives.

6.6 INVESTMENT GRANTS

The EBRD will pursue primarily its mandate for commercial lending and investment grants will only be used in line with EBRD priorities and guidelines (such as those developed for the EBRD SSF) to address market failures (‘externalities’)²⁴ in those countries or market circumstances where commercial instruments are not fully feasible.

Affordability and International Monetary Fund constraints. Whereas infrastructure and equipment costs vary relatively little from one country to another, local income levels available to pay for services and investments vary significantly. Annual per capita GDP ranges across the EBRD region from USD 820 in Tajikistan up to USD 22,850 in Slovenia²⁵. Even within countries, the income gap between the capital city and smaller cities can differ widely. In lower income areas, the Bank has to address an issue concerning affordability as many members of the community may not be able to afford the full cost-recovery tariffs needed to finance investments in utilities that meet high environment, health and safety, climate resilience and service standards. Also in some countries, International Monetary Fund (“**IMF**”) conditionality in respect of public debt requires a minimum level of concessionality for international finance.

Investment grants blended with EBRD loans are therefore particularly important in regions such as the ETC and the Western Balkans in order to reduce the need for substantial tariff increases that would otherwise be required to repay a fully loan-financed investment. Such grants from donors and the SSF will continue to play a vital role in enabling the Bank to deliver projects that improve standards, meet climate adaptation objectives and manage affordability and poverty issues, while delivering transition by gradually introducing cost recovery principles.

²⁴ Externalities are spill-over costs (or benefits) arising in the production or consumption of goods (e.g. energy) which markets fail to price. The externality is defined as the difference between the social cost (benefit) imposed on the society in the course of consuming/producing a good or service and the private cost (benefit) paid by the beneficiary of the good. The prime example is the environmental externality arising in the use of fossil fuels where CO₂ emissions associated with burning fossil fuels generate an additional cost (through climate change) that the consumers of the energy derived in the process do not pay for through standard energy pricing in a market setting (i.e. the absence of carbon pricing or carbon taxation).

²⁵ In current USD, source: World Bank World Development Indicators.

Associated transition agenda and selective use of capital grants. Since the financial self-sufficiency of local organisations is a key goal, great care is taken to combine grants with market reforms, to avoid the emergence of a culture of subsidy-dependency which in the long run is incompatible with a market-based system. To this end, the Bank has developed guidelines that minimise the risk of distortions and unsustainable practices when using investment grants in environment and energy efficiency projects. The guidelines aim to ensure that grant use is consistent with a longer-term, market-based allocation of resources, does not crowd out commercial financing and leverages reforms that would not otherwise be achievable without such grants. The Bank is also endeavouring to develop where possible ‘smart’ subsidy schemes that link grant contributions to outcomes such as CO₂ emission reductions.

Typically, in countries where most of the population can afford cost-recovery tariffs alongside vulnerable groups that cannot, the Bank recommends that welfare support should be provided directly to vulnerable groups rather than low tariffs for all consumers be set. On the other hand, in less advanced countries in transition where cost recovery tariffs are a more distant goal, an intermediate step towards sustainability involves adopting tariffs reflective of operating and maintenance costs in the context of commercialised practices, while co-financing a large portion of investments using donor investment grants. Full cost recovery would only be sought at a later stage once the financial standing of the utility has improved and affordability constraints have loosened.

Quantum and the need for sustained donor support. The EBRD envisages a need for grant and concessional resources in the order of EUR 25-30 million annually over the new Strategy period if the Bank is to continue investing in the MEI sector in lower income countries. In a climate of austerity, the Bank will prioritise investment grant allocation to ensure funds are used in line with Bank operating principles and grant use guidelines. Subject to these principles being met, the Bank will track donors’ priorities and budget constraints to secure predictable sources of grant co-financing and be able to prepare and implement projects efficiently. Particular attention will be paid to ensuring donor visibility and upholding high standards of monitoring and reporting. Depending on the project and its characteristics, potential donors will continue to include bilateral donors, the EU, the SSF and other sources, including climate finance mechanisms for both mitigation and adaptation.

6.7 TECHNICAL COOPERATION

Selective use of TC grants. Where the Bank applies more sophisticated financial structures and instruments, significant TC support is generally required to achieve targeted reforms or promote policy dialogue. TC can also play an important role in facilitating efficient procurement and timely disbursements. Over the Strategy period, the Bank and its clients will continue to seek the support of donors for TCs. However, the Bank is well aware of the scarcity of donor funds and therefore the need to use TC prudently. The Bank will seek economies of scale in structuring TCs (through project clustering or the development of local implementation capacity) and, where feasible, will promote cost-sharing by clients to demonstrate their commitment to, and ownership of TC, and also foster sustainability in the sector. As with investment grants, priority will be given where there are clear links to country strategies, strategic initiatives, transition and climate-related measures.

Quantum. Overall, the Bank envisages a need of TC funding in the order of EUR 25 million annually over the new Strategy period in order to maintain MEI business and transition progress at about the current rate.

6.8 MEASURING AND MONITORING PROGRESS

The Bank intends to monitor performance against the three over-arching sector challenges set out in Section 3 above, namely: (1) providing essential services in areas with very different demographics; (2) fostering transition to a market economy, in order to create sustainable organisations, infrastructure and services; and (3) making more efficient use of energy and advancing climate change adaptation and resilience.

The Bank has well-established procedures to monitor and report on financial, covenant and transition performance. In future, the Bank will also monitor and report on some physical indicators in order to track how its investments are achieving the anticipated improvements in services and living conditions. However, a balance must be struck between placing additional reporting burdens on clients, with associated costs, and stakeholders' desire for more information. On a project-by-project basis, the Bank will seek to report on two physical indicators, which may include:

- the number of people impacted by a project;
- the anticipated CO₂ reductions; and/or
- a sectoral indicator such as water loss targets, public transport ridership or the number of district heating customers who are metered.

The proposed indicators will be included in project summary documents and the data will be reported at the implementation completion stage.

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OPERATING PRIORITIES AND TOOLS | KEY MESSAGES

EBRD ACTIVITIES IN THE MEI SECTOR WILL CONTINUE TO BE DEMAND-LED. SIGNPOSTS TOWARDS THE LIKELY DISTRIBUTION OF ACTIVITIES ARE SET OUT DEPENDING ON THE SPECIFIC CIRCUMSTANCES OF EACH REGION.

AS THE EBRD PENETRATES DEEPER INTO AREAS WITH MAJOR TRANSITION CHALLENGES, THE BANK'S ABILITY TO DO BUSINESS IN THE MEI SECTOR IN THESE AREAS – AND ACHIEVE TRANSITION IMPACT AND CLIMATE-RELATED GOALS – WILL DEPEND ON THE AVAILABILITY OF ADEQUATE TECHNICAL COOPERATION AND THE JUDICIOUS USE OF INVESTMENT GRANTS WHERE MARKET FAILURES (EXTERNALITIES) MUST BE ADDRESSED.

IN A PERIOD OF AUSTERITY, PRIORITY WILL BE GIVEN WHERE CLIENTS ARE COMMITTED TO DELIVERING TRANSITION, AND WHERE CLIMATE CHANGE MITIGATION AND ADAPTATION MEASURES CAN BE IMPLEMENTED SUCCESSFULLY.

A WIDE RANGE OF FINANCING INSTRUMENTS WILL BE USED IN LINE WITH MARKET TRENDS, AND CO-FINANCING WITH OTHER IFIS WILL REMAIN IMPORTANT TO LEVERAGE THE BANK'S ACTION.

THE BANK WILL DEVOTE MORE ATTENTION TO MONITORING PHYSICAL IMPACTS AND THE DIFFERENCE MADE TO PEOPLE'S LIVES. THE BANK WILL COMPARE AND REPORT ON OUTCOMES PROJECTED AT PROJECT APPROVAL STAGE WITH ACTUAL OUTCOMES FOLLOWING IMPLEMENTATION.

ANNEXES

ANNEX A – EVALUATION OF THE 2004 MEI POLICY

ANNEX B – TRANSITION

ANNEX C – WATER AND WASTEWATER

ANNEX D – URBAN TRANSPORT

ANNEX E – DISTRICT HEATING

ANNEX F – SOLID WASTE

ANNEX G – ENERGY EFFICIENCY AND CLIMATE CHANGE

ANNEX A – EVALUATION OF THE 2004 MEI POLICY

In 2009-10, the Bank’s Evaluation Department carried out a special study of the 2004 MEI Policy with the assistance of an independent consultant and reported to the EBRD Board of Directors in May 2010. The Study recommendations and the responses are summarised in the table below:

Table 2. Summary of EvD study recommendations and responses

Recommendation	Response
Update strategy to reflect changes in the Bank’s focus (including focus on public buildings).	<i>Update completed. A new approach using a corporate structure involving private sector ESCOs is proposed in this Strategy to address energy efficiency issues in public buildings (see Annex G).</i>
There are trade-offs between a broader, multi-sub-sector approach and a more focussed approach. Doing many similar projects in several countries may offer synergistic effect.	<i>The distribution of projects will be driven by client demands and transition impact ratings methodology.</i>
As the Bank moves east [and now to SEMED], the strategy may need to be more nuanced by country/region.	<i>The new Strategy is nuanced by region as outlined in Section 6.1.</i>
With the Bank’s increased focus on energy efficiency, MEI should expand into improving energy efficiency in housing and municipally-owned buildings.	<i>The Bank intends to expand in these areas using EnPCs delivered by private sector ESCOs (Annex G).</i>
TC has proven to be a valuable component of MEI projects. More targeted TC in support of basic municipal infrastructure would further enhance the work of the Bank.	<i>The use, role and demand for TC are set out in Section 6.6.</i>
The MEI Policy is defined by the MEI Team’s client, municipalities, whereas most Bank Policies/Strategies are defined by a sector. Client focus maybe a constraint on the Team’s capacity to be more private-sector focused.	<i>This document sets out an EBRD Strategy for the MEI sector. Transactions are of course client-focused and this approach enables the Bank to work with both private and public sector clients. Under present arrangements, any industrial wastewater investments would logically be lead by the Bank team holding the client relationship management role, and this would typically be an EBRD team other than MEI for industrial clients.</i>
MEI should expand on the proposed LogFrame and develop a clearly articulated set of strategic objectives, expected outputs, and required inputs at the sector level.	<i>This document sets out strategic objectives and refers to the required TC and capital grant inputs. While LogFrames may be useful in certain circumstances at the project level, it is not the aim of this document to carry out business planning for the MEI team or to frame individual projects.</i>

Recommendation	Response
The MEI Team should develop a clear Policy Dialogue/Menu document.	<i>The MEI policy agenda is set out in the main text. Bankers aim to design projects, in consultation with OCE, to address policy and transition issues specific to each situation.</i>
The strategy should provide clarity on what is expected to achieve High Transition Impact, A clearly articulated score sheet should be included in the updated Strategy.	<i>Elements contributing to high transition impact are included in Annex B. A mechanistic scoresheet is not advocated by either the MEI team or OCE since flexibility is required to judge and assess projects sensitively in complex and sometimes changing environments.</i>
The Team should use project monitoring to develop case studies demonstrating positive results. Case studies can be used to promote ‘demonstration projects’.	<i>The MEI team intends to monitor some physical impacts as well as other impacts, and to generate more case studies.</i>
Improving data collection enhances the capacity of a utility to improve performance. EBRD should build better data collection into the projects.	<i>The MEI team will in future endeavour to facilitate better data collection.</i>

Except for solid waste, where the sample was small, the EvD Study found that MEI projects met or exceeded the average performance for Bank projects overall (see table below):

Table 3. Overall EvD ratings of investment projects in the MEI Sector

MEI Sector (OPERS and XMRs)	Un-successful	Partly Successful	Successful	Highly Successful	Total Evaluated	% of projects evaluated as Successful or Highly Successful
Water and Sewage	0	8	12	2	22	64%
Urban Transport	1	2	4	0	7	57%
Solid Waste Management	1	1	0	1	3	33%
District Heating	1	0	2	1	4	75%
Housing	-	-	-	-	0	-
Other	-	-	-	-	0	-
Total	3	11	18	4	36	61%

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ANNEX B – TRANSITION

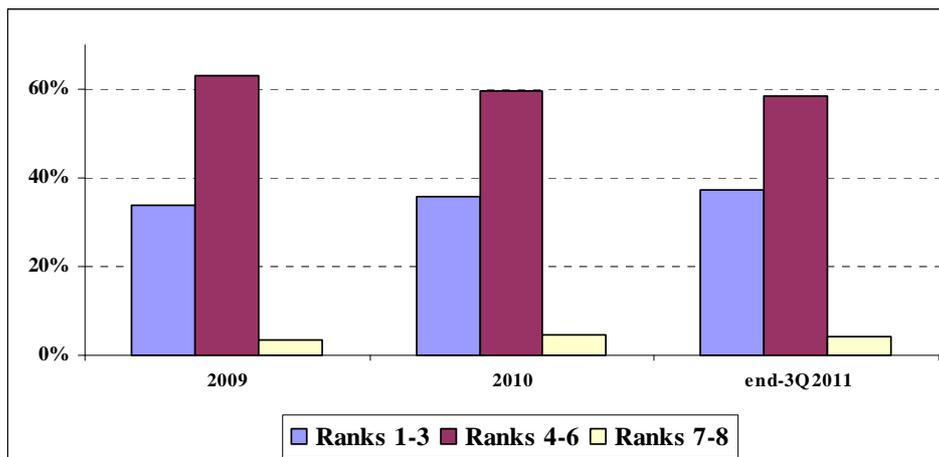
B.1 OVERALL ASSESSMENT

Transition challenges. The Bank’s OCE assesses operations in terms of the structure and extent of markets, the institutions and policies that support markets, and market-based behaviour patterns, skills and innovation. In the MEI sector, ‘market structure’ captures progress with decentralisation, corporatisation, commercialisation and utility performance, competition and private sector participation. ‘Market-support’ captures tariff reform, contractual arrangements, institutional and regulatory development. ‘Market-based behaviour’, for public and private sector clients alike, captures standards of management, procurement, marketing and financial skills and performance, the transfer of managerial and business standards, credit enhancement, and compliance with international standards of procurement, environment, health and safety.

Transition impact performance. As of the end of September 2011, 96 per cent of 120 active MEI operations under implementation²⁶ had a ranking in the range of ‘1’ to ‘6’ according to the Bank’s Transition Impact and Monitoring System (“TIMS”)²⁷.

Average rank of the active TIMS portfolio at end-2011Q3 stood at 4.11, better than the Bank’s target of 4.15 for 2011. The figure below shows that the portfolio has performed well over the last three years, with the share of projects that ultimately delivered transition results ranked 1-3 gradually increasing. In the first three quarters of 2011 alone there were 28 upgrades in TIMS rank and only four downgrades. Seventy projects (58 per cent) were on track and 45 operations (37 per cent) had mostly achieved their desired transition impact. Five operations had not yet achieved their envisaged transition impact and the risks to achieving the envisaged impact had increased significantly to ‘Excessive’ due to substantial delays in implementation.

Figure 5. TIMS rank distribution of active operations at end 2011Q3



26 i.e. at least six months since signing and are monitored for their transition impact at least once.

27 Rank is a combination of the relevant rating for transition impact potential and risks to transition impact. Expected transition of operations is usually monitored once a year and is ranked numerically from 1 to 8, with 1 to 3 indicating the mostly realised impact, 3 to 6 – generally on track to achieve transition objectives, and 7 to 8 – minimum transition impact or excessive risks.

The status in the water and wastewater and urban transport sub-sectors is summarised in the table below.

Table 4. Transition Challenges in Water and Wastewater and Urban Transport²⁸

Country	WATER & WASTEWATER			URBAN TRANSPORT		
	Market Structure	Market Supporting Institutions	TI score 2011	Market Structure	Market Supporting Institutions	TI score 2011
Central Europe & the Baltics						
Croatia	Medium	Small	3+	Medium	Small	3+
Estonia	Negligible	Small	4	Small	Small	4-
Hungary	Small	Small	4	Medium	Small	3+
Latvia	Small	Small	3+	Small	Small	4-
Lithuania	Medium	Small	3+	Small	Small	4-
Poland	Small	Small	4-	Small	Small	4-
Slovak Republic	Medium	Small	3+	Medium	Small	3+
Slovenia	Small	Small	3+	Small	Small	3+
Southeastern Europe						
Albania	Large	Large	2+	Medium	Large	3-
Bosnia & Herzeg.	Large	Large	2	Medium	Large	2+
Bulgaria	Medium	Small	3	Small	Small	3+
FYR Macedonia	Large	Large	2+	Medium	Large	3-
Montenegro	Large	Large	2	Small	Large	3
Romania	Medium	Small	3+	Small	Small	3+
Serbia	Large	Large	2+	Medium	Large	3-
Turkey						
Turkey	Medium	Medium	3	Small	Small	3+
Eastern Europe & the Caucasus						
Armenia	Medium	Medium	3-	Large	Medium	2+
Azerbaijan	Large	Large	2-	Large	Large	2
Belarus	Large	Large	2-	Large	Large	2
Georgia	Large	Large	2	Large	Large	2+
Moldova	Large	Large	2	Medium	Large	3-
Ukraine	Large	Large	2+	Medium	Large	3-
Russia						
Russia	Medium	Medium	3-	Small	Medium	3
Central Asia						
Kazakhstan	Large	Large	2+	Medium	Large	2+
Kyrgyz Republic	Large	Large	2-	Medium	Large	2
Mongolia	Large	Large	2	Large	Large	2
Tajikistan	Large	Large	2	Large	Large	2
Turkmenistan	Large	Large	1	Large	Large	1
Uzbekistan	Large	Large	2-	Large	Large	2

B.2 CENTRAL EUROPE AND THE BALTIC COUNTRIES

Most of these countries are well advanced in reforming their municipal utilities. Market structures and market-supporting institutions are broadly in line with more advanced market economies in the EU. Municipal services are mostly decentralised and corporatised. Financial and operational performance is generally good, particularly in

²⁸ For more details on the methodology and scoring of the transition challenges please see the Progress in the Transition section of the EBRD Transition Report 2011 at: <http://www.ebrd.com/downloads/research/transition/tr11.pdf>

the utilities of larger municipalities and in the water sector, and to a lesser extent in urban transport and district heating. Commercial financing of municipal infrastructure is available, including more complex instruments such as revenue bonds in Poland. However, at present EU Cohesion Fund investment grants prevail over revenue-based financing. Competition and private sector participation are relatively well advanced in several countries. In the water sector, several international operators have a significant presence in a number of countries, and local and national authorities have already built some experience with tendering out services. In urban transport, the liberalisation of some bus routes has introduced competition in both large and smaller municipalities, although transport companies still operate with low farebox ratios and remain dependent on transfers from local authorities.

Transparent contractual relationships in the form of service contracts have been implemented in several countries and are required under EU rules in urban transport. This has further increased the operational autonomy of utilities. While tariff setting is typically delegated to the municipal authorities, several countries have established sectoral regulators for municipal services that have contributed to the transparency and the de-politicisation of the tariff setting process. Tariffs have been raised substantially over the years and are generally cost-reflective, particularly in the water and district heating sectors in some countries. Cross-subsidies have generally been removed.

The remaining transition challenges are focused on finalising the municipal utility reform agenda and incorporating climate sustainability in urban planning and infrastructure. Further improvements in operational efficiency and financial performance could be achieved in some utilities in smaller municipalities. More private sector participation could bring more investment and improve financial and operational efficiency in several EU countries. In the sustainability and climate policy realm, the policy gaps are larger, not unlike in many of the advanced market economies. Planning capabilities for long-term energy and environmental sustainability need to be improved at both the national and local levels. Energy efficiency incentives may need to be enhanced to facilitate deployment of commercially viable energy efficiency investments, most of which can be effectively undertaken by the private sector.

B.3 SOUTH-EASTERN EUROPE

Reforms in the municipal sector are relatively less advanced in most of the Balkans states, although Bulgaria and Romania as EU member states are more advanced and have smaller gaps. Full decentralisation and corporatisation of municipal infrastructure has not taken place yet in all countries – utilities are still majority-owned by the central government in Bosnia and Herzegovina, Bulgaria for water assets and Albania. Although control of municipal infrastructure has formally been transferred to most municipalities, water utilities in major cities are still under the control of the state and a contradictory legal framework for land rights results in substantial central government interference in local infrastructure operations. In FYR Macedonia, Montenegro and Serbia, local infrastructure has been transferred to municipalities. Large operators tend to have better financial and operational performance, with adequate metering and bill collection. However, in most towns, inadequate metering, poor collection and water and heat tariffs below cost-recovery levels prevail, leading to weak financial performance of the utilities. The absence of competitive pressure and clear performance targets contributes to poor operational performance and utilities are often very cost-inefficient. In addition, deficient legal frameworks and uneven regulatory performance limit broader private sector participation outside the urban transport sector. There is a general

lack of commercial financing for municipal utilities due to the commercial limitations of local utilities and a general resistance to borrowing for infrastructure investments. This has led to municipal infrastructure operations based on grant-driven capital investment and commonly subject to systematic under-investment. Introduction of competition and private sector participation has been achieved to a certain extent in capital cities. The district heating company in Skopje, FYR Macedonia, is private and partly floated on the local stock exchange, and there is substantial private sector participation in the provision of urban bus services. In Belgrade, Serbia, and Tirana, Albania, bus services are predominantly offered by private sector operators and in Podgorica, Montenegro, all bus lines are operated by private companies, generating competitive pressures on various market segments. In the absence of adequate contractual frameworks – service contracts regulating interactions between municipal utilities and local authorities – the service delivery, tariff setting and operational planning are often politicised and lack transparency.

Important challenges remain in the area of tariff setting – further increases are needed to move closer to full cost recovery, remove cross-subsidies that remain prevalent in the region and assist in improving the financial performance of municipal infrastructure operations. The expansion of competitive pressure through tendering of operations to the private sector may also increase cost control and could deliver more investment in the medium term. Other key challenges include regionalisation of municipal utilities, a strengthened regulatory framework and introduction of more transparent service contracts, further enhancement of financial autonomy of municipalities under effective regulation.

B.4 TURKEY

Municipal infrastructure is decentralised, but service provision is provided by corporate entities only in a few large metropolitan areas, whereas the rest operate as departments of the municipality. However, decision-making and tax raising authority remain highly centralised in Turkey. Utilities are typically focused on service delivery, and operational and financial performance is generally good. Whereas most utilities in larger cities cover costs, are financially sound and have access to commercial financing for investments, utilities in smaller towns are financially weaker and remain dependent on state finance (directly or through state investment vehicles). Investments are mostly financed by grants or subsidised loans from the state-owned municipal bank (İller Bank), which crowds out commercial financing. Access to services – water and wastewater in particular – in smaller municipalities is still a problem alongside the challenge posed by rapidly growing urban centres that require adequate infrastructure. Private sector participation has been developing in all areas of municipal infrastructure in recent years. Private urban transport companies are common and more recently several water and solid waste concessions have been awarded to Turkish companies. Tariffs are at or close to cost recovery in most utilities, but contractual relationships between municipalities and their utility providers are often only embryonic.

The remaining challenges are focused on corporatisation of utility providers to improve the transparency and costs of operations, expansion of services to smaller municipalities and further improvements in the concession legislation. Additionally, tariffs may need to be increased in smaller municipalities to facilitate investments.

B.5 RUSSIA

Russian municipal utility services are decentralised both in terms of ownership and decision-making. While a few utilities are fully corporatised (joint stock companies), most utilities are organised as municipal enterprises (semi-corporatised) with *de jure* management independence, but *de facto* heavy dependence on the local administration, especially in smaller cities. Important progress has been made in the municipal sector over the past few years, including the introduction of competitive tendering requirements for concession awards, a new law on energy efficiency which mandates metering and annual efficiency improvements, the introduction of a tariff methodology and the establishment of regional regulatory authorities for district heating and water. Financial and operational performance of smaller utilities is often unsatisfactory.

Utility systems remain supply-driven (metering and meter-based billing remain uncommon) and cost inefficiencies (excessive employment, large network losses, high energy costs) continue to exist. Private operations are relatively common in water, district heating and urban transport (mini-buses and some large bus operators in bigger cities). Only stronger utilities can access commercial financing and the major sources of financing for investment programmes include surcharges to tariffs, connection charges and budget financing from different levels (local, regional and federal). Contractual relationships between municipalities and utility providers are uncommon, which hampers the transparency of service delivery and cost control. Tariff adjustments have been implemented over the past years, but rather unevenly across the country. Cross-subsidies, while generally reduced compared to earlier years or even eliminated in some municipalities, remain pervasive, particularly in remote areas.

The key challenges are related to further commercialising utility service provision, cost control for delivering cost-effective services, tariff reforms to further improve financial sustainability, and the introduction of service contracts to improve the autonomy of infrastructure operators. In light of the investment needs, the scope for further competition and private sector participation is substantial.

B.6 EASTERN EUROPE AND CAUCASUS

Municipal utility services are decentralised (except in the Caucasus) both in terms of ownership and decision-making. Utilities are organised as municipal enterprises (semi-corporatised) with *de jure* management independence, but *de facto* heavy dependence on the local administration. The governance of municipality-utility relationships needs to be improved further (e.g., service contracts are not yet common) and there is a need to increase the transparency of contractual arrangements. While regulatory legislation is relatively good, political interference in the regulatory process remains significant. Cross-subsidies are widespread. Tariffs remain substantially below cost recovery and are based on out-dated norms rather than actual use. Metering is becoming more common (e.g., water sector in Armenia, Moldova and Belarus) but billing based on actual use remains almost non-existent in most of this region, providing little incentive for efficient use.

Improving financial and operational performance is a key priority, as the vast majority of local utilities continue to be loss-making, and utility systems remain supply-driven and cost inefficient (excessive employment, large network losses, high energy costs). Private sector participation is prevalent in the deregulated mini-bus service provision, which is profitable and operates without subsidies, but which has limited capacity to

renew its mostly depreciated fleet. There are some cases of private sector participation in water management (e.g., management contracts in Armenia). There are a few private operations in district heating (e.g., Ukraine), but the legal basis and institutional capacity must be improved in order to upscale private sector participation. Access to commercial financing has improved in recent years in countries like Ukraine, but remains a major issue in the other countries. Capital investments are financed almost exclusively from grants from the state or the international donor community. A precondition for commercial investment is improvements in governance, regulation and contractual arrangements along with tariff reform.

Most countries have set up national utility regulators, which could enable the de-politicisation of tariff setting. While the legal framework typically allows for cost-reflective tariffs, this rarely happens in practice and tariff reform continues to be a substantial challenge, including the elimination of cross-subsidies. There is no requirement to make relations between utilities and municipalities more formal and transparent, and in practice political interference is common.

The challenges are broad and include further commercialisation of services, and improvements in operations and cost-control across all sub-sectors. The regulatory system needs to be de-politicised to improve transparency and stimulate quality service delivery, depoliticise tariff setting and reduce cross-subsidies.

B.7 CENTRAL ASIA AND MONGOLIA

Although the reform process has started, the municipal infrastructure sector remains at an early stage of development. The reform steps successfully completed include decentralisation of ownership and decision-making in most countries, although recently several countries have reversed or are contemplating reversing the decentralisation process. The governance of municipality-utility relationships needs to be improved further (e.g., service contracts are not yet common) and there is a need to increase the transparency of contractual arrangements. Regulatory legislation is weak and political interference in the regulatory process remains prevalent. Cross-subsidies are widespread. Tariffs remain substantially below cost-recovery and do not even cover operation and maintenance in most cases. Metering is rare and billing based on actual use is almost non-existent, providing little incentive for efficient use. Low collections combined with low tariffs require a significantly high level of subsidies to maintain even modest levels of service.

Private sector participation is prevalent in the deregulated mini-bus service provision, which is profitable and operates without subsidies, but which has limited capacity to renew its mostly depreciated fleet. Access to commercial financing remains a major issue in the other countries and capital investments are financed almost exclusively from grants from the state, state entities or the international donor community (except in Kazakhstan). Cost inefficiencies (excessive employment, high energy use), poor revenue collection (low collection rates), high water losses and low water quality need to be addressed. Tariffs are typically set at the national level and interference regarding non-economic or social issues is common. Tariff reform continues to be a substantial challenge, including the elimination of very large cross-subsidies. There is no requirement to make relations between utilities and municipalities more formal and transparent, and in practice political interference is common.

The challenges are broad and span both market structures and market supporting institutions. In market structure, there is a need to commercialise services, improve operations across the board, increase the coverage and quality of services, and improve cost control. The regulatory system needs to be enhanced to improve transparency and stimulate quality service delivery, depoliticise tariff setting and increase tariffs to cost recovery and eliminate cross-subsidies.

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ANNEX C – WATER AND WASTEWATER

C.1 SUMMARY OF NEEDS

The United Nations' Millennium Development Goal (“MDG”) for Environment contains Target 7.C, which is to:

“Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation:

7.8 Proportion of population using an improved drinking water source

7.9 Proportion of population using an improved sanitation facility.”

EBRD's first goal is to deliver essential services to the population in its region. The table below summarises the water supply situation across the region, based on the World Health Organisation/UNICEF database (data generally for 2010, presented in 2012):

Table 5. Water supply coverage across the EBRD region – 2010 WHO/UNICEF data

Region	Population (x 1000)	Percentage of URBAN population served with Improved Water	Percentage of URBAN population served with Piped Water	Percentage of RURAL population served with Improved Water	Percentage of RURAL population served with Piped Water	Total population with Unimproved Water (x 1000)
Central Asia	63,482	98%	80%	78%	26%	8,580
Southern & Eastern Mediterranean	129,740	99%	96%	90%	74%	6,857
Russia	142,958	99%	91%	92%	55%	4,115
Eastern Europe & Caucasus	75,249	97%	87%	93%	31%	3,071
South-eastern Europe	48,493	99%	94%	89%	51%	2,404
Central Europe & Baltic States	67,072	100%	98%	96%	92%	968
Turkey	72,752	100%	99%	99%	97%	221
TOTALS	599,747					26,216
<i>Early Transition Countries</i>	<i>77,256</i>	<i>97%</i>	<i>84%</i>	<i>78%</i>	<i>30%</i>	<i>9,984</i>

An estimated 26.2 million people do not have access to an improved water supply. Of these, 3.7 million (14 per cent) live in urban areas and 22.5 million (86 per cent) in rural areas. The largest deficiencies are in SEMED, Central Asia and Russia. Nearly ten million are located in ETC. Six countries have more than one million without access to improved water: Azerbaijan, Morocco, Romania, Russia, Tajikistan and Uzbekistan. The number without access to water at EU standards is far higher.

Table 6. Sanitation coverage across the EBRD region – 2010 WHO/UNICEF data

Region	Population (million)	Percentage of URBAN population served with Improved Sanitation	Percentage of RURAL population served with Improved Sanitation	Total population with Unimproved Sanitation (including shared) (x 1000)
Russia	142,958	74%	59%	42,923
Southern & Eastern Mediterranean	129,740	93%	83%	15,203
South-eastern Europe	48,493	93%	74%	7,102
Turkey	72,752	97%	75%	7,040
Eastern Europe & Caucasus	75,249	94%	87%	6,251
Central Europe & Baltic States	67,072	97%	86%	5,008
Central Asia	63,482	96%	96%	2,624
TOTALS	599,747			86,151

<i>Early Transition Countries</i>	<i>77,256</i>	<i>93%</i>	<i>92%</i>	<i>5,649</i>
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Some 86 million people in the EBRD region do not have access to improved sanitation (they have unimproved or shared facilities). Ten countries have more than one million inhabitants without access to improved sanitation (of whom nearly half live in urban areas): Azerbaijan, Egypt, Mongolia, Morocco, Poland, Romania, Russia, Tunisia, Turkey and Ukraine. In the ETC, more than five million people live without improved sanitation. The table above summarises the situation.

C.2 SECTOR-SPECIFIC CHALLENGES

Awareness is growing regarding the need to safeguard water resources, manage their distribution and protect the environment. By 2030, under an average economic growth scenario and if no efficiency gains are assumed, industry specialists expect global water requirements to grow from 4,500 billion m³ today to 6,900 billion m³: a full 40 per cent above current accessible, reliable supply (including return flows), and taking into account that a portion of supply should be reserved for environmental requirements.²⁹

Patterns of water use change through time for many reasons, including increasing urbanisation (changing lifestyles, changes in rainwater run-off patterns), reduction of losses, more careful use and recycling, and application of metering and consumption-related charging. Urban population growth, industrialisation and the effects of the climate change are creating new challenges. Improving water supply and sanitation in urban areas will require major investments, supported by sound policies and effective, accountable institutions.

Decentralisation and transparent contractual relationships. A number of governments have transferred responsibility for water and sanitation to local authorities. This process is well advanced in Central Europe and the Baltic countries, whereas in Bulgaria, for example, water companies are still government-owned. Transparent contractual relationships in the form of service contracts have been implemented in several countries and this has increased the operational autonomy of the utility companies. Reforms are relatively less advanced in most of the Western Balkans as full decentralisation and corporatisation have yet to take root in all countries. Many water

²⁹ Source: Charting Our Future Water, The 2030 Water Resources Group, 2009.

utilities in major cities are still under the control of the state and a contradictory legal framework for land rights results in substantial central government interference into local infrastructure operations. In Turkey, municipal infrastructure is decentralised, but corporatisation of utility providers in smaller municipalities is still an issue. In Russia, Ukraine and Kazakhstan, municipal services are decentralised both in terms of ownership and decision-making. While utilities are fully corporatised, most are organised as municipal enterprises. The reform process in ETC started with the successful transfer of ownership and decision making in most countries. The unfinished transition agenda includes corporatisation and improved contractual arrangements.

Serving smaller communities. Despite the improved access to clean drinking water, adequate wastewater services in smaller municipalities and residential clusters is a key challenge. In some countries, the combination of small service areas and low tariffs has led to significant service deterioration.

Commercialisation. The adoption of commercially-oriented practices varies throughout the countries of operations. Financial and operational performance of the water operators in Central Europe and the Baltic countries is generally good, allowing companies to access commercial funds and benefit from more complex financial instruments. In the Western Balkans, large operators have better financial and operational performance, with adequate metering and bill collection. In smaller towns, inadequate metering and poor collection are leading to weak financial performance. In Turkey, while large water companies have access to commercial financing, operators in smaller towns are financially weaker and dependent on state support. In Russia, important progress was made over the last few years, including competitive tendering and concession awards. In Russia, Ukraine and Kazakhstan, systems remain supply-driven and cost inefficiencies continue to exist. In ETC, there is little focus on financial, technical and operation performance. Cost inefficiencies, poor revenue collection, high water losses and poor water quality remain common.

Private sector participation. Widespread private sector participation in the water sector has been achieved only in parts of the EU and typically through PPP-type structures as water assets are seen as belonging to the public patrimony. For most Bank countries of operations, the efficiency gains which the private sector can potentially generate have not yet been fully explored. Although there have been success stories (e.g., Veolia's Apa Nova București, Romania), the mixed results from some private sector involvements illustrate the need for proper risk allocation, managing the expectations of the client authority and the investor, and the importance of proper regulation.

Regulation and tariff regimes. The approach to tariff setting and regulation varies from country to country. A proper regulatory framework results over time in tariffs reflecting actual costs and putting in place a predictable and transparent indexation process. Some countries have established water sector tariff regulators, which have improved the transparency and the de-politicisation of the tariff setting process. In other countries, tariff regulation is handled by the municipalities. In the EU, tariffs rose substantially over the years and are generally cost-reflective. In the Western Balkans and other countries, tariffs are still below cost recovery level and cross-subsidies remain common. In Central Europe and the Baltic countries, projects will focus on mobilising commercial financing, complementing and facilitating the ability of operators and municipalities to make efficient use of the different EU grant mechanisms. Through its policy dialogue, the Bank will continue to support the further development of tariff and

regulatory regimes. In Russia and other countries, investments will continue to rely on support from local governments. The introduction of stronger contractual frameworks and regulatory regimes will allow the Bank to use funding structure based on the cash-flow generation ability of both public and private utilities. In the ETC, support will be given to local authorities willing to implement transition oriented project structures, which provide a demonstration effect. To overcome some of the institutional weaknesses, sizeable TC and Bank staff resources will be mobilised to shape and implement projects.

Achieving EU environmental standards. Due to affordability constraints and the required size of investments, in many parts of the EBRD region it is challenging to achieve EU standards, particularly for drinking water, effluent quality and sewage sludge management. As a result, the number of derogations from the Bank's Environmental and Social Policy is comparatively high in the water sector, with a total of 25 derogations to date³⁰. Attention will be given to setting clear justification, criteria and procedures for requesting such derogations. Also, where appropriate, EBRD will work with its clients so that any complementary action to projects that do not meet environmental criteria will bring them towards fully meeting EU standards in the future.

C.3 PROMOTING SUSTAINABILITY

Urban infrastructure and services. The Bank will aim to improve the sustainability of the sector by focusing on certain goals:

Box 8. Water and Wastewater | Sustainability Goals

- Increasing the number of people with access to affordable, drinkable tap water.
- Decreasing water losses from water supply systems.
- Decreasing the amount of untreated sewage discharged into watercourses.
- Increasing energy efficiency in the water and wastewater sub-sector.
- Improving the regulatory and enforcement capacity of public sector bodies.

Environmental and social sustainability. EBRD water and wastewater projects inherently work in favour of environmental improvement and underpin social advancement. With regard to the MDG, the consensus is that the water supply MDG is likely to be met by 2015, but it is highly unlikely that the sanitation target will be met. Careful consideration needs to be given to the assessment of multiple water resource uses, for example through 'integrated water resources management'. Water efficiency will also be a key consideration in future investments, not least because of climate change issues. It will be important to integrate environmental and social aspects and climate change adaptation considerations in the selection of priority investment components and identification of supporting TCs. Social issues, including gender, must also be considered in order to achieve sustainability.

Financial and budgetary sustainability. Water companies achieving financial sustainability is a precondition for achieving overall sustainability of the water cycle and of serving populations. Companies should be able to develop appropriate master plans to ensure that service levels remain high and assets appropriately maintained.

³⁰ Out of 178 projects signed during the 2004 MEI Policy Period, of which 85 were in the water and wastewater sector.

Energy efficiency and climate change. Energy costs can account for up to 40-50 per cent of the operating costs of a water company and therefore energy efficiency is central to their financial performance. Energy cost-efficiencies can be achieved by a variety of means, from using more efficient pumps, through improving control technologies to stemming water losses and leaks, while own-supply can be achieved by generating heat and power from sewage sludge. Losses run at up to 50 per cent in some networks and consequently huge volumes of water are pumped for no productive purpose. Water management is particularly susceptible to climate change impacts. Water supply is being affected by increased variability in precipitation, which can lead to drought or flooding. Designing in resilience is key to ensuring safe and reliable services and the structural integrity of the water infrastructure. Water companies need to protect infrastructure from flooding, secure operations in all weather situations, and avoid contamination of watercourses and systems during extreme weather events.

C.4 EBRD POSITIONING

Many IFIs and CSOs are active in the water sector and therefore EBRD will focus its resources where it has a comparative advantage, notably in relation to decentralisation, support for utility corporates, and capacity building for regulators and client agencies. The Bank will do this using its established instruments of policy dialogue, sovereign, sub-sovereign and corporate loans, and technical cooperation. The Bank will use framework operations or fund structures to reach out to smaller communities. In some cases, this will mean working closely alongside other IFIs and CSOs.

The SEMED region has sizeable deficiencies in essential water and sanitation services. Various IFIs and CSOs are involved in this region and sector. For example, the Arab Financing Facility for Infrastructure (led by the World Bank/IFC and the IsDB) is involved in a range of water issues, including: developing trans-boundary water resources; harnessing innovative supply sources such as desalination; water and wastewater re-use; and modernising irrigation. Modest private investment has taken place in infrastructure in the SEMED countries, but mostly in telecommunications. The ‘Arab Spring’ has hampered or stopped the PPP water and wastewater programmes in Egypt, Jordan and Tunisia. Egypt’s PPP programme comprises half a dozen wastewater treatment plants and several water treatment plants, including several seawater desalination schemes. Nevertheless, these programmes may re-launch after elections and as economies move forward.

Given the large deficiencies in rural areas across the EBRD region, the Bank will seek out micro-finance and other solutions to facilitate improvements in low-density, dispersed communities. The Bank may be able to draw on the experience of other IFIs and CSOs in this area, including possible mobilisation of sponsorship from corporates.

Finally, other agencies are heavily involved in river basin management and raw water provision in the region. EBRD will generally not enter this area unless exceptional transition opportunities arise.

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ANNEX D – URBAN TRANSPORT

D.1 SUMMARY OF NEEDS

The urban transport sector is vital in providing the basic conditions for mobility in any city. It also can act as one of the key drivers toward implementing the transition to a low-carbon economy in cities across the Bank's region, a broad medium-long term goal of the G8 Summit in Gleneagles held in 2008 and of the Bank's own SEI-Phase 2. Basic competitiveness and economic development depend in part on the ability of municipalities to plan, invest in and regulate their urban transport sectors in an efficient manner. Infrastructure and services should be managed in a way which promotes cost effective capital improvements, ensures regular maintenance of existing assets, and provides environmentally and financially sustainable services for users. In order to achieve this vision, several inputs are necessary, as outlined below.

High-quality public transport alternatives to the private car. Public transport should be a true alternative to car travel, with travel times and reliability broadly comparable to private car travel. Energy efficiency gains can also be achieved, as well as improved urban air quality, through investment in modern rolling-stock.

Balanced modal splits. Generally, cities in the region should strive to maintain a healthy modal split between travel by public transport and the private car. In large urban centres, the level of public transport usage is considered to be robust when at least half of all motorised trips are made by public transport modes. To achieve this will require increased investment in public transport infrastructure, well designed and implemented regulatory measures, and proper pricing in the sector to better internalise marginal costs of individual users associated with private car travel in congested urban centres.

Targeted support for public transport. Public service contracts (“PSC”) are a crucial contractual instrument used to define services, assign roles and obligations of both the operators and the public sector owner and regulator. The contracts should set a contractually based compensation level assessed on pre-defined service quality standards. PSCs are best applied to both the municipal and private operators, and promote competition for entry to the public transport services market – i.e. competition ‘for the street’, rather than ‘on the street’. Where an EU-style PSC is not possible due to legal constraints in some countries (e.g., limited contract duration, budget code issues, anti-monopoly rules), hybrid solutions which still preserve the principles of good-practice PSCs are needed.

Data-rich planning techniques. Travel demand models are needed to accurately assess and predict travel patterns and thereby better inform investment choices.

Application of road asset management and performance-based contracting. Multi-year road maintenance funding should be identified and committed to, preferably on a long-term basis through performance-based contracting. The Bank's Romanian Urban Road Management and Rehabilitation Framework, approved in 2010, has been structured precisely along these lines. In addition, coordinated streetworks permitting schemes can reduce travel disruption significantly and can be promoted by the Bank alongside urban road investments in congested large cities.

Efficient tariff regimes and automated fare collection systems in public transport. The cash-based ticketing systems still prevalent in the region are one of the causes of large public subsidies of public transport, in addition to low tariffs. In order to reduce substantially such ‘cash leakages’ associated with cash-based systems, electronic automated fare collection systems should be implemented, preferably using long-term third-party contracts with the private sector.

Parking management. A properly applied parking policy can be one of the most effective means of transportation demand management – when properly priced in congested city-centre situations, regulation of parking charges can be used to capture effectively the cost (e.g., incremental congestion delay) of private car travel by the individual motorist on the rest of the road network and its users, thus lowering travel demand by cars in congested city centres. Park-and-Ride schemes can also be implemented in the context of an integrated urban transport plan. Parking infrastructure, particularly off-street parking garages, can be successfully constructed and managed by the specialised parking industry, as wide-spread international experience shows. Finally, excess parking revenues from on-street parking schemes can be used by municipalities to fund other transport infrastructure improvement.

Safe street environments. Given the advance in motorisation in the region, there is a need to improve the safety of city streets, in particular for non-motorised users such as pedestrians and cyclists. Furthermore, this need is reinforced by the designation of the 2011-2020 period as the ‘Decade of Action for Road Safety’ by the United Nations, which mandated the IFIs to redouble efforts to address road safety through their lending programmes. The private sector service contractors in this area can play a role in accident data and traffic management, and emergency response coordination.

Modern, integrated traffic management solutions. In congested cities of the region, the application of integrated, demand-responsive traffic management systems can be a cost effective means of improving traffic flow. These systems also lower emissions by reducing stop-and-go traffic, as well as accidents rates. Advanced traffic management schemes and urban road charging should be applied for heavily congested cities, but should be accompanied by parallel investment in high-quality public transport services.

Investment in key missing road links. Finally, in certain bottleneck situations, the improvement of key road network elements, such as new bridges, bypasses, and improved junctions, is necessary to ameliorate traffic conditions. However, all such projects should be based on solid economic justifications within an overall land-use and transportation plan, and care should be taken to also provide benefits at the same time to public transport modes.

D.2 SECTOR-SPECIFIC CHALLENGES

The sector faces a number of challenges across the region. However, the position from which the countries face these issues, and the Bank’s role in financing solutions to these challenges, should be differentiated. The following describes the major challenges.

Decline of public transport’s share of all urban travel. Cities succeed best when they have extensive and well-managed public transport systems. Having inherited a generation ago a diverse set of public transport networks, with a typical city having established networks for trams, trolleybuses and buses, today’s cities struggle to even maintain the existing service networks, let alone finance modernisation or expansion

into new public transport networks. Severe lack of maintenance since the 1990s has caused the partial closure of public transport systems around the region, with fleets today in a typical Russian city, for example, operating about half the number of trams and trolleybuses versus the peak levels seen in the 1980s. The modal split for public transport is slipping, edging under the 50 per cent level in most cities. Road building as a solution to congestion problems is widely acknowledged in the sector as a failed approach. As international experience has clearly shown, when the share of public transport drops below a certain point in large cities, what follows is chronic congestion, which in turns hurts economic competitiveness and quality of life. In addition, during times of sustained high costs for carbon-based fuels, a well-developed network of public transport builds in a certain ‘resilience’ to meet mobility needs, and provides a basis for balanced urban mobility.

Car ownership. Following trends seen across almost all countries over the past decades, car ownership rates are rapidly increasing in the Bank’s countries of operations. Since the 1990s, car fleets have grown at a rate of 5-10 per cent annually. Following the experience of cities in the European OECD countries, the Bank’s countries of operations will see an average rise of 50 per cent in car ownership rates to 2020 and 100 per cent to 2030 versus year 2010 levels³¹. Rather than increasing urban road capacity, which tends to induce even more urban travel demand by cars, a more nuanced strategy is needed favouring public transport, traffic management and other demand management policies.

Productivity losses due to congestion. Congestion now ranks as one of the primary issues urban leaders are facing across the region, acting as a major impediment to investment, eroding economic productivity, and impacting on general quality of life. In Belgrade, Serbia, for example, congestion delays account for over EUR 1 billion annually in lost economic productivity.³²

Condition and management of roads and streets. The quality of roads is one of the primary indicators of economic competitiveness upon which investment decisions are made by investors. The breakdown in public finances suffered in the 1990s caused a back-log of road maintenance to build up over time in cities across the region. As a result, one of the most urgent needs is to recuperate road quality, which usually requires extensive rehabilitation of the roads.

Regulation and funding. In the public transport area, a typical municipal public transport operator finds itself in a challenging financial situation: while tariffs are set at low rates, public operators are obligated by social policy to transport several categories of passengers (pensioners, students, veterans, etc.) at steeply discounted rates. Because there is usually no verifiable means of counting passenger boardings since many (typically half of all riders) travel with discount passes, any reimbursement of this ‘lost’ revenue by the municipality or national governments to the operators is often delayed and/or under-funded. Public transport fleets are typically aged, due to lack of fleet renewal over the past two decades. On the other hand, private bus operators transport only full-fare passengers, and therefore manage to run their services free of public financial support. This bifurcation of the public transport market leads to the perception that the municipally owned companies run only loss-making ‘social’ services, with the

³¹ Source: European Environment Agency, based on IEA/SMP Transportation Model 2004.

³² Source: Urban Transport Master Plan, Belgrade City, 2008.

private operators running the commercial services. Another main issue in this area is the lack of coherent network planning and the non-competitive award of routes; this has led to an inefficient overlap of municipal and private services on the most heavily used corridors. Finally, very few cities in the region are yet to use true travel demand models, which results in misallocation of scarce public resources based on thin analysis and political expediency.

Safety issues. The unabated car ownership growth has led to a direct increase in traffic accidents in the region, with over 70 per cent of all serious accidents occurring in cities. Accidents rates are typically five times higher in South-Eastern European cities compared to the EU average, and more than ten times worse than the EU level in the Caucasus and Central Asia.³³ With an anticipated doubling of cars over the next decade, road safety will become an even greater challenge.

D.3 PROMOTING SUSTAINABILITY

Urban infrastructure and services. Sustainability in urban transport means directing investments at projects that enhance and sustain the underlying economic and social vibrancy of cities. While covering both public transport and streets, this will involve primarily modernising existing services and infrastructure networks, while also providing financing for strategic missing links where justified. Due to the importance of city centres in areas with stable populations, focusing investment on the core areas should also help to sustain urban areas. The Bank will aim to improve the sustainability of the sector by focusing on certain goals:

Box 9. Urban Transport | Sustainability Goals

- Increase walking, cycling and public transport usage.
- Reduce traffic congestion through traffic reduction measures.
- Increase the energy efficiency of urban transport systems.
- Introduce the use of sustainable renewable energy for urban public transport.

Environmental and social sustainability. The selection of both the type of project and the choice of technology is important. Generally, projects that reduce the carbon intensity of the sector contribute to sustainable transport, with electric transport (tram, trolley, light rail transit and metro) being prime examples. Dense urban cities that favour walking and cycling also rank highly. Finally, when public transport is well planned with gender aspects in mind (e.g., with well-lit, secure streets, stations and vehicles), this type of investment can contribute to further promoting services that allow women, who typically make up the majority of users, to use public transport to a greater degree.

Financial and budgetary sustainability. The importance of long-term contracts that secure revenue to the project sponsors and operators is paramount. PSC and concession contracts are good examples, backed by robust tariffs, solid passenger demand and long-term public sector support payments. While projects with direct user charges provide inherent revenue generation, road and street projects can also achieve financial sustainability when sector-based revenue sources are directed toward the financial costs,

³³ Source: Global Road Safety Partnership, 2008.

such as parking fees, car registration, traffic enforcement, dedicated levies, and, where feasible, tolling and other road user charges.

Energy efficiency and climate change. While cities with extensive and well-managed public transport systems are inherently more energy efficient, the financing of ‘best available technology’ is another means of fostering the conversion to a low-carbon economy. Rolling-stock renewal is important: replacement of dirty diesel buses with clean diesel and compressed natural gas bus units, as well as new trams and metro cars with regenerative braking capabilities reduce energy consumption by up to 30 per cent. Public lighting, which accounts for typically 25 per cent of a city’s electricity bill, can be reduced by up to 70 per cent with new light emitting diode technology. Finally, traffic management systems that smooth traffic flow reduce vehicle emission per car by approximately 50 per cent versus cars in stop-and-go conditions.

D.4 EBRD POSITIONING

The Bank is uniquely positioned to provide financing structures which suit the needs and challenges described above. Given budget constraints and other urgent social needs, clients will increasingly look to the Bank to provide commercialised, efficient solutions to their urban transport issues. The following describes the range of instruments and structures to be promoted by the Bank in the coming Strategy period.

PSC development and regulatory strengthening. While increasingly used within the EU and Central and South-Eastern European cities, PSCs are still new to most cities in the rest of the region. In order to monitor PSCs, the transport regulators will need thorough training on techniques to ensure proper implementation.

Public transport modernisation. The aged fleets and underlying infrastructure necessary to operate public transport systems in the region can be supported by EBRD using its substantial accumulated experience. The Bank has an advantage of being able to assess accurately the relative needs of each city, by using its comparative vantage point across the entire range of cities in the region.

Performance-based contracting for road improvements. The Bank will apply a best-practice set of tender strategies, accompanied by institutional strengthening for monitoring of contracts, based on performance based maintenance and management of roads. This contracting and management approach will be used in order to align the incentives of the private sector road contractors to deliver road improvements over the medium to long-term against a set of pre-defined road performance criteria.

PPP and other concession-based approaches. The urban transport sector offers a potentially rich set of investments that can be made by the private sector. Concession arrangements can be structured for public transport, parking garages, electronic ticketing systems, urban roads/bridges/tunnels, and public lighting. The Bank’s ability to structure the most advantageous form of private sector participation should be guided by robust analysis of public sector comparators to determine the underlying value for money of the PPP approach.

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ANNEX E – DISTRICT HEATING

E.1 SUMMARY OF NEEDS

District Heating (“**DH**”) is a dominant technology for the provision of heat and hot water in the EBRD region and is expected to continue to operate in many places as the least-cost heating option for the foreseeable future. DH systems also exist in many Western European countries, as well as the United States, Canada, Japan, Korea and China. The basic idea is that heating energy is generated centrally using the most economic, environmentally-friendly and locally available energy sources, which cannot otherwise be utilised. Such energy sources include: industrial waste energy; energy from municipal waste; heat energy from electricity generation; geothermal energy sources; fuels such as coal, peat, etc.; and renewable fuels such as biomass, biofuels and straw.

DH in the EBRD region was initially introduced by using waste energy from the combined-heat-and-power plants (“**CHPs**”) that developed rapidly for electricity generation at the beginning of the twentieth century. DH soon became a primary heating option in urban areas and was also supplied by heat-only boilers (“**HOBs**”) fired by coal, heavy oil (mazut) or natural gas. Despite a lack of optional/renewable energy sources in the EBRD region, DH offers a number of benefits over decentralised heating options in areas of high heat load density. One key feature making DH competitive has been the use of CHPs, which increase the efficiency of the use of primary fuels by 35-40 per cent compared to condensing power production and HOBs. However, DH may not be the least cost solution in areas of low heat density or in relatively mild climates.

E.2 SECTOR-SPECIFIC CHALLENGES

Due to years of insufficient financing, lack of maintenance and technical upgrading, many DH systems are in poor condition, with low efficiencies and high heat and water losses. They have therefore become highly unreliable and in need of renovation and reconstruction. As a consequence, DH represents one of the largest sources of energy wastage, and is characterised by poor customer service and affordability problems.

Extent of coverage. Of the total residential and public heating market in the EBRD region, DH covers typically 70 per cent in Russia and Latvia, 62 per cent in Ukraine and Lithuania, more than 53 per cent in Poland and 52 per cent in Estonia. The domestic hot water load is an important component of DH and corresponds to 20 per cent of the heat load on average, and up to 40 per cent at peak use. In many EBRD countries of operations, most of the population resides in multi-family apartment buildings, located in and around cities, making DH the least-cost option in the long term. Heat generated in CHPs is mainly available in large cities and covers about 50 per cent of DH in Russia, Hungary and Poland, vs. 79 per cent in Germany and 75 per cent in Scandinavian countries. In view of the unreliable and poor performance of the heating services, customers in many countries have been considering shifting from DH to other heating systems, usually based on natural gas. This trend can have negative impacts on a national economy due to a higher dependency on expensive gas imports.

Technical features. DH in the EBRD region was rolled out under the influence of the former Soviet Union and is based on Soviet technology. Heat and energy were available to everyone at little or no cost and DH systems were designed to deliver the heat to the

consumers under all circumstances. Since energy prices were insignificant, there were no incentives to aim for highly efficient systems; instead, the focus was on simplicity, reliability and safety.

A DH system has three main functions: heat generation, transmission and distribution, and consumption. The provision of heat is producer-controlled, inaccurate and unreliable. The temperature in the flats is often too high or too low and the customers cannot control their heat consumption and have to receive what is delivered. Vast losses of heating energy, water and electricity, combined with high maintenance and repair costs, make the heating energy expensive and the technical performance unsatisfactory. Obsolete pipes cause frequent breaks making the supply unreliable. The lack of heat and hot water meters does not allow customers to be billed fairly based on the consumed energy. Very large investments are required to reduce the operation and maintenance costs, and to ensure that DH remains competitive with heating alternatives.

In large cities, the heat is generally produced in CHPs, and peak and reserve capacity supplied by HOBs. Typically, about one third of the capacity is from the CHPs and the remaining part from HOBs. There exist almost no other sources of heating energy in any of the EBRD's countries of operations. HOBs are usually owned by municipal DH companies or by industrial enterprises. As a result of obsolete equipment, the low rate of automation and the lack of monitoring and control devices, the HOBs are generally inefficient and unreliable, employing large numbers of operational staff. DH networks tend to be inefficient and in poor condition, characterised by high levels of leakages due to internal and external corrosion of pipes, insufficient pipe insulation and the use of constant flow technology.

Heat is transported through pipeline networks to substations, which are needed to distribute the heat to the consumers. The substations may serve individual buildings or a group of buildings through secondary networks, which typically involve four pipes: two for space and two for domestic hot water. The secondary networks usually experience high losses and the technical lifetime of these networks is short. Typical substations often lack control equipment, instruments and meters, and their performance is unsatisfactory. Both types of substations are used in the EBRD region, whereas in Western Europe most are individual substations at the level of buildings. Virtually no heat or hot water meters existed before 1990 in residential, commercial and public sector buildings in many EBRD countries.

The MEI Strategy involves improving efficiency, reliability, temperature control and environmental performance, as well as delivering heat to customers at lower costs and improved quality.

Rehabilitation of DH systems should consider the following:

- To identify and confirm the DH systems as the least-cost, sustainable and preferred solution for the provision of heat services to customers in the areas of investment, taking into consideration the existing sunk costs;
- To identify a ranking list of priority investment components based on calculations of the internal rate of return and/or investment pay-back. As DH utilities and the respective country's economic performance improves, the range of investment financing options is likely to increase;
- To redesign the structure of the DH systems from production-controlled to consumer-controlled heat provision by installing automated individual heat

substations equipped to control the temperatures and pressures within both the networks and the buildings, and equipped with heat and hot water meters. Investment in individual substations at the level of the buildings is crucial for the modernisation strategy of the entire DH systems. It will significantly influence the progress of tariff reforms by creating incentives for the customers to conserve energy and control their consumption of heat, speed up further modernisation of buildings (other energy efficiency measures), improve heating comfort for the consumers and increase their willingness to pay for the provided services;

- To replace obsolete equipment including the networks with poor performance and low efficiency due to inadequate operation and maintenance procedures and obsolete automation and control systems (which may reduce use of fuel by up to 50 per cent). In addition, upgrade of the equipment will result in a reduction of electric energy, water consumption, operation and maintenance costs and corresponding greenhouse gas emissions.

Institutional and regulatory aspects. The development and rehabilitation of DH in the EBRD region, other than Russia, was driven at the beginning of the 1990s by a reaction to increasing prices of natural gas and the desire to reduce dependency on imported fuels. Current energy policies reflect the need to introduce energy efficiency and conservation measures, increase the use of indigenous and renewable fuels, reform tariffs, and raise economic efficiency combined with social acceptance and active participation of the private sector.

One of the main institutional barriers is the setting of retail tariffs, usually established on a ‘cost plus’ basis. The tariffs are mostly a single-tier type where the price of heat consists of one single energy charge estimated as ‘normative’ heat consumption based on heated floor area and the price of hot water services based on the number of persons. Regulation of DH tariffs in the EBRD region is typically under the jurisdiction of the municipalities and often reflects neither the structure nor level of heat supply costs and competitive market requirements. The municipality usually covers the difference between the accepted tariff level, below full cost recovery, and the proposed tariff level from the municipality’s budget in the form of an operating subsidy. This tariff structure does not provide the proper incentives to consumers to save energy.

One particular type of subsidy is the cross-subsidisation of tariffs between different consumer groups, where one group, such as industrial or commercial consumers, is charged more than the actual cost of supply in order to lower the tariff for another group, such as residential customers. Cross subsidies are not effective in the long-run as they lead to loss of consumers. The Strategy aims to eliminate cross-subsidies.

The most cost-reflective tariff structure currently in use is a two-tier tariff. It includes both a fixed (capacity) charge and a variable (energy) charge. The fixed charge covers the installation cost of providing the heat load and other fixed operating costs of the utility and often charges the same amount every month. The variable charge is based on metered consumption and covers the costs of fuels, purchased energy, spare parts, purchase of external services and profit. The main benefit of the two-tier tariff is that it better reflects the cost structure of DH supply and also takes into account seasonal and other variations in heat consumption.

Metering and billing. The growing tendency is to install meters at the building level in order to base heat bills on actual consumption. Metering at building level is currently

the only realistic option to be pursued in view of the physical, organisational and legal barriers for metering at flat level. Increased metering will lead to higher energy savings for consumers and higher payment collection rates. Payment performance by non-metered consumers is generally poor – a significant financial problem today facing DH utilities is the high level of unpaid heat and hot water bills. A typical billing and collection practice for heat and hot water services (along with the payments of other utility bills) is often arranged through intermediaries known as municipal housing maintenance companies. Bills for heating and hot water are added to household charges for rent and other utilities for the residential consumers for payment on a monthly basis. Since DH companies do not have access to the individual payment records of residential customers, which are maintained by the intermediaries, and do not know the level of discounts granted by the local authorities, they are not in a position to identify the portion of unpaid bills and therefore cannot disconnect defaulting customers. Furthermore, as the customers make one monthly payment for all utilities, it is difficult to identify what portion is for heat and hot water when the payment is not made in full. Often the appropriate level of funds is not passed on to the utilities.

To address these billing and collection problems, many DH companies are initiating direct billing to residential consumers after the building-level meters are installed. Further improvements in billing, collection and monitoring are being pursued by changing from manual procedures of consumer accounts to computerised procedures. In addition, many DH utilities are now introducing penalties for late payments and discounts for early payments, taking legal actions to recover debts and adding interest on arrears. The Strategy will support DH companies and municipalities with the introduction of more effective billing and collection. DH companies need to improve their supply service and improve customer relations by introducing a change from a DH supply company to a more customer-oriented company that is concerned with customer service. By improving the services, consumers will be more motivated to pay and also pay on time.

E.3 PROMOTING SUSTAINABILITY

DH is an established, world-wide option for heat provision in urban areas and seems likely to endure. Despite significant variations between countries regarding operational, regulatory, market liberalisation and financing options, DH has proved to be a least-cost, sustainable solution for the provision of heating to many residential consumers. Energy efficiency savings of 25-30 per cent are typically feasible through rehabilitation or replacement of equipment, and the introduction of automation and control equipment. These savings help reduce the cost of DH services to an affordable level for consumers and improve the balance of payments of energy-importing countries. Through utilisation of energy waste, new and innovative technologies and technical improvements as well as the introduction of renewable sources for generation of heat, DH becomes more efficient and more environmentally-friendly, with a significant beneficial impact on climate change.

In addition, environmental awareness and local and global environmental considerations are becoming more significant in the EBRD region. The most efficient way to reduce environmental impact quickly is through improved energy efficiency and a switch to renewable energy sources. The implemented projects have demonstrated significant reductions in fuel use, leading in turn to reductions of emissions, particularly CO₂ and other greenhouse gases. Furthermore, through the framework of Joint Implementation

and the Clean Development Mechanism, there exist substantial opportunities for trading carbon credits in the DH area.

The investments needed to rehabilitate DH systems in the EBRD region are huge and will need to be financed from external sources. In Russia alone, about 10,000 towns and cities await rehabilitation of their DH and there are about 2,000 cities in Central Europe with out-dated DH infrastructure. The local commercial banking sector in many countries is still under-developed and finance is usually only available on terms that do not match the requirements of typical DH projects.

Sustainable private participation in DH services requires certain conditions, which are generally lacking in most of the Bank's countries of operations, both at the national as well as the sector level, particularly the potential to cover the costs. The structure and level of tariffs set by national regulators, lack of metering, use of intermediaries in billing and lack of direct relationship with the customers make it unattractive for private operators to enter the DH sector. However, gradual commercialisation of the utilities with access to financing shows a positive trend concerning privatisation in the DH sector, once adequate legal and regulatory frameworks are in place.

The Bank will aim to improve the sustainability of the sector by focusing on certain goals:

Box 10. District Heating | Sustainability Goals

- Increasing the number of people with comfortable and reliable heating and hot water services.
- Increasing the number of people with tariffs based on actual energy consumption (heat and hot water).
- Reduce the utilisation of fuel, treated water and electricity.
- Reduce operating and maintenance costs.
- Decrease greenhouse gas emissions.

E.4 EBRD POSITIONING

The EBRD is well positioned to respond to the opportunities and challenges in the DH sector and has clearly demonstrated its important role by providing financial support to the needed investments and policy and institutional changes.

Create competitive markets for heating options. DH has been a preferred and even mandatory heating option in the EBRD region, but has not always been the least-cost solution. The Bank will play an important role in assisting cities and regions to develop long-term heat supply strategies based on least cost analysis, assuming a competitive market where price distortions, municipal subsidies, cross subsidies and discriminatory tariffs have been eliminated. Experience shows that DH can compete successfully with gas, electricity and coal in highly populated areas (with high load density), particularly where DH infrastructure exists ('sunk costs advantage'). The EBRD will assist its clients to define the least cost economic and financial solutions for heat supply and create a competitive environment through policy dialogue with the national and local authorities and regulators, and enhancing cooperation between operators and municipalities through project support agreements.

The Strategy will support the introduction of alternative fuels and alternative energy sources such as renewable fuels, energy from waste, geothermal heat etc., which may

further enhance DH's competitive position relative to other heating alternatives. The Strategy will also identify areas where DH is not an optimum solution and would need to be abandoned in favour of more appropriate, decentralised options such as gas-fired individual boilers.

Energy efficiency improvements. Fuel savings through energy efficiency improvements have been demonstrated to amount to 20-30 per cent where a holistic approach has been applied. This means that investments have been implemented throughout the entire DH system: supply as well as demand sides. Investments in improved energy efficiency, increased reliability and quality of provided services will reduce costs, lower the tariffs for the population and thereby improve affordability. Heating-related expenditures are a high burden for many municipal budgets, and increasing efficiency and reducing costs of heat supply may help to reduce the burden.

Additional funding and TC support. The Bank is in a unique position to mobilise co-financing from other IFIs and donors. By promoting energy efficiency and environmental improvements through DH projects, the Bank has been able to attract additional financing from such sources as the EIB and the NIB as well as from bilateral aid and export credit agencies. The grants are used to finance capital expenditures as well as TC.

Supporting PPPs and private operators. In the Baltic countries, and also in Romania and Bulgaria, the DH utilities are on the way to becoming commercialised, which reduces the risks and makes the heating sector more attractive for private operators. Once adequate legal and regulatory frameworks are in place, and the utilities have been commercialised and corporatised, the private sector has demonstrated its willingness to invest in DH upgrades and modernisation. This trend is on-going as well in Russia, Ukraine and Kazakhstan. The EBRD is actively involved in assisting with structuring concession arrangements and with financing of the private operators in order to take-over the operation from the DH utilities and to implement necessary investments.

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ANNEX F – SOLID WASTE

F.1 SUMMARY OF NEEDS

Over the 2004 MEI Policy period, solid waste management was a small though important component of the Bank's activity, comprising only five per cent of the number of operations. Since the main constraint was local resistance to the construction of new facilities, the emphasis was on the rehabilitation of existing sites to create new sanitary capacity. However, changing consumption patterns and continuing urbanisation will set further challenges for solid waste management in the coming decades.

A sustainable solid waste management programme contributes to a healthy environment and economic growth. Increasing global awareness of the need to manage the waste production chain and to 'Reduce, Reuse and Recycle' before using scarce and expensive disposal methods has become a key aspect of developing solid waste projects in the EBRD region. Improving waste management will make better use of resources and can open up new markets and jobs. It can also reduce dependence on imports of raw materials and lower impacts on the environment.

The majority of the Bank's countries of operation use landfills as their primary end-point for waste disposal and the majority receive both municipal and industrial waste. A trend is toward the closure or rehabilitation of non-compliant dumpsites and the concentration of waste disposal into a smaller number of sanitary landfills. In the past, landfill tipping fees were generally low or even non-existent, but overall there is a trend toward partial or full cost recovery fees.

F.2 SECTOR-SPECIFIC CHALLENGES

Governance. Municipal waste collection, transportation and disposal are typically a local government service. Waste management policy-making and regulation tend to be exercised by the national government, with local governments typically handling enforcement. Most countries have prepared or are preparing a national waste management strategy which summarises the situation and sets out positions on key issues such as waste generation, recycling, disposal and monitoring.

In terms of advancing transition, EBRD projects will continue to promote greater transparency and accountability through: (1) corporatisation and seeking greater autonomy for corporatised service providers; (2) requiring public service contracts, competitive procurement and international accounting standards; and (3) encouraging greater transparency through environmental impact assessments, public consultations and public information campaigns, to generally improve the level of governance.

Regulation and cost recovery. Waste management is often the responsibility of a municipal department or waste management company. Most municipalities levy a charge for solid waste services based on verifiable criteria such as floor space or registered inhabitants rather than the volume of waste generated. Such charge usually covers operating costs, but is generally insufficient to fund major capital investments. Landfills can use a weighbridge to charge a volume-based fee reflecting the actual cost of service. However, competition from less expensive competitors, or the potential for illegal dumping to increase, means that the tipping fee rate must be handled sensitively.

Household fees are generally affordable in most countries, but in the ETC affordability can be a constraint on meeting cost recovery targets and preventing illegal dumping.

The Bank's transition focus will be to structure projects and provide TC to support municipalities with key issues such as: levying of solid waste collection and disposal fees that achieve cost recovery, while taking account of affordability constraints and the possible negative impact on the environment of alternative or illegal dumping; introduction of volume-based charging; separation of waste collection and disposal services to bring greater transparency into the cost structure; and investment in or reform of accounting and billing systems, as well as collection techniques.

Efficiency. Bank financed projects will continue to seek efficiency in the delivery of solid waste services whether provided by the public or private sector. Solid waste is suitable for a range of solutions such as the corporatisation of services, more autonomous management and the charging of full cost recovery fees to the extent possible. The support of regional waste management strategies and companies to serve smaller municipalities will promote consolidation and regionalisation and bring efficiencies of scale. Where private sector participation is not a realistic solution, technical cooperation may be provided to assist public sector waste management service providers with new ideas and techniques such as transparent benchmarking, customer-orientation training, training on the achievement of technical and environmental standards, and improving the accessibility of services to all customers in the area.

Private sector participation. All or some solid waste management collection, transportation, sorting, recycling and disposal, including incineration and waste-to-energy services are suitable for public-private partnerships. The Bank will continue to promote private sector participation in the financing, construction, operation and ownership of the full range of solid waste services. All projects will be assessed to determine whether private participation methods including tendering for construction, operation, concession or privatisation are utilised where possible. For the more complex public-private partnership arrangements, the Bank would potentially support the public and private sector partners to ensure that: (1) contracts are balanced, (2) there is a reasonable level of risk transfer to the appropriate party, (3) sufficient expertise is in place to advise the municipality on the benefits and risks of private participation up to and including equity investment, and (4) risk capital is in place to co-invest alongside the private sector partner.

F.3 PROMOTING SUSTAINABILITY

Urban infrastructure and services. The Bank will aim to improve the sustainability of the sector by focusing on certain goals:

Box 11. Solid Waste | Sustainability Goals

- Ensure implementation of the relevant parts of the EU Waste Framework Directive, including minimum targets through national waste prevention and management strategies.
- Implement the polluter pays principle to encourage recycling and waste reduction.
- Review existing prevention, re-use, recycling, recovery and landfill diversion targets to move towards an economy based on re-use and recycling, with residual waste close to zero.
- Increase the number of people served by waste collection systems.
- Construct EU-standard sanitary landfills.
- Decrease waste production and increase recycling and composting levels.

Environmental and social sustainability. Looking forward, solid waste management will continue to be a small but important component of EBRD MEI activity and the following themes are expected to be important over the new Strategy period:

- Increasing levels of waste generation and greater environmental awareness mean the collection and disposal of waste will continue to need substantial investment. The primary investments will continue to be the rehabilitation and construction of sanitary landfill infrastructure, along with collection vehicles and equipment. However, waste-to-energy plants such as bioreactors, composting facilities, anaerobic digesters and incineration facilities could become an area requiring capital investment from the Bank, plus support to mobilise the skills of experienced designers and operators to prepare and implement such investments;
- Regional waste management strategies and investments are already being adopted and implemented in several countries to achieve cost savings, reduce the environmental footprint and simplify operational and environmental regulation. Local municipalities often lack both the capital and the organisational and institutional capacity to develop and implement such structures, making TC highly additional and transitional in these cases;
- Building the capacity to carry out environmental and social impact assessments and participatory public consultations to help find suitable locations and waste treatment technologies among the available alternatives in accordance with more sophisticated local and international requirements is imperative for sustainable solid waste management solutions. The current practice varies widely across the region, especially in the ETC. Similarly, the capacity to prepare environmentally sensitive projects accessible to co-financing by commercial co-financiers or international or bilateral donors is also not widely available. The EBRD can continue to play a key additional and transitional role by bringing together capital, skilled expertise, rigorous standards and foreign partners to finance these types of investments.

Financial and budgetary sustainability. The EBRD objective will be to finance systems to receive, transport, store, separate, recycle, recover, and safely dispose of solid waste in accordance with the applicable EU directives, while also promoting information campaigns to encourage new behaviour to reduce and re-use waste generated. The EBRD will promote the application of appropriate tariff structures that lead to full cost-recovery where practicable (while avoiding illegal tipping), and generating revenue streams that can support project financing, sustainable investment and operations.

Energy efficiency and climate change. There are numerous ways to increase energy efficiency in the solid waste sector. Reducing input volumes will of course reduce energy consumption, for example by reducing food waste and minimising packaging. The optimisation of the supply chain with integrated waste-to-energy technologies can bring benefits. And in terms of processing, developing the composting of bio-waste, using recyclable/biodegradable packaging and increasing the use of biodegradable waste for bio-energy and bio-products, and reducing the energy intensity of waste treatment can all contribute.

F.4 EBRD POSITIONING

One of the principal reasons for the relatively small number of solid waste projects in the EBRD portfolio is that many countries have an inadequate policy framework and

consequently it can be very difficult to implement modern waste management systems. In countries where there is serious interest in solid waste issues at national level, the Bank will consider investing time and TC resources in policy dialogue. The EU Waste Framework Directive will be a reference point for this work. As indicated above, a modern policy is likely to have a focus on ‘Reduce, Reuse and Recycle’ before using scarce and expensive disposal methods.

At the project level, EBRD can potentially intervene at any or all stages in the waste management cycle. Investments might include upgrading of existing dumpsites, improvement of supply chains/logistics and/or building new landfills subject to the results of appropriate feasibility studies. Activities could also include energy recovery from waste, dealing with fugitive methane emissions, and biogas capture and use.

Solid waste projects tend to be complex, contentious and resource-intensive. The size of EBRD investments in the sub-sector is small with more than half of all solid waste projects to date involving EBRD investment of EUR 5 million or less. The Bank will therefore focus on doing more projects in order to improve public health and achieve transition, but their aggregate contribution to annual business volume is likely to remain modest. Key transition elements would be commercialisation through the implementation of contractual arrangements and the application of appropriate user charges.

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ANNEX G – ENERGY EFFICIENCY AND CLIMATE CHANGE

The EBRD launched its Sustainable Energy Initiative in 2006 to address the twin challenges of energy efficiency and climate change in the region. SEI market segments range from municipal infrastructure to large industries and renewable energy. SEI accounted for almost 30 per cent of EBRD's portfolio in 2011, and the Bank invested EUR 243 million in the MEI sector in 2011 under the SEI, including seven 'clean' public transport projects and an innovative renewable energy district heating project.

Energy efficiency and climate mitigation and adaptation permeate all Bank operations:

- in the water sub-sector, notably in Tajikistan;
- in urban transport, the EBRD is on track to successfully combine carbon finance with network modernisation in Warsaw's electric transport network;
- in district heating, soft donor finance from the CTF and traditional EBRD finance combined to move towards more demand-driven heat supply in the district heating networks of CAEPCO, a private energy company in Northern Kazakhstan;
- in solid waste, funding from the CTF will support the move to advanced waste treatment and energy production from waste in Aktau, Kazakhstan; and
- in residential and public buildings, funding from the GEF is supporting the renovation of public buildings in Russia under innovative forms of contract.

G.1 SUMMARY OF NEEDS

Drivers. During the 2004 MEI Policy period, energy efficiency and climate change became key drivers in the delivery of EBRD finance. Improvements in public transport, water and waste, and district heating carry immense potential benefits in terms of climate mitigation and adaptation. Improving energy efficiency in municipal service delivery will also deliver important co-benefits. It will increase the welfare of citizens, reduce the cost of service delivery, and improve the quality of services delivered. These are key aspects of the operations of modern cities and are directly linked to achieving the Bank's transition mandate.

Hurdles. The current practice in many cities and municipalities remains for low-quality, low-charge services to be delivered from out-dated installations. Municipalities are caught in a trap of limited affordability preventing increased service charges, which in turn prevents investment. This is especially the case in, but not restricted to, the ETC region. Additionally, technical capacity, especially in secondary cities, remains weak and potential clients require significant technical support.

G.2 SECTOR-SPECIFIC CHALLENGES

Tariff structures/Cost recovery. Tariffs for municipal services are below cost-recovery levels in many service companies in the EBRD region. In order to achieve long-term sustainability, it will be necessary to increase tariffs over time to full cost recovery levels. This process needs to move in parallel with the investment required to provide services of higher quality and with higher efficiency.

Lack of awareness/expertise. Especially in secondary cities, the technical capacity of municipal government and service company staff is generally insufficient without additional support to carry out adequately the procurement and installation of high-efficiency technologies, and develop new approaches to service delivery.

Affordability. In the lower income countries of the region, particularly the ETC, affordability issues prevent cost-reflective charges from being raised in many services. This reduces the ability of the service provider to invest in renewing delivery infrastructure, and the potential for private delivery of services. Overcoming this challenge will in some cases require the judicious use of donor money, to help break the vicious circle in which many municipal service providers are currently trapped.

Private sector participation. Mobilising the private sector to deliver municipal services can have the effect of increasing efficiency and service quality. In many countries of operations, existing budget rules, lack of awareness and expertise, and lack of suitable private sector operators, and/or finance for the same, restrict this potential.

Box 12. Bulgaria | Enemona ESCO

Enemona, a Bulgarian construction and engineering company, became in 2007 the first dedicated ESCO in the Bank's region. The EBRD lent EUR 7 million to the Bulgarian Fund for Energy and Energy Savings to encourage private sector investors to develop ESCO contracts in the industrial and public sectors, including schools, hospitals and other municipal buildings. These ESCO contracts are being implemented by Enemona. The company has carried out energy efficiency projects in ten kindergartens, eight schools and two hospitals. Enemona is currently working on a pipeline of another 17 ESCO projects. Its rapid development stems partly from the Bulgarian government's decision in 2004 to introduce mandatory energy efficiency audits for state and municipal buildings.

Integration of the demand side. Integrating the demand side in the delivery of energy services is an important challenge. Lack of demand side measures leads to excessive consumption and lack of incentives for improvement. Some initial projects with dedicated ESCOs or EnPC are allowing the Bank to learn important lessons about structuring such projects, and the particular needs which the Bank could address. A detailed description of the Bank's co-operation with GEF in Russia is below.

Box 13. Russia | Energy Efficiency in the Public Sector

EnPCs and ESCOs. EnPCs are a form of contract whereby the client selects a private firm (an ESCO) to undertake specified energy efficiency measures, which are then repaid from the future energy savings resulting from these measures. The advantage of an EnPC is that the repayments are derived from the future energy savings so the contractor takes the risk of achieving an agreed level of guaranteed energy savings. Once the EnPC is completed and the investments repaid (typically after five to seven years), the client gets the full benefit of the energy savings accruing thereafter.

GEF-funded programme in Russia. The main thrust of the GEF programme is twofold: to establish the EnPC market in Russia and to finance EnPC contracts either by lending directly to ESCOs or through financing entities providing finance based on the revenue stream of an EnPC contract (e.g., forfeiting). The programme is centred on EnPC at the level of municipalities or regions and consists of: policy support to the Russian Ministry of Economic Development and Trade; technical assistance; and finance through a variety of instruments. The Bank is currently selecting four regions or cities to work with on developing and implementing pilot projects. Once this process is finalised, specific project development work will be undertaken in 2012.

Practical implementation. Some examples of demand-side measures are: (1) installation of energy efficient indoor lighting in a building; (2) installation of an individual heating point in a building; (3) optimisation of the hot water system; (4) installation of temperature valves on radiators and the balancing of the heating system inside a building; (5) insulation of walls, roof and attic; (6) replacement of windows; and (7) the installation of energy efficient public street lighting.

Private sector participation. The Bank is working with several Russian corporates that plan to separate non-core assets into an ESCO subsidiary company, which will implement EnPCs initially in public buildings and public lighting and later in district heating and water supply. The Bank is also seeking to identify sponsors of dedicated ESCO financing instruments, which could include strategic corporates, for example a large industrial facility driving the economy of a whole town. Such sponsors would establish dedicated financing entities to support ESCOs (e.g., through purchasing the receivables under an EnPC), provide the initial core equity and leverage additional finance from EBRD or other banks.

Box 14. Russia | Demand-side Energy Management in the Residential Sector

Conceptual approach. The Bank has been working with the Russian Ministry of Regional Development to develop a mechanism for financing capital repairs and energy efficiency improvements in multi-family apartment buildings. This mechanism should address a number of legislative and regulatory barriers to allow for the financing of housing management companies and home-owners' associations.

Pilot project in Novgorod. A pilot project is expected to start in Novgorod in 2012, entailing a new holistic approach combining supply, distribution and demand for heat. The proposed programme consists of two parts: (1) a DH project structured to include both the supply and the distribution assets of the DH company, plus control and metering equipment within residential buildings (state-of-the-art individual heating substations); and (2) demand-side measures inside residential buildings, which would be financed through a dedicated housing energy efficiency project to be developed with the local city administration and local banks, with support from GEF grants. This part of the Project would be based around an adaptation of the EBRD's successful Sustainable Energy Financing Facility model where smaller energy efficiency projects are financed through participating commercial banks.

Enabling role of meters and control equipment. Investment in heat meters and autonomous control of each building is crucial for the modernisation strategy of the entire district heating system, a step towards switching from production to consumer controlled heat provision. Heat meters will allow building owners to shift the billing from existing flat energy benchmarks per square metre of floor area to the actual heat consumption as recorded. Heat control units will enable the regulation of heat supply for each individual building, matching it with actual, variable heat demand thus decreasing energy waste from overheating. In turn this will incentivise home owners to consider demand side measures such as: hydraulic balancing of the internal distribution system within the buildings; introduction of thermostats and heating allocators at flat level; replacement of stairwell windows/glazing; attic and roof insulation; and insulation of horizontal mains and pipes in the basements and attics.

Expected benefits. The energy efficiency benefits from a project such as the one in Novgorod are estimated in the range of 30-40 per cent in the entire energy chain from heat generation to the demand side measures (around 20 per cent from the supply and distribution side and another 10-20 per cent from the demand-side). The transition objectives are to: (1) develop a demonstration project with a holistic approach to energy efficiency; (2) facilitate reform in the residential sector involving residents and housing management companies; and (3) develop commercial funding mechanisms for energy efficiency retrofit of residential buildings.

G.3 EBRD POSITIONING

Addressing climate change through action in municipalities, cities, and regions has become a critical element of the response, due to the delays in finding agreement on a global solution. EBRD is well placed to provide its clients with a range of investment

support options that address climate mitigation, while improving their service delivery and reducing their cost base.

The Bank will continue to weave technical cooperation, finance and, where required, investment support into a coherent package to address clients' needs. It will do this by focusing clearly on its existing range of products, which will be expanded as appropriate to bring in additional sources of finance, such as carbon finance, and to cover additional aspects of the supply chain.

The Bank is extending its activities through a major pilot project in Russia. Once lessons have been learned through practical implementation, a programme will be rolled out in Russia and other countries.

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