

Municipal and Environmental Infrastructure Sector Strategy

April 2019



European Bank
for Reconstruction and Development

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- A vibrant **Municipal and Environmental Infrastructure** (MEI) sector is essential for the development of sustainable market economies, prosperous societies and a healthy environment.
- The MEI Sector Strategy promotes sustainable urban economies that are low-carbon, environmentally friendly, and socially open. This is in line with the UN Sustainable Development Goals (SDGs) and also reflects the role of cities in addressing climate change challenges and improving liveability.
- This Strategy **covers all the Bank's countries of operations (COOs)** and interfaces with other EBRD strategies, approaches and policies. Given that the MEI Sector Strategy covers district energy, it is aligned with the Energy Sector Strategy, and is important for delivering the Bank's Green Economy Transition (GET) approach.
- The MEI Strategy covers the Bank's activities in **traditional urban sectors*** with a strong focus on Green Cities, and **expanded areas of operations** such as climate adaptation, irrigation, integrated renewables, smart cities, industrial parks, facilities management, urban regeneration, cultural heritage and 'circular economy'.
- The **overall objective** of the Strategy is **to promote the growth and development of enhanced, accessible, sustainable municipal and environmental infrastructure** in the EBRD countries of operations. Green and smart cities are at the heart of the Strategy.
- The **key drivers** influencing MEI activities are:
 - *Environmental challenges and practices*, notably climate change and growing air/water/soil pollution;
 - *Demographic and social pressures*, notably urbanisation, migration, gender and income inequality, and growing regional disparities;
 - *Weak governance and asset management practices*, resulting in deteriorating infrastructure, capacity and funding constraints.
- These key drivers give rise to the following interrelated strategic directions of the **2019–2024 MEI Sector Strategy**:
 - Providing **green and sustainable financing to at least 100 cities** by 2024;
 - Advancing **asset management and environmental solutions**, and addressing emerging **socio-economic challenges**, including regional disparities;
 - Driving the environmental, economic, and social **sustainability** of the sector through capacity building and improved corporate governance;
 - Promoting diversified and innovative financing structures, including a strong focus on sub-sovereign lending, to address **funding gaps** and harness private capital.
- Although municipal authorities and public sector entities will remain the main sector investors, the Bank will, where feasible, promote private sector investments, including the development of robust legal and regulatory frameworks that support such investment.
- Success in achieving these objectives requires selective donor support, improvements in the implementation capacity of public sector clients, and effective cooperation with other IFIs and investors. Focus on technological and financial innovations is expected to enhance sector sustainability.
- To support climate goals, improvement in air quality, and alignment with the SDGs, and as set forth in its Energy Sector Strategy, the **Bank will not finance any coal-fired heat-generating plants.**

* Traditional urban sectors are water and wastewater, urban transport, solid waste management, district energy and energy efficiency.

Scope and structure of MEI Sector Strategy

The 2019–2024 MEI Sector Strategy covers activities in two areas:

(1) Essential municipal services:

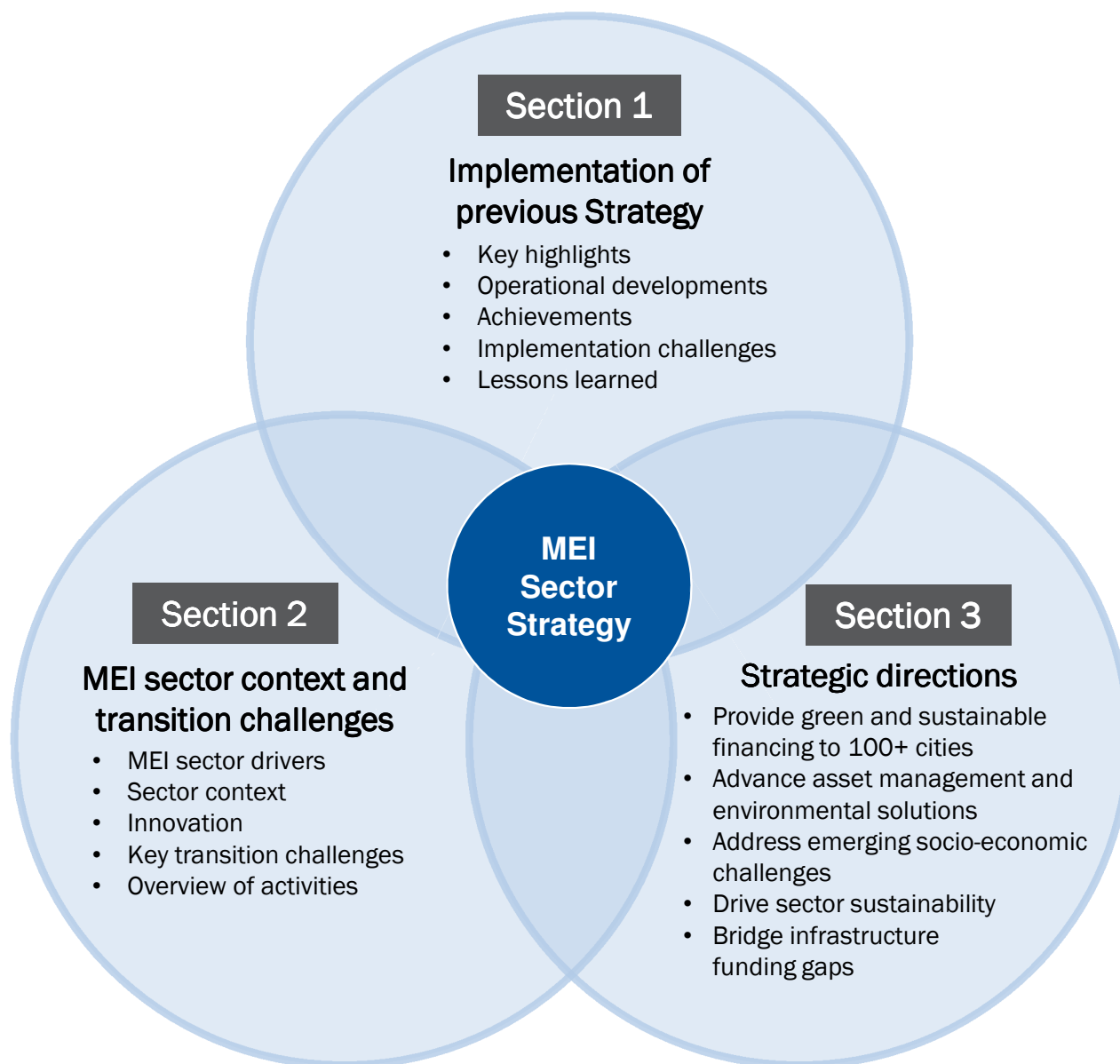
- water and wastewater;
- urban transport;
- solid waste management;
- district energy* and energy efficiency.

(2) Expanded areas of operation:

- climate adaptation;
- irrigation;
- integrated renewables;
- smart cities;
- industrial parks;
- migration;
- facilities management;
- urban regeneration, cultural heritage;
- 'circular economy', 'sharing economy'.

The Strategy aligns and interfaces with other strategies, approaches and policies, including:

- Country strategies that prioritise the Bank's activities according to countries' needs (which include results frameworks to ensure accountability).
- Sector strategies, such as the Energy or Transport sectors.
- Strategic approaches of sector teams, such as Agribusiness, and Property and Tourism.
- Thematic strategies and approaches, such as the Green Economy Transition approach, the Strategy for Promotion of Gender Equality, and the Economic Inclusion Strategy.
- Policies, such as the Environmental and Social Policy.



* Includes district heating and cooling.

1. Implementation of previous Strategy

1.1. Snapshot of activities during previous strategy period 2012–2018



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Key figures

283

Signed projects
2012–2018

€5.4 bn

Cumulative investments
2012–2018

310

Active operations
2018

99%

GET-related projects
2018

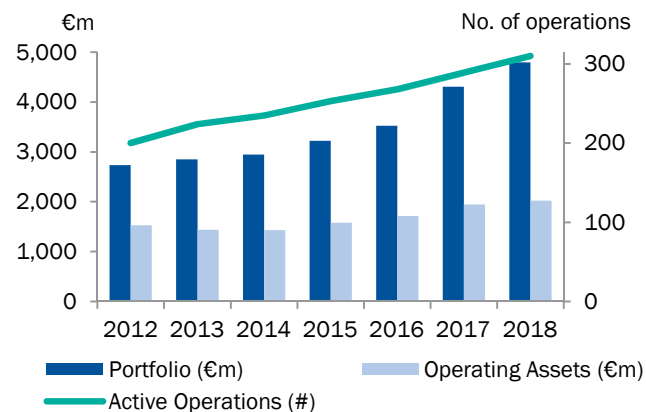
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Expected Transition Impact*

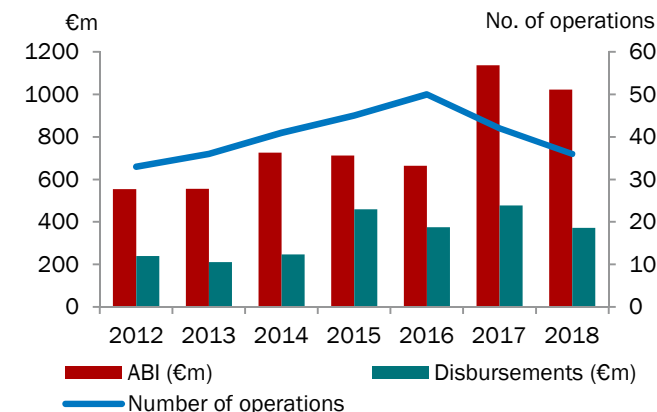
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Portfolio Transition Impact*

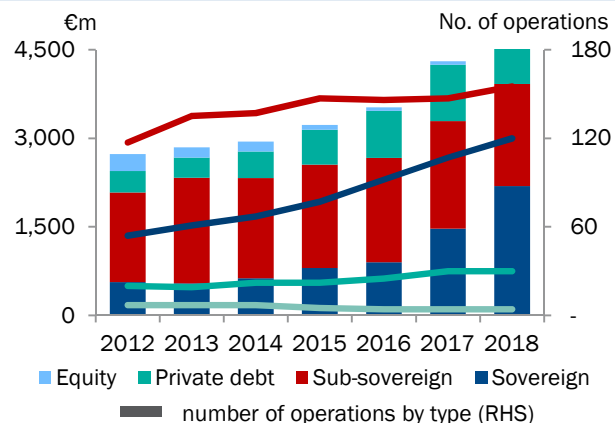
Historical dynamics



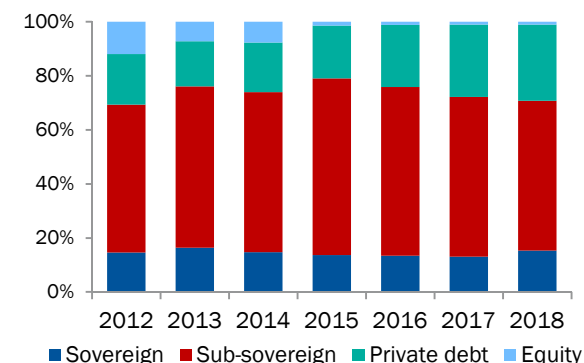
ABI and operations



Portfolio composition



Operating assets composition



- MEI's portfolio has grown steadily due to the **Hospital PPP programme in Turkey**, sizeable projects addressing **SEMED** infrastructure gaps, large-scale **metro projects** as cities move towards carbon-neutral transport, and increased availability of **grant funding** to support project preparation and implementation, including through SIA**.
- MEI works intensively with **small cities/municipalities** and continues to be a champion of green investments.

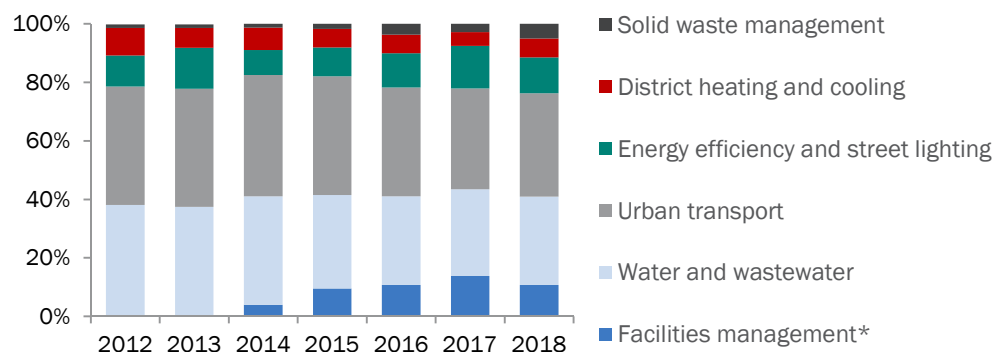
- Although sub-sovereign lending remains the cornerstone of its work, MEI's **sovereign portfolio** has grown due primarily to large metro investments, increased lending in SEMED, and water sector projects in Central Asia.
- Limited client capacity** resulted in **slow disbursement rates** leading to a slower growth of operating assets. The Bank has expanded its **procurement support** in response.
- Equity** operations have shrunk due to exits in large investments and limited new prospects.

1. Implementation of previous Strategy

1.2. Operational developments

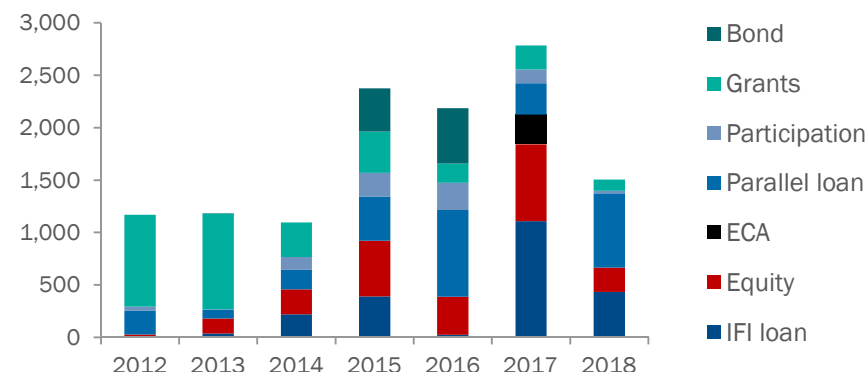
Portfolio composition by sector

- Water and urban transport remain key sectors with the emergence of **facilities management**, reaching €514 million or 11% of portfolio in 2018



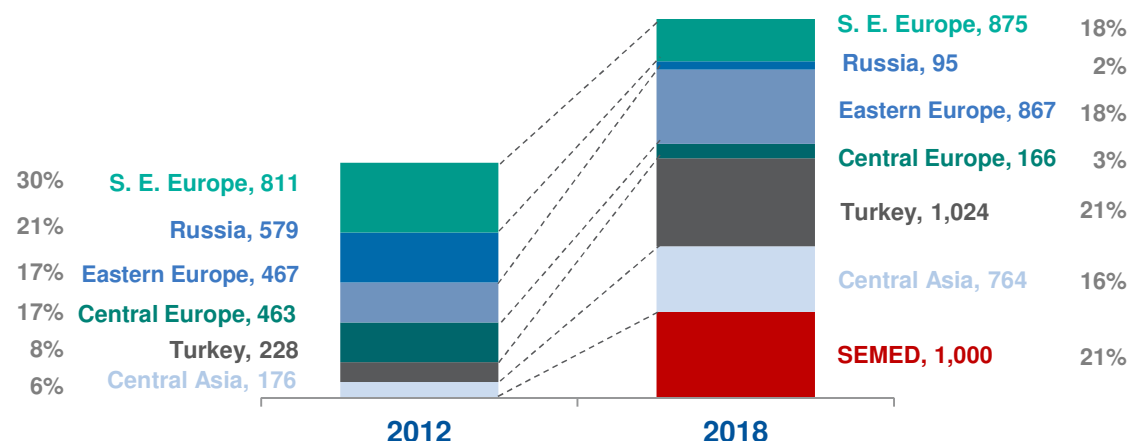
Mobilised co-financing (€m)

- Increased **diversification** of funding, with cumulative **co-funding mobilisation of €12.3bn**, including loans at €6.1bn, **grant** co-funding at €3.0bn, **equity** €2.3bn, and **bonds** €0.9bn



Portfolio composition by region (€m, % of total)

- SEMED and Turkey**, contribute over 40% of MEI's annual ABI
- ETC outreach** successfully scaled up – investments in Central Asia nearly tripled



- Increase in **innovative projects** within facilities management (hospital PPPs), bulk water supply and irrigation schemes, municipal services (street lighting, revolving Energy Efficiency Fund), Green Cities Framework

* Facilities management category includes PPP projects primarily in Turkey.

1. Implementation of previous Strategy

1.3. Operational highlights and achievements

2012 Strategy focus	Key results highlights
Decentralisation	<p>EBRD helped to strengthen institutional structures and improve the quality and efficiency of local infrastructure and services through its focus on reduced central control. Decentralised decision making motivates the public sector to be more accountable to local constituents' needs and to address inefficiencies, further enhancing sector sustainability.</p> <ul style="list-style-type: none"> Both sub-sovereign (c. 50% of municipal loans) and sovereign investments were typically accompanied by capacity building support and stakeholder engagement. The Bank supported sector consolidation to ensure greater economies of scale and to promote long-term sustainability of local utilities. In Romania, the R2CF/Water Sector Framework introduced (i) regionalisation and (ii) a benchmarking platform for water sector peers, resulting in improved management across the sector. Performance-based contracts/Public Service Contracts (PSCs) were introduced as part of MEI projects to promote management and financial independence.
Commercialisation	<p>The Bank helped to enhance financial and operating sustainability, asset management practices and corporate governance standards of municipal utilities by enhancing client capacity, initiating policy dialogue, using sub-sovereign financial instruments, and promoting commercialised structures.</p> <ul style="list-style-type: none"> The Bank helped to build client capacity by i) providing financial and operational improvement programs (FOPIP), project implementation support, corporate development programmes to utility companies, ii) introducing PSC, and iii) bringing rigour and oversight to tendering and contract management. The Bank leveraged its investments to promote broader sector reform objectives by conducting i) targeted policy dialogue on tariff reform as part of its project preparation, and ii) policy seminars on a broad array of topics, including asset management and facilities management in PPPs. The Bank continued driving the shift from sovereign to sub-sovereign lending on a commercialised basis (refer to case studies in Annex E). The non-sovereign nature of the EBRD business model stands in contrast to traditional sovereign IFI or bilateral lending in this area.
Environmental and social impact	<p>EBRD fostered the improvement of environmental standards, underpinned adaptation to climate change, promoted social engagement with citizens (as users and/or affected people), improved quality of life, and supported global transition to a low-carbon economy by reducing GHG emissions.</p> <ul style="list-style-type: none"> Driving the Bank's GET approach, MEI achieved a share of 99% in GET finance in 2018. In addition, the Green Cities Framework was launched in 2016, with a current headroom of €950 million. In the irrigation sector (a sub-sector which accounts for 60+% on average of water usage in COOs), the EBRD championed investments in Morocco and Kazakhstan to address water scarcity and build sector resilience to climate change. Recognising that buildings are responsible for more than 40% of global energy consumption, MEI expanded its investments into energy efficiency in residential and public buildings, as well as street lighting, aiming to reduce CO₂ emissions. The Bank's Refugee Response framework was launched in 2016 to help mitigate the social and environmental impact of the refugee influx with signed projects in Jordan (sewage, solid waste) and Turkey (buses, hospitals, water) amounting to €254 million. Between 2012 and 2017, over 100 million people benefitted from access to drinking water supply/sanitation, waste management, and district energy services financed by the Bank. Over 2.5 billion people p.a. benefited from improved urban transport services financed by the EBRD, contributing positively to the UN's SDGs. Between 2012 and 2017, MEI projects reduced annual CO₂ emissions by 3.2 million tonnes p.a., equivalent to removing 2 million vehicles from the road every year.

1. Implementation of previous Strategy

1.4. Key lessons from implementation

Investment needs remain large. Operational responses vary by region and depend on the transition readiness of the country, including its institutional and regulatory capacity, which in turn affects the Bank's ability to drive reforms, given affordability concerns and political pressures.

Challenges	Operational responses	Key lessons
<ul style="list-style-type: none"> • Unsustainable urbanisation • Socio-economic and demographic pressures • Increased pressure to tackle environmental challenges and promote resilience to climate change 	<ul style="list-style-type: none"> • Developed Green City Action Plans (GCAPs) to assist cities with strategic policy support in prioritising green, resilient, environmentally sound city investments. • Promoted best available technology and introduced private sector investors*** for know-how transfer. • Launched Refugee Response Framework investments in regions of particular need, such as Jordan and Turkey. 	<ul style="list-style-type: none"> • GCAPs are useful tools in helping cities to prioritise environmental challenges and plan sustainable investments. • Donor funds are critical for addressing crisis situations and ensuring project affordability. • Frameworks* and Integrated Approaches** are effective at streamlining policy dialogue and project preparation.
<ul style="list-style-type: none"> • Decrease in available funding stimulated governments and operators to focus on asset performance and resource efficiency 	<ul style="list-style-type: none"> • Ensured implementation of KPIs in public and private sector contracts to pursue advanced asset management. • Facilities management projects promoted private investment*** in public assets. • Operations and maintenance contracting and PPP models promoted in markets where legal framework for private sector investment exists. 	<ul style="list-style-type: none"> • Sustainability of infrastructure requires cost-recovery tariffs, operating efficiency, financial independence, planning, and regulation. The private sector can add value in this. • Credibility and effectiveness of PPPs depend on the project's alignment with best practices. • Engagement in PPPs is necessary, but should remain selective, linked to market readiness and sound project economies.
<ul style="list-style-type: none"> • Banking regulations and risk policies restrict appetite of investors 	<ul style="list-style-type: none"> • Pushed sub-sovereign financing in new markets. • Fostered the use of innovative financing structures, such as project bonds, green bonds or mezzanine financing. • Used innovative credit enhancement facilities to leverage EBRD involvement and attract private investors. • Set up risk-sharing infrastructure funds to support local banking market investments in municipal infrastructure. 	<ul style="list-style-type: none"> • Leveraging EBRD market knowledge/experience helps address investor's requirements/obstacles to investing. • Success in attracting private investors to finance municipal bonds depends on proper structuring and local capital market readiness. • Engaging in new capital market products can allow an investment pipeline to build up. • There still is significant scope to develop a sub-sovereign lending in EBRD COOs, subject to the appropriate regulatory framework being in place.
<ul style="list-style-type: none"> • Lack of bankable projects limits investment opportunities • MEI public sector projects are slow to disburse reflecting both the nature of infrastructure investments and limited implementation capacity 	<ul style="list-style-type: none"> • Deployed Technical assistance (TC) to ensure investment feasibility and improved sustainability. • Set up dedicated Infrastructure Project Preparation Facility (IPPF)**** to accelerate project preparation, coupled with increased use of sector experts. • Increased use of capacity building TC, advance procurement procedures (where possible), lender's monitors, and steering groups. 	<ul style="list-style-type: none"> • Using framework consultants can significantly decrease time to mobilise technical assistance. • Project implementation success is correlated with the quality of technical assistance. • Acceleration of loan disbursements can be enhanced by building client capacity through technical assistance, streamlining client's approval procedures, and using advance procurement procedures.

* Frameworks are instruments designed to expedite internal project processing. ** Integrated Approaches are used to address pressing transition challenges by combining a series of investment projects, associated policy dialogue and technical assistance to enhance the Bank's impact. *** As recommended by the EBRD Evaluation Department's Review of the private sector participation in MEI (2014). **** Refer to Annex I.

1. Implementation of previous Strategy

1.5. Importance of grant funding

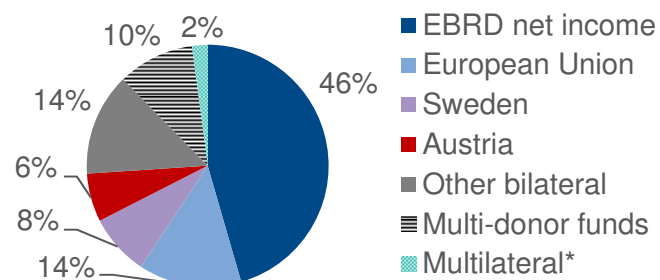
EBRD Shareholder Special Funds are critical for funding MEI's TC needs, while the EU provides the largest share of co-investment grants.

MEI grant funding is mostly used in **ETC and Ukraine**, with a recent **expansion into the SEMED** region.

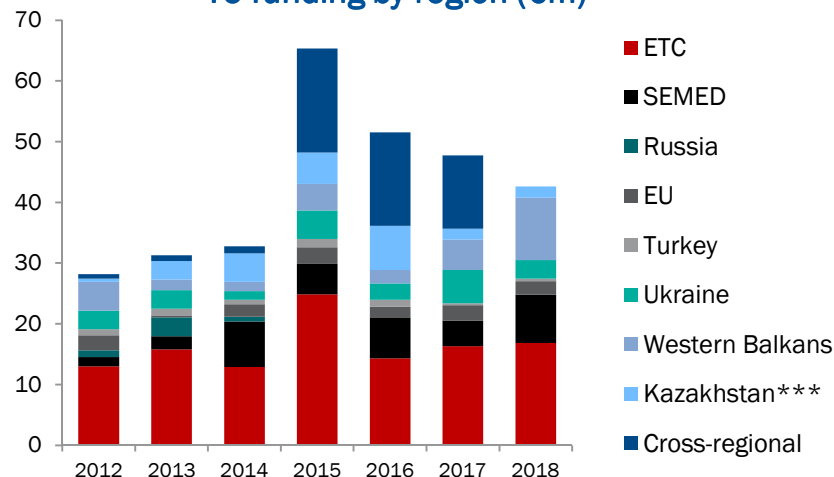
The increase in **cross-regional TC** grant funding is due to the **IPPF** allocation for 2015–2017.

Technical cooperation financing sources and uses

2012–2018 TC funding sources

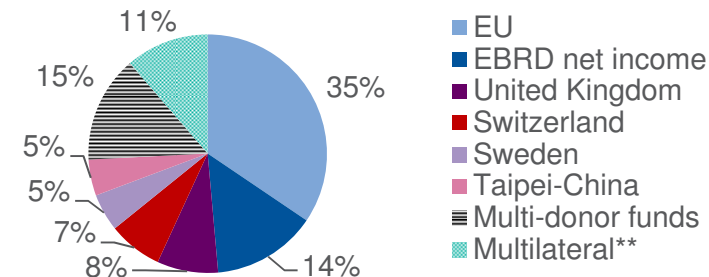


TC funding by region (€m)

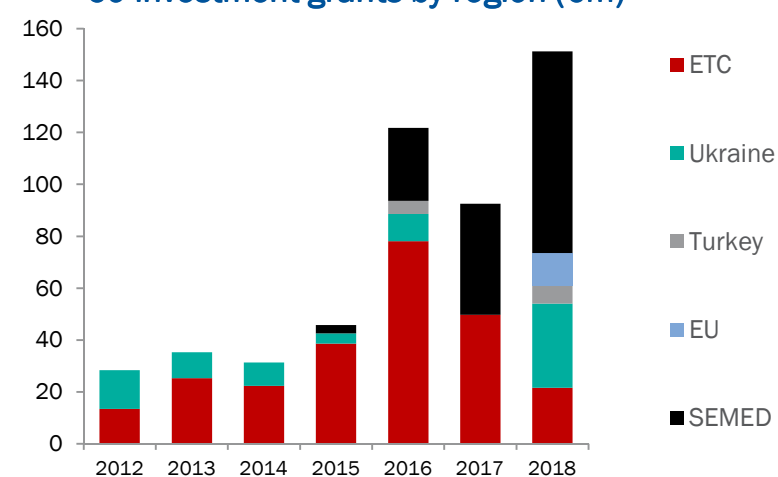


Co-investment grant financing sources and uses

2012–2018 Co-investment grant sources



Co-investment grants by region (€m)*



*** In addition to traditional donor funds, the EBRD started to enter into focused agreements with countries of operations to support infrastructure, as demonstrated by the Enhanced Partnership Agreement signed with the Government of Kazakhstan blending €350m EBRD loans with €93m co-investment grants (and €18m TC grants) from national and local authorities to finance investments in 12 Kazakh cities.

* Figures do not include concessional loans.

** Including multilateral Climate Funds.

2. Sector context and transition challenges

2.1. Key drivers and implications

Environmental challenges and practices

- Climate change
- Land-use constraints
- Air / water / soil pollution
- Poor resource efficiency practices
- Unsustainable waste management practices

Cities face multiple environmental challenges. Coupled with scarce resources and limited land availability, this puts an increasing strain on their ability to provide services in a sustainable manner. Cities need to develop cross-sectoral and regional responses to these challenges.

Demographic and social pressures

- Uneven urbanisation
- Growing regional disparities in access to services
- Affordability constraints
- Migration
- Youth unemployment
- Public health
- Gender and income inequality
- Working conditions, health and safety
- Participative society and social media

Internal and international migration changes the demand for public services across the region. Consistency in quality and access to municipal services is needed to alleviate social pressures and promote growth. Moreover, cities need to seek additional revenue sources to cope with the demands of urbanisation.

Governance and asset management

- Ageing infrastructure and systems
- Capacity constraints
- Lack of commercialisation
- Politicised management
- Funding and affordability constraints
- Fiscal space limitations
- Regulatory reforms needs
- Need for green planning
- Poor ongoing asset maintenance
- Underuse of land resources
- Low adoption of regeneration and development potential
- Demand for new approaches and technologies
- Technology transformation
- Need for integrated stakeholder engagement
- Integrity risks

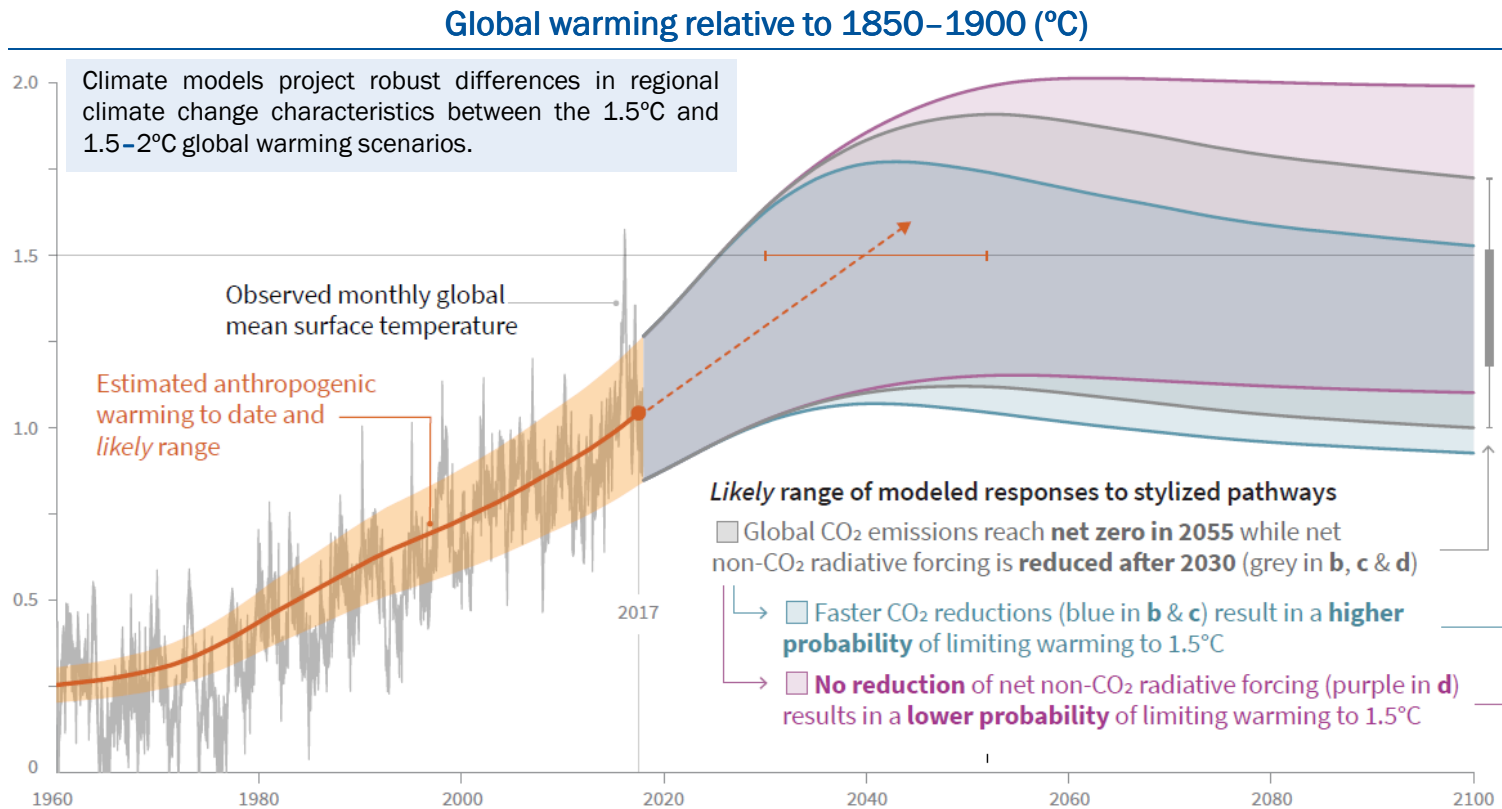
A city's ability to maintain its infrastructure is essential for the provision of quality municipal services. However, weak governance and the lack of funding drives down the quality of services and a city's ability to attract new business. Lack of commercialisation and inadequate tariff setting contribute to the growing funding gap in the municipal sector.

2. Sector context and transition challenges

2.2. Sector context: Climate change



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Source: Intergovernmental Panel on Climate Change. “Global warming of 1.5°C”, October 2018.

- **Climate-related risks** to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.
- Pathways limiting global warming to 1.5°C would require **rapid and far-reaching transitions** in urban and infrastructure systems (including transport and buildings). These transitions imply deep emissions reductions, a wide portfolio of mitigation options, and a significant upscaling of investments in those options.
- The **urban and infrastructure system transition** consistent with limiting global warming to 1.5°C would imply, for example, changes in land and urban planning practices, as well as deeper emissions reductions in transport and buildings (i.e. upgraded district energy systems and energy efficiency measures). Economic, institutional and socio-cultural barriers may inhibit these transitions.
- Cities increasingly focus on climate action as reflected in the One Planet Summit, the Global Covenant of Mayors for Climate and Energy, and the C40 initiatives.

With cities accounting for more than 70%* of global GHG emissions, they are a key recipient of **policy and funding tools** provided under international climate change agreements, grant support and technical assistance programmes. These tools are a transition catalyst to a low-carbon economy, supporting critical environmental needs at city level.

MEI promotes **climate resilience solutions** when developing projects. Climate adaptation solutions used in the water sector address the risks of flooding and water scarcity. Climate mitigation solutions aim to lower GHG emissions driven by energy efficiency and waste management solutions, transport electrification, and usage of renewables.

MEI strives to mobilise **additional funding** for climate change actions through municipal, conventional, green & sustainability bonds, and grant support. It provides climate change **policy support**, including planning assistance, to its clients.

* Source: United Nations

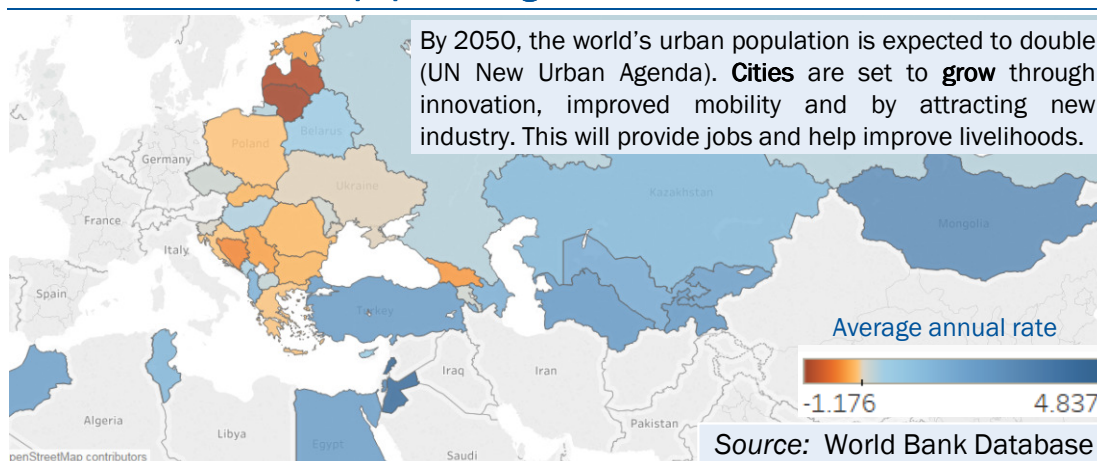
2. Sector context and transition challenges

2.2. Sector context: Population growth and urbanisation



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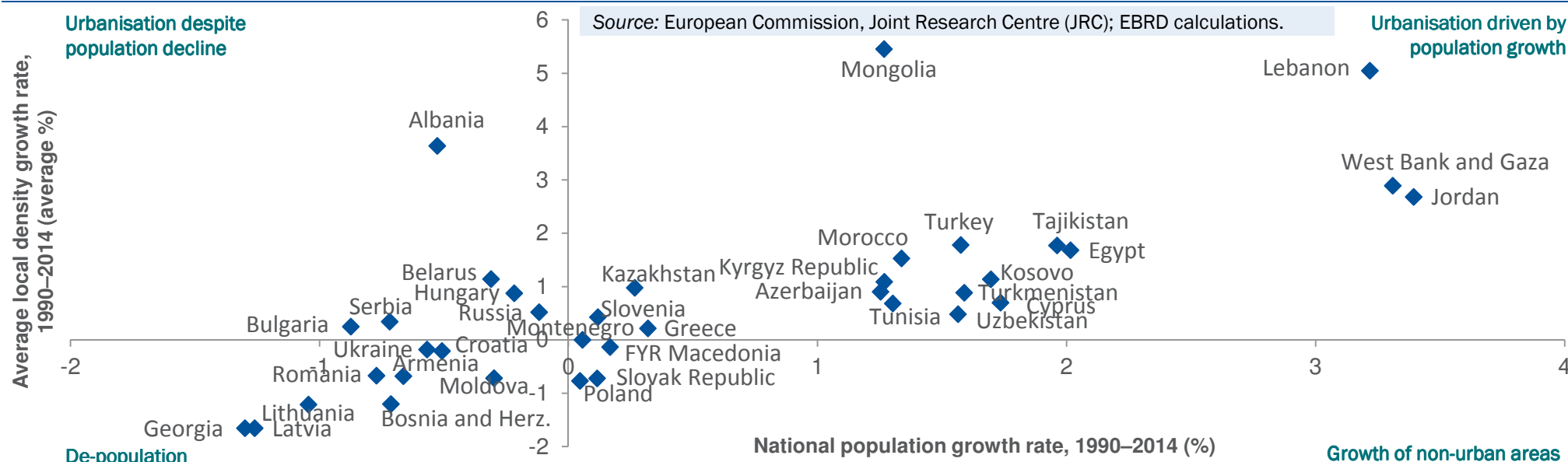
Urban population growth between 2012–2017



MEI takes into account population growth trends (positive, flat or negative) in the design of solutions to strike a proper balance between addressing acute (demand for services) investment needs and long-term sustainable development.

- Cities need a **strategic vision** to maintain sustainable growth and the ability to provide basic services for their residents. Green City Action Plans (refer to Annex C for details) are tools to assist cities.
- Municipal investments are required to address **urbanisation challenges** (higher resource consumption, out-dated municipal services, congestion, insufficient health and educational facilities, economic and social exclusion) and amplify the **benefits of urbanisation** (achieve land value capture effect, stimulate tourism and economic growth, preserve cultural heritage, and drive innovation and competitiveness).
- In the Bank's COOs, **demographic trends vary**. The percentage of people living in urban areas ranges from 27% in Tajikistan to 88% in Lebanon. While SEMED and Central Asia are experiencing rising urbanisation, flat population growth in other regions also impacts urbanisation levels. These differences create a need for the Bank's **tailored support to address specific country needs**: e.g. improvement of transport links for suburbs in (SEE, CEB), expansion of basic municipal services (CA, SEMED). Even in cities with stagnant populations, the Bank's work remains relevant due to the need to upgrade antiquated, unmodernised infrastructure.

Changes in average population density* and total population between 1990–2014

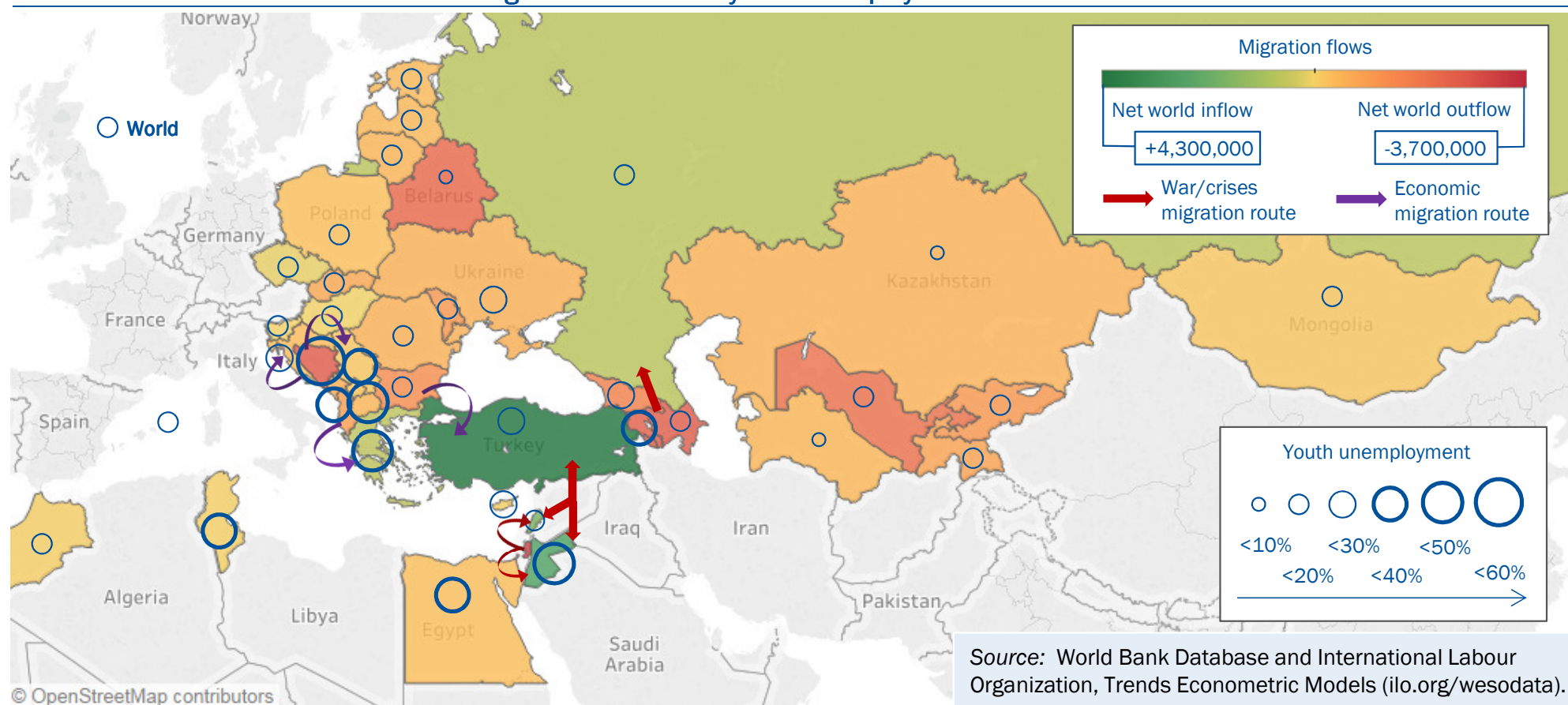


* For the purposes of this chart, high average population density is treated as an indicator of urbanisation. Estonia (omitted from the chart) exhibited an extreme decrease of localised population density combined with a moderate decrease in population in the beginning of the period, signalling rapid emigration before 2000.

2. Sector context and transition challenges

2.2. Sector context: Migration and youth unemployment

Migration flows* and youth unemployment** in 2017



- **Migration from West Bank & Gaza and Syria** to Turkey, Jordan and Lebanon represent the largest migration corridors in COOs.
- The lack of **employment opportunities for youth** (those under 25 years of age) presents a major global challenge and one of the main drivers of outward migration. Young people are much less likely (on average 2.4 times in COOs) to be employed than adults. The challenge is particularly acute in SEMED, the Western Balkans, Greece and Cyprus, where the youth unemployment rate stands at 25–55%. Importantly, gender inequalities in SEMED are already established among young workers, rendering future progress towards reducing gender gaps even more difficult. These challenges in COOs can be addressed by investing in **industrial parks** and promoting **procurement practices** designed to address inclusion gaps.
- **Climate change, resource scarcity** will make migration patterns more volatile, leading to new tensions between and within states.

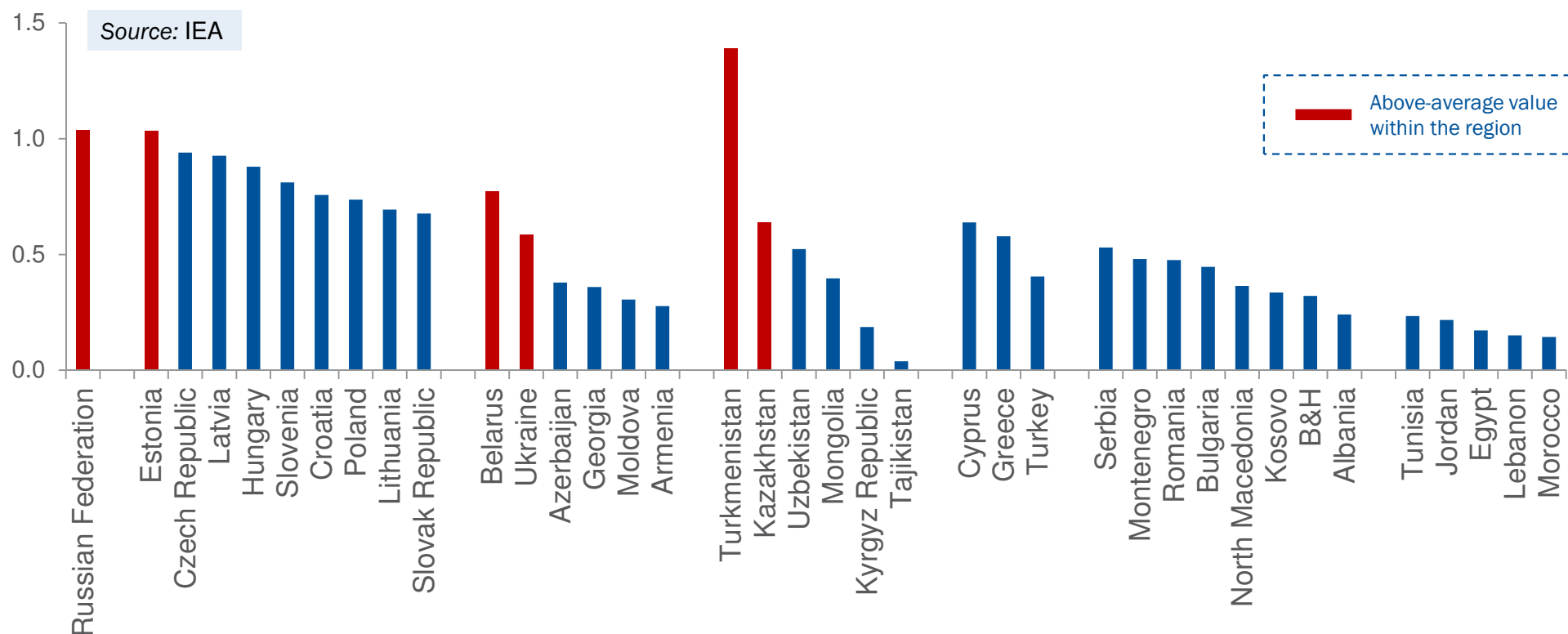
MEI aims to address these demographic trends by supporting investments that benefit the entire community, with a strong focus on **inclusion**.

* Estimated based on WB's data on migration stock which presents information on natives living abroad and foreign nationals residing in the country. Migration flow value is calculated as the net value of migrant inflow minus outflow. ** Percentage of unemployed youth aged 15–24.

2. Sector context and transition challenges

2.2. Sector context: Energy consumption

Energy consumption by residential, commercial & public services sector* in 2010–2015 (TOE per capita, annual average)



- An **above-average level of MEI-related energy consumption** within the respective regional context has been historically observed in Turkmenistan, Russian Federation, Estonia, Belarus, and Ukraine, making energy efficiency initiatives especially relevant in these countries.
- Low levels of energy consumption per capita** in SEMED, Turkey and the rest of Central Asia is driven by rapid population growth, urbanisation, and underinvestment in the MEI sector. Investments in the municipal sector can help to raise the benchmark of sustainable municipal services in these regions.

- Transition to **sustainable energy consumption** is possible through a) improvements in energy efficiency, and/or b) transition from fossil fuels to no-/low-carbon energy sources (i.e. renewables).
- Renewable energy** sources provide low-carbon energy that can be utilised in applications such as battery storage, heat pumps, and electric-drive technology. As costs fall, municipalities will increasingly seek to develop local or independent energy solutions by adopting local renewables, integrated with district energy systems where cost-efficient.

MEI projects in district heating, energy efficiency in public and residential buildings, urban transport fleet replacement, street lighting, and facilities management lead to **energy efficiency** improvements of the legacy municipal infrastructure and services in EBRD COOs.

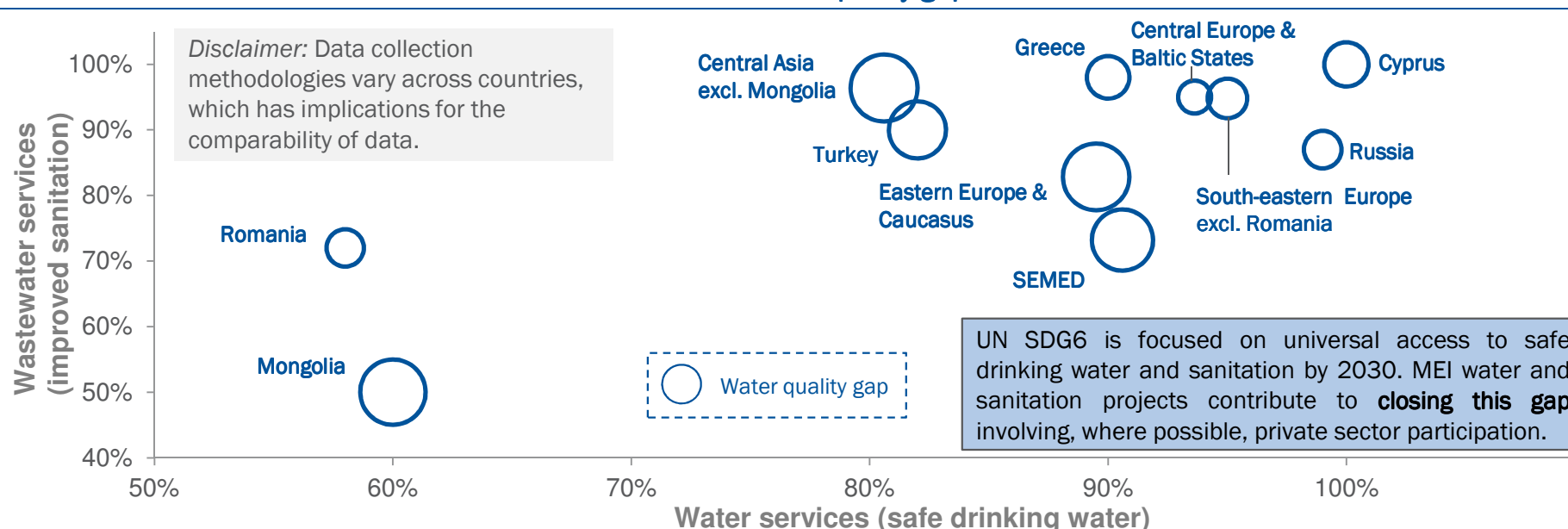
MEI investments in electric public transport (electric buses, trolleybuses, trams, metro) support the global path towards a **low-carbon economy**. MEI strives to incorporate **renewable energy** options in its projects where it is cost-efficient (e.g. utilisation of biogas from wastewater).

* The MEI sector is best represented by residential, commercial and public services sub-sectors.

2. Sector context and transition challenges

2.2. Sector context: Access to water and wastewater services

Share of population using safe drinking water and improved sanitation (% of total)
and the water quality gap*



Source: Data aggregated by Waterriskfilter.panda.org from WHO, UNICEF, epi.yale.edu.

- The most pressing **water service gaps** are in rural areas of Romania, Mongolia and the rest of Central Asia. Large gaps in the **wastewater infrastructure** exist in Romania, Bulgaria, SEMED and the Eastern Europe and the Caucasus regions.
- **Demand for water is growing** to meet the needs of growing populations and key industries (agriculture, energy). However, water availability is shrinking with the impact of climate change.
 - The Food and Agriculture Organization estimated that global water supply will need to increase by 60% by 2050, over 2005–2007 levels, to meet demand.
- Water, as a cross-cutting issue that affects all sectors, must be managed in an integrated, sustainable and holistic way. **Investments in water and wastewater infrastructure** are needed to:
 - Close the service coverage gap;
 - Rehabilitate ageing infrastructure;
 - Improve efficiency, reduce losses and consumption;
 - Utilise alternative water sources (e.g. desalination);
 - Implement climate adaptation measures;
 - Improve environmental compliance;
 - Improve public health.

* Water quality gap is calculated as the difference between 100 and the value of the water quality index (Subindex of the Environmental Performance Index), which measures the chemical quality of water and wastewater.

2. Sector context and transition challenges

2.2. Sector context: Governance



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Worldwide governance indicators*, 2016

Percentiles reflect the ranking within the EBRD COOs only.

Source: World Bank

	Control of corruption	Government effectiveness	Political stability and absence of violence	Regulatory quality	Rule of law	Voice and accountability	Per-centile**
CEB average	0.5	0.9	0.7	0.9	0.9	0.9	87%
SEE average	-0.3	-0.1	0.0	0.2	-0.2	0.1	56%
Albania	-0.4	0.0	0.3	0.2	-0.3	0.2	56%
Jordan	0.3	0.1	-0.5	0.1	0.3	-0.8	54%
North Macedonia	-0.3	0.1	-0.4	0.4	-0.3	-0.2	51%
Tunisia	-0.1	-0.2	-1.0	-0.5	0.0	0.3	49%
Morocco	-0.1	-0.1	-0.3	-0.2	-0.1	-0.6	46%
Armenia	-0.6	-0.1	-0.6	0.2	-0.1	-0.6	44%
Kosovo	-0.4	-0.4	-0.2	-0.2	-0.4	-0.2	41%
B&H	-0.5	-0.4	-0.4	-0.2	-0.3	-0.2	38%
Moldova	-1.0	-0.6	-0.3	-0.1	-0.5	0.0	36%
Kazakhstan	-0.8	-0.1	0.0	-0.1	-0.4	-1.3	33%
Turkey	-0.2	0.0	-2.0	0.2	-0.2	-0.6	31%
Belarus	-0.3	-0.5	0.1	-0.9	-0.8	-1.4	28%
West Bank and Gaza	-0.2	-0.6	-2.1	0.1	-0.3	-1.2	26%
Azerbaijan	-0.9	-0.2	-0.9	-0.3	-0.6	-1.6	23%
Russian Federation	-0.9	-0.2	-0.9	-0.4	-0.8	-1.2	21%
Ukraine	-0.8	-0.6	-1.9	-0.4	-0.8	0.0	18%
Kyrgyz Republic	-1.1	-0.9	-0.7	-0.4	-1.1	-0.5	15%
Lebanon	-1.0	-0.5	-1.6	-0.3	-0.9	-0.5	13%
Egypt	-0.6	-0.7	-1.4	-0.9	-0.4	-1.2	10%
Uzbekistan	-1.2	-0.6	-0.3	-1.6	-1.1	-1.9	8%
Tajikistan	-1.1	-1.0	-0.8	-1.1	-1.2	-1.7	5%
Turkmenistan	-1.5	-1.1	-0.3	-2.1	-1.6	-2.1	3%

- Planning and delivery of municipal infrastructure depends on **governance standards**, including political will, institutional capacity, regulatory framework, permitting process, and procurement practices.
- Among the Bank's COOs, the regions of Central Asia, SEMED, Eastern Europe and the Caucasus regions demonstrate governance gaps.

Governance issues in COOs will be targeted by the Bank through support for (i) GCAP planning, (ii) procurement and implementation, (iii) client capacity building, fostering of improved social and environmental practices, corporatisation, decentralisation, integrated stakeholder engagement, introduction of contractual clarity in the PSC (improving government effectiveness and accountability), and (iv) tariff and regulatory reform.

Within the lowest 10 scores

Within the lowest 5 scores

* The composite measures of governance generated in the World Governance Indicators calculations are in units of a standard normal distribution, with mean zero, standard deviation of one, and running from approximately -2.5 to 2.5, with higher values corresponding to better governance. ** EBRD own calculation.

2. Sector context and transition challenges

2.2. Sector context: Fiscal space



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Gross debt as % of GDP, 2018

Region	Country	Gross debt (% of GDP)	Region	Country	Gross debt (% of GDP)
Central Europe and Baltic States	Croatia	74%	Eastern Europe and Caucasus	Armenia	53%
	Czech Republic	33%		Azerbaijan	48%
	Estonia	9%		Belarus	56%
	Hungary	71%		Georgia	44%
	Latvia	35%		Moldova	32%
	Lithuania	37%		Ukraine	70%
	Poland	50%	Central Asia	Kazakhstan	18%
	Slovak Republic	49%		Kyrgyzstan	55%
	Slovenia	70%		Mongolia	85%
South-eastern Europe	Albania	71%		Tajikistan	53%
	Bosnia and Herzegovina	38%		Turkmenistan	31%
	Bulgaria	23%		Uzbekistan	19%
	North Macedonia	41%	SEMED	Egypt	93%
	Kosovo	22%		Jordan	96%
	Montenegro	74%		Lebanon	150%
	Romania	37%		Morocco	64%
	Serbia	59%		Tunisia	70%
	Turkey	32%		West Bank and Gaza	37%
	Greece	188%		Russian Federation	15%
	Cyprus	112%			

Source: IMF

- Sovereign governments **fund infrastructure** in a variety of ways, including: sovereign borrowing on domestic and international credit markets, expenditure prioritisation, external grants and concessional financing, as well as through PPPs and private investments.
- Given the limitations of domestic debt markets, governments turn to **external sovereign debt markets** as a source of infrastructure financing.
- As a result of extensive borrowing on international markets, Greece, Cyprus, Lebanon, Jordan, Egypt, and Mongolia face significant **fiscal constraints**, driving up the costs and risks of any incremental borrowing.

High public debt constrains sovereign lending. In such cases, MEI will aim to scale up **sub-sovereign lending** and explore **new funding mechanisms**, including land-value capture monetisation. Implementation of new mechanisms requires an appropriate legislative environment and addressing such obstacles as limited client capacity, lack of financial independence of municipalities, project bankability, and pricing.

100%+

75%–100%

51%–75%

26%–50%

0%–25%

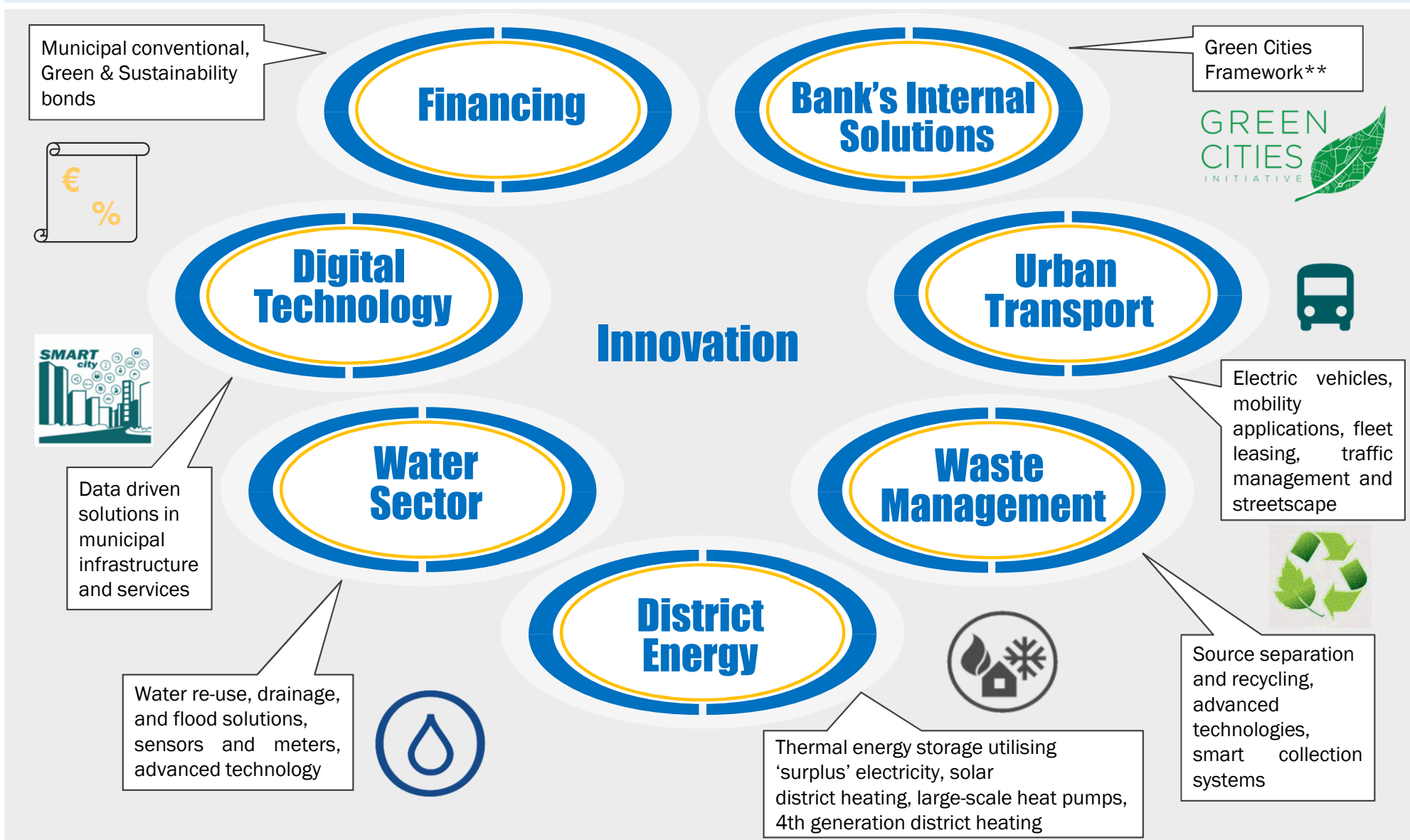
2. Sector context and transition challenges

2.3. Innovation opportunities in MEI sector



European Bank
for Reconstruction and Development

The Bank recognises the **importance of introducing innovative technologies and novel project-structuring solutions** into the sector where this enhances value and service quality. Implementation of new technologies will depend on the counterparty's readiness and the economic value of the innovative solution*.



* Refer to Annex K for more detailed information on innovations in the sector.

** Refer to Annex C for information on Green Cities Framework.

2. Sector context and transition challenges

2.4. Key transition challenges in context of EBRD transition qualities*



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Green	<p>Climate change: Investment in municipal infrastructure is needed to promote a low-carbon economy and resilience to the impacts of climate change.</p> <p>Pollution: Significant investment in municipal infrastructure is needed to reduce air, water, and soil pollution.</p> <p>Long-term benefits: Lack of interest is common within government for resource efficiency projects where the benefits are realised in the mid/long run (e.g. energy efficiency in buildings, waste minimisation and re-use, wastewater reuse).</p> <p>Advanced technologies: New clean technologies (e.g. biomass, large-scale heat pumps, and solar thermal/photovoltaic) and the emergence of ‘smart’ solutions create wide opportunities for efficient and environmentally friendly municipal solutions. However, these require funding sources and government engagement for effective capacity building and implementation. To ensure affordability of new technologies, donor grants may be required.</p>
Inclusive	<p>Geographic access and regional inclusion: The lack of access to services can substantially reduce the ability of individuals and households to engage in economically productive activities such as employment, education and training or entrepreneurship. Improved access to basic utility services is crucial for improving living conditions and creating economic opportunities for local population groups in less developed regions.</p> <p>Women, youth, and other groups (including the elderly, the disabled and refugees): Changes in regulation, industry standards and business practices (e.g. inclusive procurement) tailored to address unemployment among young people and women are needed to create new economic opportunities.</p>
Well-governed	<p>Corporatisation and contractual arrangements: Legal and commercial separation of utilities and respective public owners together with service contracts that clearly define rights, obligations and procedures remain key challenges in many countries of operations.</p> <p>Corporate governance: Improvements in the institutional setup and corporate governance in line with international best practice are needed to increase state-owned enterprises (SOEs) capacity, improve strategic planning and reporting standards, and lead to commercialisation of those enterprises.</p> <p>Capacity development: In many cases governments and stakeholders have limited capacity and expertise to drive change in the sector, prepare needed projects, and attract reputable private partners and investors.</p> <p>Regulatory reform: Competent and independent regulation, coordination and supervision is crucial to ensuring a well-functioning and sustainable infrastructure sector. Reflective tariff methodologies are needed to address infrastructure funding needs.</p>
Resilient	<p>Sustainability: Aging and outdated infrastructure together with poor asset management practices prevents sustainable and resilient service provision.</p> <p>Tariffs: The introduction of cost-reflective tariffs combined with targeted support for low-income households designed to bridge the affordability gap is the key to developing a reliable and sustainable funding mechanism.</p> <p>Financial instruments: Increased access to different sources and forms of financing is important to ensure financial resilience in the municipal sector. These include direct utility financing, diversified capital market instruments, and private financing.</p>
Competitive	<p>Efficiency: Cost-efficient provision of municipal infrastructure and related services strengthens the competitiveness of the relevant economy regardless of whether necessary funding derives from end users or local taxpayers.</p> <p>Private sector participation: Infrastructure upgrades and operations can be provided at best value for money based on well prepared and structured private sector participation. Broad regulatory and legal reforms as well as increased efforts to build capacity among public sector employees are needed to enable this.</p>
Integrated	<p>Connectivity: Gaps in quantity and quality of municipal infrastructure and services hamper integration between and within most of the Bank’s COOs.</p> <p>Spatial integration: Integrated land and transport development, intercommunal development agencies and adapted land-use policies and building regulation can mobilise additional resources for city development.</p> <p>Financial integration: Changes in tariff policies and institutional setup can help attract foreign direct investment and improve access to other forms of cross-border financing.</p>

* The desirable qualities of market economies in the Bank’s COOs, defined by the Bank in a language that is accessible and easy to communicate.

2. Sector context and transition challenges

2.5. Overview of MEI activities: How we add value

MEI supports local governments and private operators in the delivery of essential urban services through investments in **infrastructure**. MEI's investments in the sector are driven by municipalities' needs.

Key municipal services	Utilities	Transport	Social services		Economic activities	Recreation
	<ul style="list-style-type: none"> • Water and wastewater • Solid waste management • District energy and energy efficiency in buildings • Electricity and gas 	<ul style="list-style-type: none"> • Municipal roads, bridges and tunnels • Public transport • Parking spaces 	<ul style="list-style-type: none"> • Healthcare* • Education • Child care • Elderly care 	<ul style="list-style-type: none"> • Housing • Emergency services, including police and fire services 	<ul style="list-style-type: none"> • Industrial parks • Irrigated agriculture (irrigation) • Commercial sites • Telecommunications infrastructure 	<ul style="list-style-type: none"> • Recreational facilities • Culture and tourism • Parks and public spaces
Areas historically covered by the Bank's MEI group		Areas where MEI can offer facilities management and energy efficiency solutions			Potentially with other Bank's groups**	

MEI strives to achieve **sustainability** of the sector through technical cooperation, policy dialogue, high standards of project preparation and implementation.

Environmental sustainability:

- Ensures the application of **environmentally sustainable solutions** in all projects, driving climate mitigation (reduction of GHG emissions) and climate adaptation (resilience) initiatives.
- Provides support in project design and implementation, ensuring that accurate **environmental impact assessments** and relevant **EU environmental standards** are taken into account from the outset. Monitors adequate implementation.
- Combines investments and policy dialogue through the Green Cities Framework, which strives to build a better and more sustainable future for cities and their residents. The programme achieves this by **identifying, prioritising and connecting cities' environmental challenges with sustainable infrastructure investments and policy measures**.
- Promotes **resource efficiency** in the sector.

Economic sustainability:

- Works with cities to promote **decision making at a local level** to deliver quality, sustainable, market-based and demand-driven infrastructure, responsive to citizens.
- Uses non-sovereign financing to drive the shift towards lending on a **commercial basis**, fostering **social accountability** for investments. This lending model stands in contrast to traditional sovereign IFI or bilateral lending.
- Supports **commercialisation** of public infrastructure through technical assistance provided to clients and policy dialogue with authorities aimed at improving effectiveness of utility companies and affordability of urban services, and driving regulatory change and tariff reform.
- Drives client **capacity building** via trainings, technical assistance, introduction of international procurement standards, and close cooperation with clients in project preparation and implementation.
- Promotes **private sector participation** to drive efficiency and quality of municipal services and infrastructure.
- Assists clients with project structuring to mobilise **new sources of financing**.

Social sustainability:

- Enhances **inclusion** of local communities (including refugees), underrepresented minorities, low-income households, and pushes for a greater **gender** balance by building inclusion elements directly into investments.
- Foster meaningful **participation of stakeholders** in project decision making (including structuring and implementation).
- Increases access to municipal services to enhance economic opportunities for all, ensuring **economic inclusion**.

* In healthcare, the MEI Strategy focuses on facilities management projects.

** These Bank's groups include Power and Energy, Agribusiness, Manufacturing and Services, Property and Tourism, Information and Communication Technologies. Refer to Annex N. ²⁰

3. Strategic directions

3.1. Defining strategic directions



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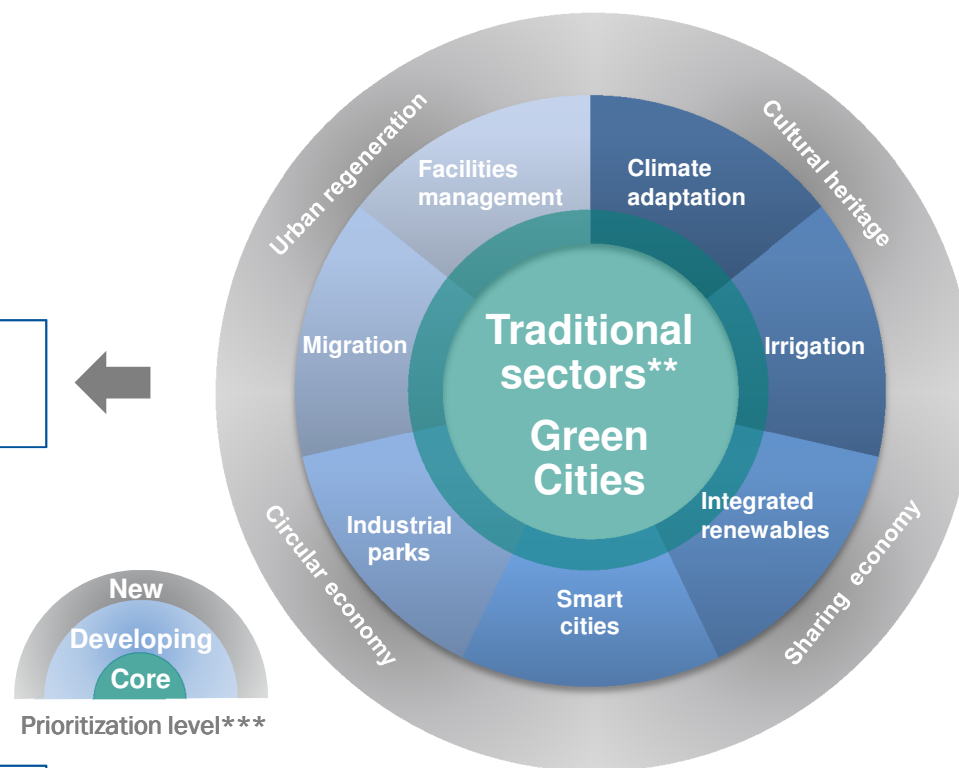
Goal

The Bank will promote the growth and development of enhanced*, accessible, and sustainable infrastructure

Green and Sustainable Investments

Priority I

Provide access to enhanced* infrastructure



Priority II

Drive sector sustainability

Corporate Governance

Priority III

Bridge infrastructure funding gaps

Innovative Financing

* Term "enhanced infrastructure" refers to solutions aimed at either improving existing asset management practices or tackling new environmental, social, and economic challenges.

** Refer to section 3.3 for details.

*** An overlap exists between 'core' and 'developing' investing activities.

3. Strategic directions

3.2. Regional context



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Distinct patterns in strategic priority areas emerge at **regional level** depending on the COO's readiness, implementation capacities, and market dynamics on the ground. The investment and policy dialogue examples set forth below are designed to target opportunities to close identified transition gaps.*

	Green and Sustainable Investments		Corporate Governance								Financing Structures			
	Core	Developing	Tariff reform **	Procurement standards	Project pipeline planning, GCAP	Decentralisation	Smart technologies	Low-carbon technologies	Green initiatives ***	Social inclusiveness	Sovereign	Sub-sovereign	PPPs	Capital markets / innovative structures
Central Asia, Russia	Close municipal infrastructure gap to address growth and drive commercialisation; energy efficiency in Kazakhstan; water/wastewater in Uzbekistan, Kyrgyzstan and Tajikistan; tackle pollution in Mongolia; introduce Green Cities	Irrigation infrastructure for water/food security; affordable housing	✓	✓		✓	✓	✓	✓		✓			
CEB	Energy efficiency; Green Cities; electrification of transport; solid waste	Smart City solutions; 'Circular' and 'sharing economy' solutions					✓	✓	✓			✓	✓	✓
Cyprus, Greece	PPPs in solid waste and other municipal sectors	Facilities management; urban regeneration				✓	✓			✓			✓	
EEC	Energy efficiency in Belarus and Ukraine; close municipal infrastructure gap and improve wastewater services due to historical underinvestment; Green Cities	Irrigation; facilities management in social services sector	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
SEE	Green Cities; water sector in rural Romania; wastewater in Bulgaria; energy efficiency and urban transport across Western Balkans	Industrial parks to tackle youth unemployment; integrated renewables; urban regeneration; cultural heritage	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓
SEMED	Basic municipal services to accommodate urbanisation; water security and efficiency (irrigation, desalination PPPs); introduce Green Cities	Climate adaptation investments; integrated renewables; industrial parks; migration needs response	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Turkey	Low-carbon transport; refinance facilities management and other PPPs; waste-to-energy; 'circular economy' projects; introduce Green Cities	Refugee Emergency Response initiative		✓	✓			✓		✓		✓	✓	✓

* These are examples of potential engagement areas; actual cooperation is not limited to the listed options. Analysis of transition gaps and prioritisation of Bank's activities at the country level are performed in EBRD Country Diagnostics and Country Strategies respectively, and as such may evolve as new strategies develop going forward.





** Tied to affordability constraints. *** Includes GCAP actions, changes in consumer and corporate behaviour, tariff/tax incentives.

3. Strategic directions

3.3. Traditional sectors context



European Bank
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	Water and wastewater 	Urban transport 	District energy, energy efficiency 	Solid waste 
Core	New and rehabilitated water and wastewater treatment plants, network rehabilitation and extensions as well as pumps and metering to improve the quality of service and environmental compliance	Fleet and rolling-stock renewal, metro, light rail transit, buses and trams, public transport infrastructure (including track, power supply and signalling), depot refurbishment; e-ticketing and automated fare collection; traffic management and vehicle information systems; rehabilitation of municipal streets	New and rehabilitated generation plants utilising low-carbon technologies, network upgrades and expansion with modern piping and pumping technology, and demand-side measures (e.g. improved metering and control) Energy efficiency measures in public and residential buildings; energy-efficient street lighting replacement	New sanitary landfills in accordance with EU standards; closure and remediation of dumps; basic waste collection services and upgrade of collection infrastructure (bins/containers, vehicle fleet); pre-treatment of waste and waste-to-energy solutions
Developing	Climate resilience solutions: coastal/river flood defence protection, urban drainage, water reuse Irrigation Integrated renewables: solar water pumping, solar desalination 'Smart' solutions: 'smart' water meters, water supply management 'Circular economy' solutions: advanced wastewater sludge management	Fleet electrification: integrated vehicle and charging infrastructure, integrated energy supply using local renewables Urban streetscape: urban enhancement through improved streetscape, soft modes of transport (cycling, walking) 'Smart' solutions: street lighting, traffic and safety control systems Fleet leasing: supply of single operator markets through fleet lease companies driven by mobility application technology and electric-vehicle adoption	Climate resilience solutions: district cooling systems (notably, in SEMED) Integrated renewables: solar district heating, large-scale heat pumps for central heat generation Renewables: sustainable biomass-based heat-generation Thermal energy storage utilising 'surplus' renewable electricity for use in district energy 'Smart' solutions in energy supply/consumption management Affordable housing: energy efficient apartment blocks	Integrated renewables: co-generation Special waste disposal solutions for hazardous and construction waste 'Smart' solutions: 'smart' collection systems 'Circular economy': separate collection of dry-recyclables and biowaste treatment
Cross-cutting Themes	The Bank will consider investing in desalination in water-stressed countries (e.g. SEMED), where it is justified as the most viable option linked to sustainable energy supply.	The Bank will promote fleet electrification and the usage of renewable energy sources, taking into consideration affordability and accessibility.	The Bank will not finance coal-fired heat-generating plants. It may, however, finance improvement in the efficiency and diversification of fuel sources for district heating companies that currently use coal as part of their energy mix. This may involve developing a decarbonisation plan, network rehabilitation, installation of modern controls, improved metering, demand-side measures, and alternative fuels.	The Bank will invest in waste-to-energy technologies conditional upon evaluation of all alternative options, project support for recycling and collection, fulfilment of obligations described in EU waste-related legislation and BAT/BREF documents.
The Bank will promote decarbonisation and resource efficiency .				
The EBRD shadow carbon pricing methodology* will be applied for large-scale projects to ensure that such investments have a strong economic foundation.				

* Refer to Annex H for more information on shadow carbon pricing methodology.

3. Strategic directions

3.4. Priority 1



European Bank
for Reconstruction and Development

Priority 1: Provide access to enhanced infrastructure

Invest in essential municipal infrastructure and drive Green Cities initiative

Primary TI
quality targeted

Green
Inclusive

- Provide financing to at least **100 cities to promote green and sustainable investments**.
- Scale up high GET-impact investments in water and wastewater, urban transport, solid waste management, district energy and energy efficiency sectors.*
- Scale up impact in cities through repeat investments supporting the green agenda.
- Promote the switch to less carbon-intensive solutions and support projects with renewable energy and/or resource-efficiency components.
- Strengthen project preparation and implementation process:
 - Focus on streamlining and scaling up assistance to improve and modernise client processes for prioritising, preparing, and monitoring the results of investments;
 - Expedite and ensure high-standard project implementation: a) deploy Bank's PPRs efficiently (e.g. by scaling up advance procurement support); b) work with the Procurement Policy and Advisory Department to deploy a broader use of alternative procurement systems for low-value or low-risk contracts; c) address disbursement ratio through enhanced portfolio management, more effective use of frameworks to procure implementation consultants, and continued focus on capacity building through technical assistance and advance procurement, where possible.

Advance asset management and environmental solutions

Primary TI
quality targeted

Green

- Promote projects with strong **climate resilience** focus in urban and rural settings: coastal/river flood-defence protection, urban drainage, water reuse, district cooling.
- In water and wastewater sector, invest in water-infrastructure schemes to protect biodiversity and ecosystem and water conveyance for **irrigation** purposes in coordination with Agribusiness group where projects have a strong agricultural focus. Consider investing in **desalination** in water-stressed countries (e.g. SEMED) through PPP type structures where strong justification of this technology exists.
- Invest in more **integrated renewable** solutions such as solar water pumping, solar desalination, solar district heating, large-scale heat pumps, and co-generation projects in coordination with Power and Energy group.
- Introduce 'smart' solutions into the MEI sector:
 - Support investments in technological solutions to enhance competitiveness and quality of life by applying real-time urban data analytics to improve the efficiency, reliability and quality of urban services for users and reduce environmental impacts. Promote use of 'smart' solutions across sectors: water meters, street lighting, traffic and safety control systems, water/energy supply/consumption management, waste collection systems;
 - Assist in developing Smart City Action Plans either on a standalone basis or as part of GCAP;
 - Apply technical cooperation to: a) create knowledge-sharing opportunities for clients/government authorities; b) drawing on real-world experience, work with private sector, partners and donors to develop workable and locally adapted 'smart' solutions for municipal clients; c) help clients to adopt a data-sharing public policy which enables the benefits of data analytics whilst protecting the private interests of citizens.
- Advance '**circular economy**' practices by closing energy and material loops in the water sector (wastewater sludge management) and municipal waste sector (source-separated collection of dry recyclables, biowaste treatment and recovery through composting or anaerobic digestion, and reuse of construction and demolition waste).

Finance solutions that address emerging socio-economic challenges

Primary TI
quality targeted

Inclusive
Competitive

- Promote infrastructure investments in **industrial parks** that drive economic development and job creation in cities.
- Promote infrastructure investments that address **migration** challenges, notably the refugee crisis, and other social sectors.
- Identify new opportunities for investing in **facilities management** projects (hospitals, schools, other social sectors), using PPP models to promote private sector solutions.
- Engage in **urban regeneration** initiatives: a) invest in projects aimed at improving existing urban public spaces in a manner that creates value, increases commercialisation and opens up new opportunities for complementary private sector investment (e.g. historic city centre street redevelopment, re-purposing disused industrial districts, redevelopment of public transport stations on land-lord lease model); b) assist cities in pursuing policies of integrated urban development through land-value capture and transit-oriented development, tax-increment financing, and auctioning of development rights.
- In coordination with Property and Tourism group, explore **cultural heritage** project opportunities, focused on providing access to cultural sites for tourism by investing in waste collection and transport systems (e.g. shuttle buses and other identified infrastructure needs).
- Support projects in public transport that promote and enhance '**sharing economy**' principles resulting from an increasing adoption of mobility solutions.

* Refer to section 3.3 for details.

3. Strategic directions

3.4. Priority 2 and Priority 3



European Bank
for Reconstruction and Development

Priority 2: Drive sector sustainability	<p>Improve corporate governance</p> <ul style="list-style-type: none"> Support client capacity building at both national and subnational/client levels: a) Bank-led trainings, seminars, conferences on strategic issues related to capacity building; b) focused technical cooperation assistance to support capacity building initiatives, programmes and processes. Improve asset management practices through: a) technical cooperation assistance to clients on corporate development and FOIP; b) including good governance best practice into project structure (i.e. financial reporting transparency, IFRS reporting, development of PSCs). Support social inclusiveness (i.e. creating equal opportunities regardless of gender, age, disability and others circumstances, such as refugee status). Identify and address gender issues by taking into consideration the needs of male and female municipal service users in terms of availability, safety, reliability and affordability of provided services, and improving their access to economic opportunities. Promote and assist with stakeholder engagement to improve decision making and accountability on projects financed by the Bank. Promote reform of public procurement to develop international procurement standards and guidelines in COOs for achieving fairer and better quality procurement. 	Primary TI quality targeted	Well-governed Competitive
	<p>Improve public governance and strengthen the institutional and regulatory context</p> <ul style="list-style-type: none"> Support cities in development and adoption of Green City Action Plans, setting cities on a pathway to healthy, thriving communities that attract investment in the environment and its people. Develop at least 50 Green City Action Plans, subject to funding availability. Initiate/continue systematic dialogue on tariff reforms promoting cost-reflective pricing and removal of subsidies while taking into consideration affordability constraints. Provide policy assistance to support the government's regulatory initiatives (i.e. sector regionalisation). 	Primary TI quality targeted	Well-governed
Priority 3: Bridge infrastructure funding gaps	<p>Implement diversified and innovative financing schemes</p> <ul style="list-style-type: none"> Support sub-sovereign lending in new markets to build capacity and diversify funding sources. Act as a catalyst for capital market transactions to increase market confidence and encourage private investments: <ul style="list-style-type: none"> In line with Bank-wide approaches and initiatives to support COOs in addressing their environmental challenges and meeting their climate objectives, support the development of market-based solutions for financing green projects (e.g. through green bonds, risk-mitigation instruments); Introduce credit enhancement, risk mitigation, and blended finance solutions; Bundle small projects for financing by institutional investors to meet the market appetite for larger projects; Support long-term local currency lending, where possible; Consider refinancing of PPPs to optimise financial viability of projects and engage commercial financing (including secondary market); Explore securitisation to attract institutional investors; Develop equity and quasi-equity infrastructure investments (stand-alone, on a platform or bundled basis). Support enhancement of local revenue sources, notably land banking and land-value capture. Support development of green finance roadmaps and act as a first investor (e.g. a municipality's first sub-sovereign loan/performance-based contracting/bond) to help send a signal of confidence to the market. Promote and support policymakers in the development of regulatory frameworks to ensure an appropriate enabling environment for capital markets development. 	Primary TI quality targeted	Resilient Competitive
	<p>Strengthen the institutional and regulatory context</p> <ul style="list-style-type: none"> Support private sector participation, where legally and commercially viable: <ul style="list-style-type: none"> Provide financing to private sector clients investing in urban infrastructure; Facilitate project models that increase private sector participation (i.e. PPPs, concessions, service contracts). Support capacity building of regulators through: a) policy assistance to support the government's regulatory initiatives (i.e. PPP legislation, institutional decentralisation, privatisation of SOEs); b) deliver Bank-led training sessions, seminars, conferences for regulators and other government authorities. 	Primary TI quality targeted	Well-governed Competitive

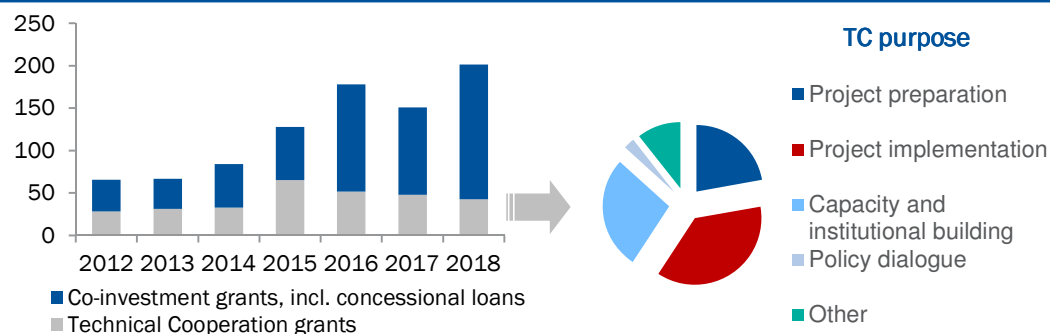
3. Strategic directions

3.5. Grants needs assessment

Donor engagement in 2012–2018

- **Strong donor interest and support** for co-financing technical cooperation and capital expenditures.
- Investment grants mainly concentrated in the **ETCs**, **SEMED**, and the **Western Balkans** to improve environment, public health, climate change resilience within affordability and IMF borrowing restrictions.
- TC has supported **project preparation, project implementation, and corporate development** programmes to develop good procurement and construction practices, and enhance operational and financial sustainability.
- **Main donors:** EU (NIF, IFCA), Sweden, Austria, Switzerland and Taipei China alongside multi-donor funds, i.e. ETC Fund, E5P, SIDA, and the Bank's Shareholder Special Fund.
- **Bank-wide initiatives** have leveraged significant donor interest:
 - from DfID and the EU for the Bank's Refugee Emergency Response;
 - from the Czech Republic, Austria, Sweden, Japan, Green Climate Fund for the Bank's Green Cities Framework.

Donor financing 2012–2018 (€m)



Future strategic focus

- Tackle the unfunded MEI project grant needs. For 2019 they are estimated at roughly €90m and €250m for TC and co-investments* respectively.
- Build on the key driver for donor funding – alignment of MEI strategies and Bank policies to **donors' overseas development aid priorities** (environment, climate change, migration, economic development).
- Mobilise donor co-financing for **green investments** (e.g. the Green Climate Fund). Access to such funds is necessary to continue MEI GET-related work.
- Build strategic alliances with **private sector donors** (philanthropic foundations and corporates with strong Corporate Social Responsibility agenda) to support MEI's flagship initiatives and emerging priorities.
- **Envisaged sources** of grant funds: EU, Shareholder Special Fund, bilateral donors, E5P
 - Changing strategy of some key donors with an increased focus on use of **guarantees and concessional loans** as opposed to pure capital grants;
 - EBRD focus is on **improving utilisation** of the Shareholder Special Fund resources.
- Bring into play **MoU** as a tool to pursue sector reforms and attract TC funding.

* EBRD deploys donor funds selectively, and only where they do not create situations of dependency or distort markets. Therefore, such funds are predominantly used to address affordability constraints, to reduce risks for financial intermediaries, incentivise new behaviour and investments, address externalities, build capacity, or promote reform where that can help make economies sustainable.

4. EBRD position vis-à-vis other IFIs and partners

The non-sovereign approach distinguishes EBRD from other IFIs, allowing for cooperation with commercial banks and institutional investors in addition to IFIs and local governments.

Selected partners	Facilities management	Water	Urban transport	Solid waste	District heating	Total non-grant co-financing amount 2012–2018
EIB	€€€	€€€	€€€	€		€1,631m
OPIC*	€€€					€445m
IFC	€€€				€	€380m
Islamic Dev Bank	€€€					€243m
Black Sea Trd&Dvlp Bank	€€					€160m
SACE SPA*	€€					€125m
KfW / DEG**	€€	€	€	€	€	€95m
AFD / Proparco**	€€		€€			€90m
Council of Europe Development Bank		€				€11m
NEFCO		€				€5m
EBRD contribution	€€€	€€	€€	€	€	

€ / €€ / €€€ Co-financing scale * Export credit agency ** Bilateral financial institution

Cooperation track record

- Cumulative **non-grant co-financing** from IFIs, institutional investors, banks, credit agencies, and bilateral financial institutions amounted to **€9.3bn** over 2012-2018.
- Largest international non-grant co-financing IFI partners remain **EIB** and **IFC** (€1.6bn and €0.38bn respectively).
- Facilities management PPP** projects in **Turkey** attracted record €3.5bn of co-financing from IFIs, banks, and institutional investors in 2014-2017.
- In 2017, the **Green Climate Fund** and **EBRD** signed the Accreditation Master Agreement, making the EBRD the largest single recipient of GCF resources.

Future Cooperation

- Expand cooperation and mobilise co-financing for **green** investments (e.g. **Green Climate Fund** and **Global Environmental Facility**). Cooperation under the EU/OECD/other MDB Green City initiatives.
- Coordination of **policy dialogue** and **project preparation** efforts with other IFIs.
- Joint introduction of innovative **capital market** instruments.
- Expand collaboration with **new market players**.

5. Performance Monitoring Framework (1/3)

Priority 1: Provide access to enhanced infrastructure

Specific objectives	Activities (Investments, TC, capacity building, policy engagements and external partnerships)	Tracking indicators	
		Outputs (examples)	Examples of outcomes (tracked in Country Strategies)
1.1 Increased access to essential municipal infrastructure focused on quality, resource efficiency, reduced environmental impact		<ul style="list-style-type: none"> Number of cities/municipalities that received the Bank's financing Number/volume of investments in traditional MEI sectors Number/volume of high GET-impact investments, including: <ul style="list-style-type: none"> electric/hybrid bus fleets, urban rail, waste-to-energy, LED street lighting, district heating with biomass, district cooling with thermal storage, energy efficiency in buildings, green waste management. Number of policy engagements supporting low-carbon infrastructure solutions, renewable energy, resource efficiency Number of capacity building activities focusing on project implementation/disbursements 	<ul style="list-style-type: none"> Number of people (female/male) or households benefitting from access to better quality drinking water and improved sanitation Number of people (female/male) or households benefitting from new/better infrastructure and services Water saved (m³/y) Wastewater treated, avoided or reduced (m³/y) CO₂ emissions reduced or avoided (tonnes/y) Energy saved (GJ/y) Materials reduced or recycled (tonnes/y) Waste recovered or recycled (tonnes/y)
1.2 Enhanced usage of advanced asset management solutions that improve climate change resilience, minimise environmental impact, and increase efficiency	<ul style="list-style-type: none"> Investments Policy engagement Capacity building Co-investing external partnerships 	<ul style="list-style-type: none"> Number/volume of investments focusing on climate adaptation (e.g. coastal/river flood defence protection, urban drainage, water reuse) Number/volume of investments in irrigation Number/volume of investments supporting integrated renewable solutions (e.g. solar district heating, large-scale heat pumps, solar water pumping, solar desalination, co-generation) Number/volume of investments supporting 'smart' solutions Number of policy engagement and capacity building activities focusing on Smart City Action Plans or 'smart' solutions Number/volume of investments supporting 'circular economy' 	<ul style="list-style-type: none"> Number of clients with improved asset management practices Number of clients improving their performance or efficiency metrics Number of clients introducing innovative/new technology, product or process Number of policy recommendations accepted by relevant authorities and/or stakeholders Number of Smart City Action Plans Renewable heat produced (Gr/yr) Renewable electricity produced (MWh/yr)
1.3 Increased availability of infrastructure solutions to socio-economic challenges		<ul style="list-style-type: none"> Number/volume of investments in industrial parks Number/volume of investments in infrastructure that addresses migration/refugee crisis challenges Number/volume of investments in facilities management projects Number/volume of investments supporting urban regeneration Number of policy engagement and capacity building activities focusing on urban regeneration Number/volume of investments supporting cultural heritage Number/volume of investments supporting 'sharing economy' 	<ul style="list-style-type: none"> Number of new jobs created Number of people trained Number of projects that contribute to social inclusion Number of projects outsourcing activities to private sector Number of projects that contribute to economic inclusion Number of policy recommendations accepted by relevant authorities and/or stakeholders

5. Performance Monitoring Framework (2/3)

Priority 2: Drive sector sustainability			
Specific objectives	Activities (Investments, TC, capacity building, policy engagements and external partnerships)	Tracking indicators	
		Outputs (examples)	Examples of outcomes (tracked in Country Strategies)
2.1 Improved corporate governance in public utility companies	<ul style="list-style-type: none"> • Technical cooperation • Policy engagement • Capacity building 	<ul style="list-style-type: none"> • Number/volume of technical cooperation focused on client capacity building in the areas of procurement standards, commercialisation, asset management, financial reporting, environmental standards, social inclusiveness, gender additionality, stakeholder engagement • Number of Public Service Contracts or Public Service Obligations signed and implemented 	<ul style="list-style-type: none"> • Number of clients introducing improved operational standards • Number of clients introducing improved corporate governance • Number of Public Service Contracts or Public Service Obligations signed and implemented
2.2 Improved quality of public governance and strengthened institutional and regulatory context supporting environmental, financial, and social sustainability of infrastructure		<ul style="list-style-type: none"> • Number of Green City Action Plans (GCAPs) • Number of policy engagement and capacity-building activities on tariff reform and tariff affordability • Number/volume of policy assistance to support the government's regulatory initiatives (e.g. sector regionalisation) 	<ul style="list-style-type: none"> • Number of completed Green City Action Plans (GCAPs) • Number of cases when tariffs reached the target level with EBRD assistance • Number of policy recommendations accepted by relevant authorities and/or stakeholders

5. Performance Monitoring Framework (3/3)

Priority 3: Bridge infrastructure funding gaps			
Specific objectives	Activities (Investments, TC, capacity building, policy engagements and external partnerships)	Tracking indicators	
		Outputs (examples)	Examples of outcomes (tracked in Country Strategies)
3.1 Increased availability of diversified financing solutions serving as a catalyst of capital markets development	<ul style="list-style-type: none">• Investments• Policy engagement• Technical cooperation• Co-investing external partnerships	<ul style="list-style-type: none">• Number/volume of sub-sovereign investments• Number/volume of advanced financing schemes (e.g. bonds, credit enhancement facilities, risk sharing/mitigation facilities, blended finance solutions)• Volume of mobilised co-financing through capital markets• Number/volume of local currency lending investments• Number of policy engagement and capacity building activities focused on enabling access to capital markets	<ul style="list-style-type: none">• Number/volume of advanced financing schemes (e.g. bonds, credit enhancement facilities, risk sharing/mitigation facilities, blended finance solutions)• Volume of capital market financing mobilised• Composition of investors achieved by final close of the capital market instrument(s)• Number/volume of local currency lending investments
3.2 Enhanced institutional and regulatory context enabling private sector participation		<ul style="list-style-type: none">• Number/volume of investments in private sector clients (including PPPs)• Number of policy engagement and capacity building activities focused on private sector participation (including PPPs), institutional decentralisation, privatisation of SOEs	<ul style="list-style-type: none">• Number/volume of PPP contract(s)/concession(s)• Number/volume of infrastructure services transferred to private sector• Number of cases of private sector participation (including PPPs), institutional decentralisation, privatisation of SOEs
Context indicators			
<ul style="list-style-type: none">• Energy CO₂ emissions per unit of GDP• Municipal waste collection coverage		<ul style="list-style-type: none">• Share of population using safe drinking water• Share of population using improved sanitation• PM2.5 air pollution, mean annual exposure	<ul style="list-style-type: none">• Energy consumption per capita by residential, commercial and public services• Governance indicators

Annex A: Abbreviations

Implementation of previous Strategy

Annex B: MEI portfolio: Representative investments 2012–2017

Annex C: MEI – a green activity driver

Annex D: Environmental and Social Policy and the MEI Strategy

Annex E: Innovative financing solutions: MEI case studies

Sector context and transition challenges

Annex F: Global context: MEI sector drivers on global risks landscape

Annex G: Global context: MEI contribution to UN Sustainable Development Goals

Annex H: The Bank's support for international climate goals

Annex I: SIA – The Bank's approach to enhancing wider infrastructure project delivery

Annex J: Sector indicators

Annex K: Innovation in MEI

Strategic directions

Annex L: UN Sustainable Development Goals context

Annex M: Link to EBRD country strategies: highlights

Annex N: Cross-sectoral linkages

Annex O: MEI tool box

Annex P: Lessons learned for future operations

1. ABI – Annual business investment
2. AFD – Agence Française de Développement
3. BAT – Best available techniques
4. B&H – Bosnia and Herzegovina
5. BREF – Best Available Techniques Reference Document
6. CA – Central Asia*
7. CEB – Central Europe and Baltic States*
8. CO₂ – Carbon dioxide
9. COOs – Countries of operations
10. DfID – United Kingdom Department for International Development
11. DH – District heating
12. E5P – Eastern Europe Energy Efficiency and Environment Partnership
13. E&S – Environmental and social
14. EBRD – European Bank for Reconstruction and Development
15. EEC – Eastern Europe and Caucasus*
16. EIB – European Investment Bank
17. ESAP – Environmental and social action plan
18. ETC – Early transition countries**
19. ETI – Expected transition impact
20. EU – European Union
21. FOPIP – Financial and operational improvement programme
22. GCAP – Green City Action Plan
23. GCF – Green Climate Fund
24. GDP – Gross Domestic Product
25. GET – Green Economy Transition
26. GHG – Greenhouse gas
27. IFC – International Finance Corporation
28. IFCA – Investment Facility for Central Asia
29. IFI – International financial institution
30. IFRS – International financial reporting standards
31. IMF – International Monetary Fund
32. IPPF – Infrastructure Project Preparation Facility
33. KfW – Kreditanstalt für Wiederaufbau (German development bank)
34. KPI – Key performance indicators
35. MDB – Multilateral development bank
36. MEI – Municipal and Environmental Infrastructure
37. MIGA – Multilateral Investment Guarantee Agency
38. MOU – Memorandum of understanding
39. NDC – Nationally determined contributions
40. NEFCO – Nordic Environment Finance Corporation
41. NIF – Neighbourhood Investment Facility
42. OECD – Organisation for Economic Co-operation and Development
43. OPIC – Overseas Private Investment Corporation
44. PPP – Public-private partnership
45. PPR – Public procurement rules
46. PSC – Public service contract
47. PSO – Public service obligation
48. PTI – Portfolio transition impact
49. RHS – Right-hand side
50. SDGs – Sustainable Development Goals
51. SEE – South-eastern Europe*
52. SEMED – South-eastern Mediterranean*
53. SEP – Stakeholder engagement plan
54. SIA – Sustainable Infrastructure Advisory
55. SIDA – Swedish International Development Cooperation Agency
56. SOE – State-owned enterprise
57. TC – Technical cooperation
58. TOE – Tonne of oil equivalent
59. UN – United Nations
60. UNICEF – United Nations Children's Fund
61. WB – World Bank
62. WHO – World Health Organization

* Refer to Annex J for the list of countries included in the region.

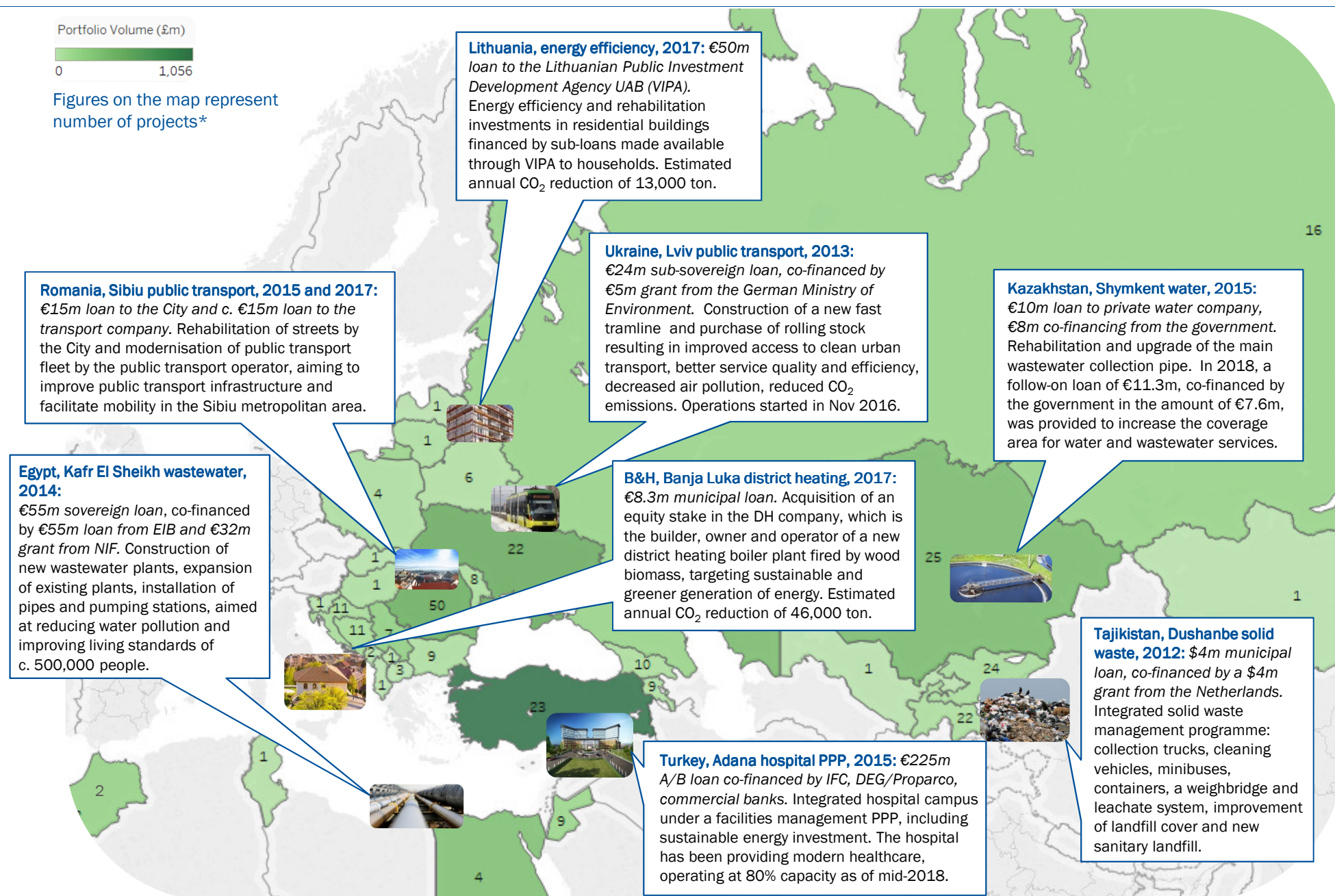
** Early Transition Countries include Armenia, Azerbaijan, Belarus, Georgia, Kyrgyz Republic, Moldova, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

Annex B: Implementation of previous Strategy

MEI portfolio: Representative investments 2012–2017*



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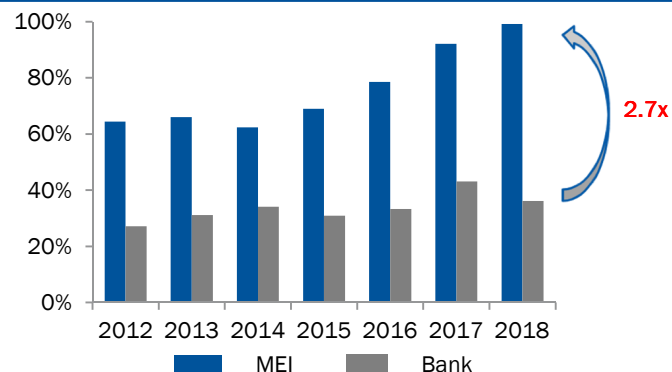


* Figures do not include regional (multi-country) projects.

Annex C: Implementation of previous Strategy

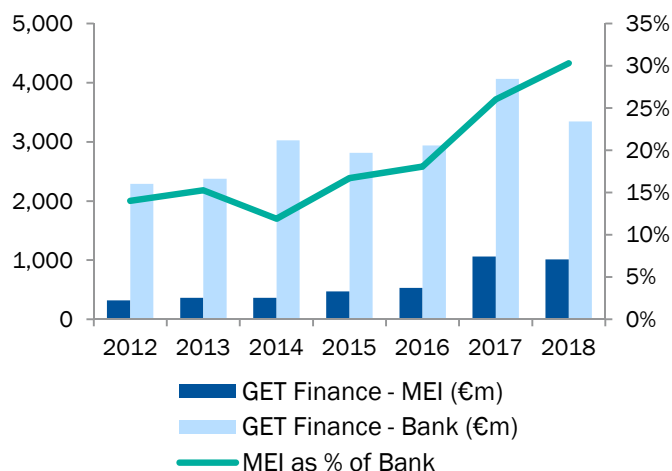
MEI – a green activity driver

GET % of ABI



MEI GET-investments 2.75 times above Bank average: at 99.2% in 2018

MEI % of total Bank GET



2017 new record high for GET-ABI for MEI

Steady increase in GET ABI given **diversification** into new, high-impact areas (including Green Cities projects, residential energy efficiency, SMART Framework in urban transport sector in Romania, waste-to-energy, irrigation) during the 2012–2018 strategy period

Green Cities Framework

€950 million Green Cities Framework streamlines financing of green projects and provides strategic advice and policy support to municipalities seeking to address environmental challenges.

Planning SYSTEMATIC APPROACH Investment



Delivery of strategy and policy support:

Green City Action Plans (GCAP) - strategic advice and policy support to municipalities

Policy dialogue

Building capacity of city administrators and key stakeholders



Signed projects:

Chisinau buildings	€10m
Sarajevo water	€25m
Batumi bus	€5.5m
Banja Luka DH	€8.3m
Tirana water	€15m
Izmir metro	€80m
Lviv solid waste	€20m
Minsk wastewater	€84m
Sofia electric buses	€7.3m
Tbilisi solid waste	€15m
Skopje Buses	€10m
Belgrade green boulevard	€20m
Varna climate resilience	€10m
Ulaanbaatar solid waste	€9.7m



Zenica hospital energy efficiency	€10m
Craiova urban rehabilitation	€15m

Annex D: Implementation of previous Strategy

Environmental and Social Policy and the MEI Strategy

MEI projects are at the heart of the Bank's **sustainability mandate**, promoting environmentally sound and sustainable development. They provide environmental and social benefits that are accessible to all segments of society. MEI projects are typically aligned with and eligible for the **Green Economy Transition approach** of the Bank.

The **Green Cities Framework** sub-projects identified through the Green City Action Plan process give the Bank opportunities to finance strategic priority projects to address the key environmental challenges that the cities face, which also result in socio-economic benefits.

The **challenges** typically faced during implementation of municipal infrastructure projects in line with the Bank's requirements include:





- (i) weak institutional capacity;
- (ii) low public awareness;
- (iii) affordability constraints to meet EU environmental standards;
- (iv) land acquisition, resettlement and livelihood restoration;
- (v) meaningful stakeholder engagement.

The Bank is aiming to address these gaps by developing the **Environmental and Social Action Plans** (ESAPs) and **Stakeholder Engagement Plans** (SEPs) and by providing TC-funded **support** to its municipal clients in capacity building, implementation of the ESAPs and SEPs, and improvement of their environmental and social management practices.

Annex E: Implementation of previous Strategy

Innovative financing solutions: MEI case studies

EBRD enabled clients to access **non-traditional financing sources** given the increasing scarcity of public and commercial funding in the municipal sector.

Local currency municipal bond	Local currency corporate bond	Risk mitigation scheme
<p>Romania – Bucharest </p> <p><i>Year:</i> 2015 <i>Issuance amount:</i> RON 2.2 million (~€500m) <i>EBRD share:</i> RON 333 million (~€75m) <i>Client:</i> City of Bucharest <i>Use of proceeds:</i> Refinancing €500m Eurobond <i>EBRD support:</i> EBRD multi-departmental cooperation served as a one-stop shop facilitating policy dialogue, capacity building, development of hedging strategy and repo-eligibility, communication with investors, obtaining euro-clearability <i>Project results:</i> Improved fiscal policy, diversification of funding, creation of a pricing benchmark, development of the local capital markets</p> <p>Croatia – Zagreb </p> <p><i>Year:</i> 2016 <i>Issuance amount:</i> HRK 2.25 billion (~€300m) <i>EBRD share:</i> HRK 44 million (~€5.9 million) <i>Client:</i> Zagreb Holding, municipal holding company, fully owned by City of Zagreb <i>Use of proceeds:</i> Refinancing €300m Eurobond <i>Project results:</i> Balance sheet restructuring, diversification of funding, development of local capital markets</p>	<p>Turkey </p> <p><i>Year:</i> 2016 <i>Issuance amount:</i> TRY 250 million (~€74 million) <i>EBRD share:</i> TRY 70 million (~€21 million) <i>Client:</i> Turkish industrial conglomerate YDA İnşaat Sanayi ve Ticaret A.Ş. (YDA), owner of the subsidiary contracted to build Konya Hospital <i>Use of proceeds:</i> Construction of hospital in Konya* and refinancing a part of YDA's short-term debt <i>EBRD support:</i> Promoted longer tenor and greater transparency to attract a wider pool of international investors to Turkish capital markets <i>Project results:</i> Konya hospital is expected to become operational in 2019; hedgeable reference rates of this financing scheme allowed international investors to be attracted and average tenors to be extended</p>	<p>Turkey </p> <p><i>Year:</i> 2016 <i>EBRD financial instrument:</i> Unfunded liquidity facility (combined with MIGA political-risk insurance) to mitigate implementation risks of construction and operation of hospital in Elazığ* financed by a €288 million bond <i>EBRD share:</i> €89 million <i>Client:</i> ELZ Finance and its sister company ELZ Sağlık Yatırım, which was awarded the concession to implement the project <i>EBRD support:</i> Supported the Turkey's first greenfield project bond, bringing bondholders into a new market <i>Project results:</i> The project received a credit rating two notches above Turkey's current rating. This attracted a larger pool of investors and mobilised new funding sources</p>

* The project is part of the Hospital PPP Programme in Turkey.

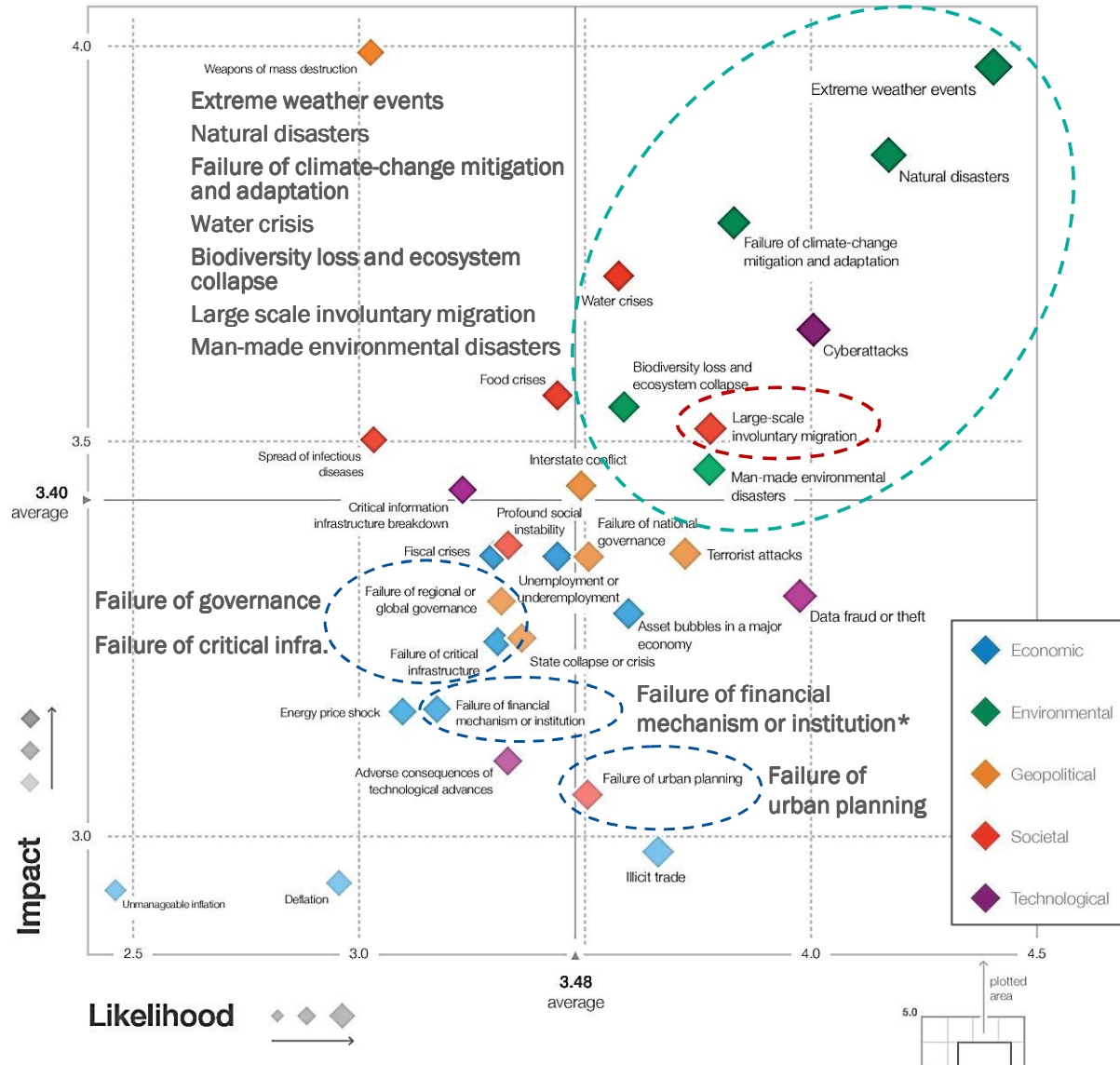
Annex F: Sector context and transition challenges

Global context: MEI sector drivers on global risks landscape



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The Global risks landscape 2018



Source: "The Global Risks Report 2018 13th Edition", World Economic Forum.

Global risks

- The World Economic Forum's annual Global Risks Report stresses the need to address **environmental and social risks**.
- According to this report, environmental risks have grown in prominence over the 13-year history of the Global Risks Report, and this trend continues. All five environmental risks occupy the top-right quadrant of The Global Risks Landscape, demonstrating their significance for society. However, the truly systemic challenge here rests in the depth of **the interconnectedness among and between these risks**.
- Failure to adequately invest in and upgrade infrastructure can lead to additional pressure on other key risks or a breakdown with system-wide implications.

MEI sector drivers

Environmental challenges & practices

Demographic and social pressures

Governance & asset management

* Defined as a collapse of a financial institution and/or malfunctioning of a financial system that impacts the global economy.

Annex G: Sector context and transition challenges

Global context: MEI contribution to UN SDGs



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CORE MEI - SDGs

	Green	Inclusive	Competitive	Resilient	Integrated	Well-governed
11 SUSTAINABLE CITIES AND COMMUNITIES						
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE						
6 CLEAN WATER AND SANITATION						
13 CLIMATE ACTION						

OTHER RELEVANT MEI - SDGs

14 LIFE BELOW WATER						
15 LIFE ON LAND						
3 GOOD HEALTH AND WELL-BEING						
12 RESPONSIBLE CONSUMPTION AND PRODUCTION						
17 PARTNERSHIPS FOR THE GOALS						
16 PEACE, JUSTICE AND STRONG INSTITUTIONS						
8 DECENT WORK AND ECONOMIC GROWTH						
5 GENDER EQUALITY						
10 REDUCED INEQUALITIES						

MEI actively contributes to **12** out of **17** Sustainable Development Goals with **4 SDGs** being the most relevant to the MEI sector.

When EBRD Transition Qualities are mapped against the SDGs, the largest impact made by MEI projects is expected on **Green** and **Inclusive** Transition Qualities*.

Climate action

Sustainable cities and communities

Industry, innovation and infrastructure

Clean water and sanitation

A strong link

A less strong link

Core MEI SDGs



* Refer to section 2.4.

Annex H: Sector context and transition challenges

The Bank's support for international climate goals

Context

- Climate change is the result of a critical market failure. Addressing climate change therefore reflects the Bank's mandate to promote the transition to market-based economies and its commitment "to promote in the full range of its activities environmentally sound and sustainable development".*
- The **Paris Agreement** reflects a broad-based international commitment to address climate change. The agreement commits countries to "emission pathways consistent with holding the increase in the global average temperature to well below 2 °C above pre-industrial levels." The Agreement emphasises the need for efforts to promote both climate change mitigation and climate change adaptation.
- The Paris Agreement has widespread support from the Bank's shareholders, and has been signed by all but one of the Bank's countries of operations.**
- The Bank, together with other development financing institutions, committed to supporting the outcomes of the Paris Agreement in the "2015 Joint Statement by the MDBs at Paris COP21". This commitment was reiterated in a joint declaration with other development finance institutions at the One Planet Summit in 2017.

The EBRD and climate goals

- Operationally, the Bank's support for international climate goals is delivered through:
 - Investment activities. In particular, the Bank has several processes and procedures to promote climate change mitigation and adaptation investments – most notably, those associated with the **Green Economy Transition** approach.
 - Policy engagement activities:
 - Support to develop, refine, and increase the ambition of Nationally Determined Contributions (NDCs) – for example, through the Bank's **NDC Support Programme**.
 - Other activities such as defining and shaping sector and/or country-specific emissions pathways.
- A key element of the Bank's activities to support climate goals is to identify and mitigate the climate risks associated with its activities – specifically, the risks that activities are inconsistent with mitigation and/or adaptation goals.

The MEI and climate goals

- All MEI investments will be consistent with Bank's Environmental and Social Policy and the EBRD performance requirements (including requirements for using best available technologies).
- All investments will be consistent with the objectives of the Paris Agreement and contribute to delivering of NDCs.
- For new investments which will result in a significant increase in GHG emissions, the EBRD will apply shadow carbon pricing*** as part of the economic assessment.
- Through policy dialogue (for example, the Green Cities Programme), the Bank will engage cities in strategic urban planning aimed at reducing emissions and addressing climate change.

* Article 2.1(vii) of the Agreement Establishing the EBRD. ** Kosovo is unable to be a signatory of the Paris Agreement due to its status at the United Nations.

*** www.ebrd.com/downloads/policies/sector/coal-methodology.pdf

Annex I: Sector context and transition challenges

SIA – The Bank's approach to enhancing wider infrastructure project delivery

Context

- The G20 came to a consensus on the importance of infrastructure as a driver of global economic growth.
- MDBs are called upon to promote enhanced infrastructure delivery:
 - Infrastructure project preparation was established as one of four pillars of activity under the G20 Australian presidency of 2014. That pillar was designed to “enhance the catalytic role of the MDBs” as part of the growth strategy, and was continued by Turkey in 2015.
 - The G20 finance ministers endorsed the *G20 Roadmap for Infrastructure as an Asset Class* calling for greater emphasis and coordination among the MDBs on project preparation, private sector participation, risk mitigation and data.

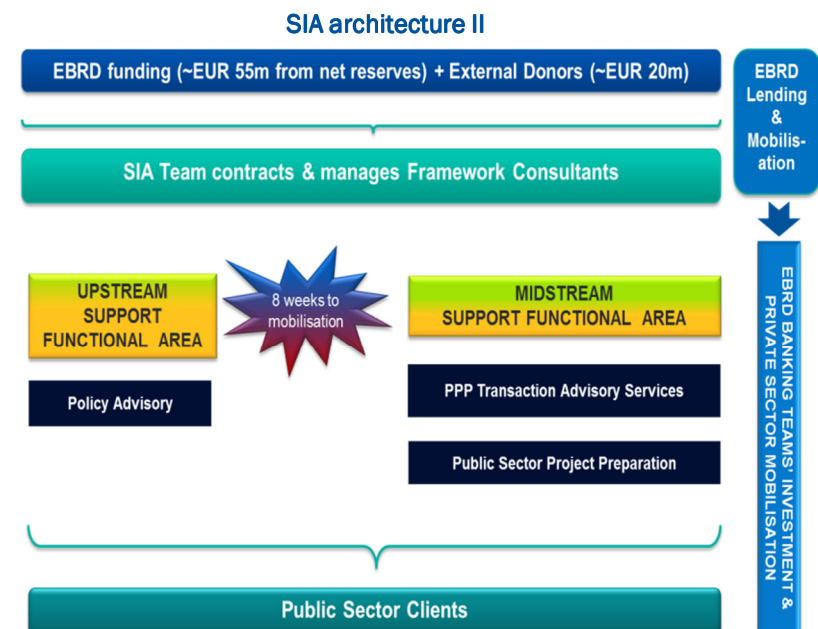
SIA objectives

- The Bank's **Sustainable Infrastructure Advisory (SIA)*** aims to:
- Promote more efficient delivery of projects and improve quality as part of the EBRD's reform-driven mandate;
 - Improve quality of service offered to clients;
 - Provide a response to both public sector project and PPPs;
 - Deepen focus on commercialised approaches to infrastructure;
 - Strengthen institutional capacity;
 - Develop synergistic ‘cross-over’ projects across the spectrum of renewable energy, transport and municipal services;
 - Facilitate the integration of project preparation with systematic higher-level policy dialogue and related advisory work.

SIA architecture

- SIA architecture I**
- Up to €55 million from Bank's special net income allocation via Shareholder Special Fund establishes up-front contribution:
 - Public-Private Partnership Window (PPP Window) (€18 million);
 - Public Sector Preparation Window (€35 million);
 - Policy Window (€20 million).
 - Funds are aimed at needs for the first three-year operational period (2019–2021).
 - Geographic scope: all COOs of EBRD.
 - Core SIA team staff in place and fully functional, building on 2015–2018 experience of the Bank's Infrastructure Project Preparation Facility)

Over the 2019 to 2021 period, SIA to fund the preparation of c. 90 public sector projects, 15 PPPs, and up to 15 deep country-level policy interventions.



* SIA is available for all of the Bank's sustainable infrastructure projects, which includes both Power/Energy, MEI and Transport sectors. It was previously known as IPPF.

Annex J: Sector context and transition challenges

Context indicators (1/2)

Region	Country	CO ₂ emissions per capita, 2016 (t)	Municipal waste collection coverage (% of total)	Energy consumption per capita by residential, commercial & public services, 2015 (toe)	Share of population using safe drinking water (% of total)	Share of population using improved sanitation (% of total)	PM2.5 air pollution, mean annual exposure, 2016 (micrograms per cubic meter)	Worldwide governance indicators, 2016 (percentile within EBRD COOs)
Central Europe and Baltic States	Croatia	3.8	92%	0.76	90%*	99%	19.82	77
	Czech Republic	9.6	100%	0.94	90%*	98%	19.18	95
	Estonia	12.4	79%	1.03	90%*	95%	5.93	100
	Hungary	4.5	90%	0.88	99%	100%	24.57	79
	Latvia	3.5	100%	0.93	90%*	78%	14.59	87
	Lithuania	3.7	n/a	0.69	n/a	n/a	16.72	97
	Poland	7.6	80%	0.74	90%*	90%	25.60	85
	Slovak Republic	5.6	100%	0.68	100%	100%	20.33	82
	Slovenia	6.6	93%	0.81	100%	100%	17.82	92
South-eastern Europe	Albania	1.3	77%	0.24	97%	98%	14.63	56
	Bosnia and Herzegovina	6.2	60%	0.32	90%*	95%	39.27	38
	Bulgaria	5.7	81%	0.45	100%	100%	25.65	69
	North Macedonia	3.3	n/a	0.36	90%*	89%	31.92	51
	Kosovo	5.0	39%	0.34	n/a	n/a	n/a	41
	Montenegro	3.4	n/a	0.48	n/a	92%	20.36	64
	Romania	3.4	82%	0.48	58%	72%	19.06	72
	Serbia	6.4	60%	0.53	98%	92%	18.85	59
	Turkey	4.3	77%	0.41	82%	90%	37.25	31
	Greece	5.9	100%	0.58	90%*	98%	11.30	67
	Cyprus	7.4	n/a	0.64	100%	100%	17.87	90

* Safe drinking water is assumed at 90% due to absence of data. ** Improved sanitation is assumed at 45% due to absence of data.

Note: Sources of information are indicated throughout section 2 of the document. Source of CO₂ statistics: IEA. Source of waste collection statistics: Waste Atlas. Source of population weighted mean annual exposure to PM2.5: World Bank.

Annex J: Sector context and transition challenges

Context indicators (2/2)



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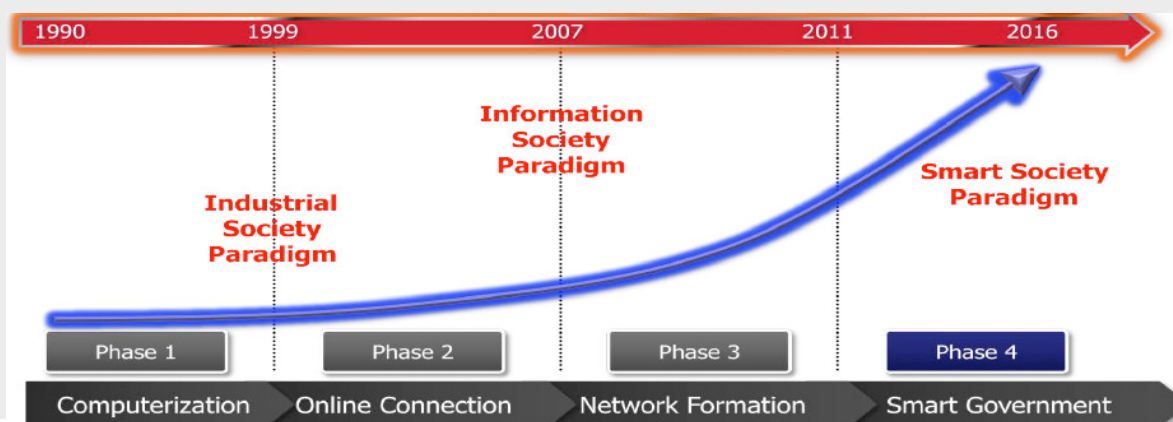
Region	Country	CO ₂ emissions per capita, 2016 (t)	Municipal waste collection coverage (% of total)	Energy consumption per capita by residential, commercial & public services, 2015 (toe)	Share of population using safe drinking water (% of total)	Share of population using improved sanitation (% of total)	PM2.5 air pollution, mean annual exposure, 2016 (micrograms per cubic meter)	Worldwide governance indicators, 2016 (percentile within EBRD COOs)
Eastern Europe and Caucasus	Armenia	1.7	80%	0.28	90%*	90%	26.97	44
	Azerbaijan	3.2	90%	0.38	78%	45%	32.98	23
	Belarus	5.6	100%	0.77	100%	93%	19.80	28
	Georgia	2.4	60%	0.36	79%	95%	20.73	74
	Moldova	2.2	40%	0.31	92%	79%	19.94	36
	Ukraine	4.4	n/a	0.59	98%	95%	19.21	18
Central Asia	Kazakhstan	12.9	n/a	0.64	91%	97%	19.66	33
	Kyrgyzstan	1.5	n/a	0.19	77%	93%	17.91	15
	Mongolia	5.9	n/a	0.40	60%	50%	29.69	62
	Tajikistan	0.5	n/a	0.04	60%	94%	61.35	5
	Turkmenistan	12.2	n/a	1.39	90%*	98%	37.74	3
	Uzbekistan	2.7	n/a	0.52	85%	100%	46.69	8
SEMED	Egypt	2.1	40%	0.17	97%	94%	126.03	10
	Jordan	2.5	80%	0.22	96%	98%	37.21	54
	Lebanon	3.9	100%	0.15	100%	45%**	35.56	13
	Morocco	1.6	82%	0.14	80%	69%	25.41	46
	Tunisia	2.2	83%	0.23	80%	85%	35.57	49
	West Bank and Gaza	n/a	90%	n/a	n/a	n/a	18.90	26
	Russian Federation	10.0	n/a	1.04	99%	87%	15.50	21

* Safe drinking water is assumed at 90% due to absence of data. ** Improved sanitation is assumed at 45% due to absence of data.

Note: Sources of information are indicated throughout section 2 of the document. Source of CO₂ statistics: IEA. Source of waste collection statistics: Waste Atlas. Source of population weighted mean annual exposure to PM2.5: World Bank.

Annex K: Sector context and transition challenges

Innovation in MEI: Digital technology



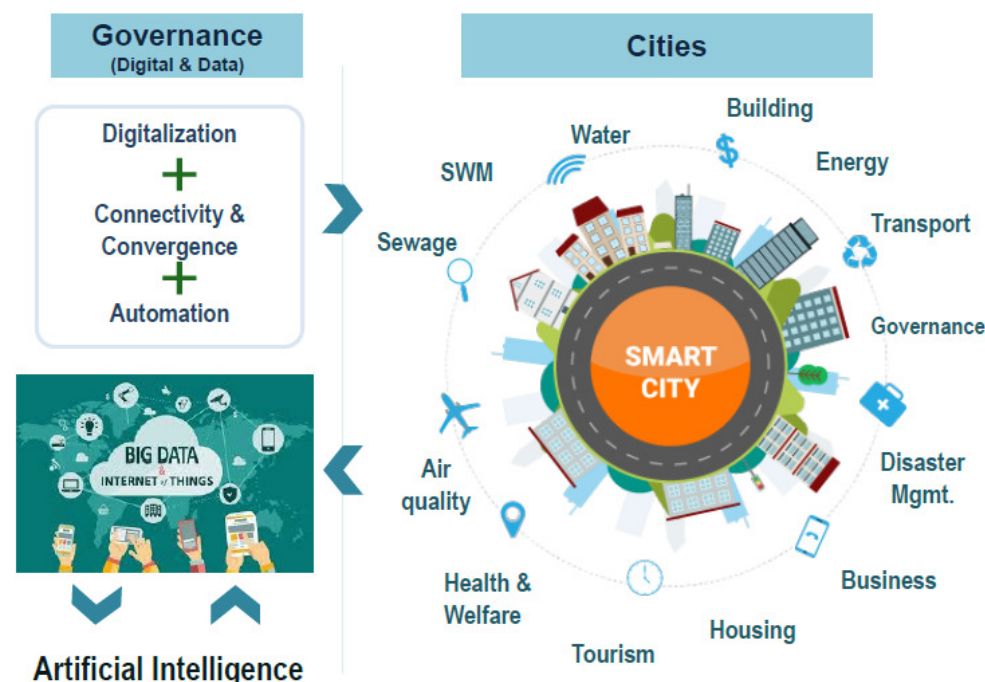
Source: Seoul Urban Solutions Agency for the Seoul Metropolitan Government

Smart solutions

- Smart City Solutions is an integrated concept to enhance competitiveness and quality of life by applying real-time urban data analytics using the Internet of Things and other data-driven solutions to improve the efficiency, reliability and quality of urban infrastructure and associated public services for users.*

**“Smart” → Digital innovation →
New ways of doing things to create value**

- Efficient solution of urban challenges (digitally-focused governance, resource forecasting, water/energy/waste supply/consumption management, ‘sharing economy’ solutions (taxi and ride sharing, parking), traffic control system, electric mobility and e-bus).
- Improved policy solutions based on in-depth data analysis (customised service based on citizen needs, automated ticketing and user information systems).
- Citizen-led e-governance (live reporting on the quality of services, disaster management, community initiatives).



Source: Seoul Urban Solutions Agency for the Seoul Metropolitan Government

* As networks and municipal assets become even more connected through real-time data, preserving data integrity for service providers and consumers alike becomes a pressing issue.

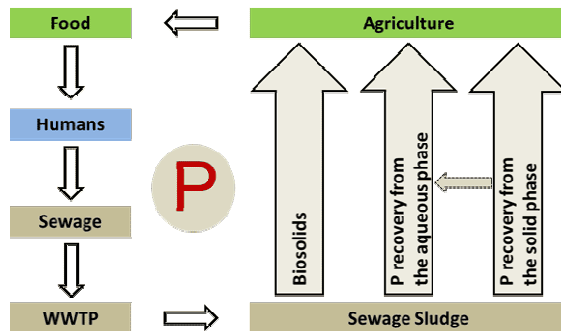
Annex K: Sector context and transition challenges

Innovation in MEI: Water sector

Innovation in Water Sector

Added value

Waste streams to 'value streams' (energy, water and nutrients) e.g. reuse of nutrients bound in sludge ('bio-resource') to its full recovery. The technology for extraction already exists.

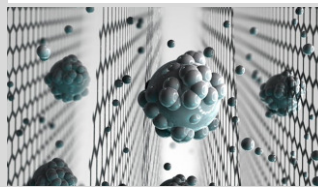


Source: waterworld.com

Disruptive

Introduces new models of solving sector challenges.

Graphene Membranes



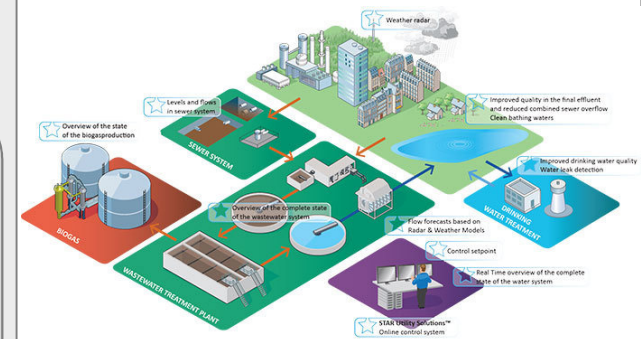
Source: manchester.ac.uk

Graphene is capable of forming perfect barrier to liquids and gases. It has the potential to provide clean drinking water in water desalination.

Target region: SEMED

Incremental

Adaptive and optimal ('real time') control of existing water and wastewater infrastructure using sensors, intelligent controls and feedback loops. This is being incrementally implemented in some cities to better manage weather-related performance.

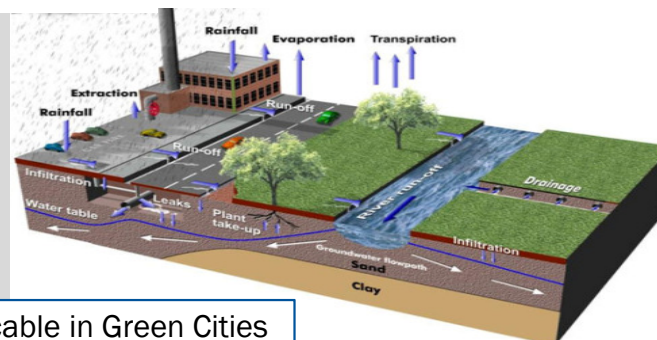


Source: opcfoundation.org

Sustainable Urban Drainage Systems "SUDS"

- SUD – drainage system for storing or re-using surface water at source.
- Necessity: natural infiltration in urban areas is limited.
- Goal: to reduce risk of rainwater related flooding and water pollution in urban settings.

Applicable in Green Cities



Source: British Geological Survey

Smart Water Meters

- Goal: detect leaks, assess consumers use.
- Data is transmitted to centre automatically (no need for meter readers or complex transmission network)



Source: iotbusinessnews.com

Most applicable: EEC, SEE

Annex K: Sector context and transition challenges

Innovation in MEI: District energy sector

Thermal energy storage

- Used for short term (daily/weekly) storage of water based energy to compensate for daily variations in heating or cooling demand.
- As more intermittent renewable electricity generation is added to grids, there will be times when there is surplus grid electricity.
- When combined with an electric boiler or heat pump, this electricity can be transformed into useful heating or cooling energy and efficiently stored.



Source: decentralized-energy.com

Applicable in all COOs



Solar district heating

- Renewable solution
- Large-scale solar thermal plants delivering heat via DH networks.
- Inter-seasonal storage allows for heat collected in the summer months to be utilised into the winter.

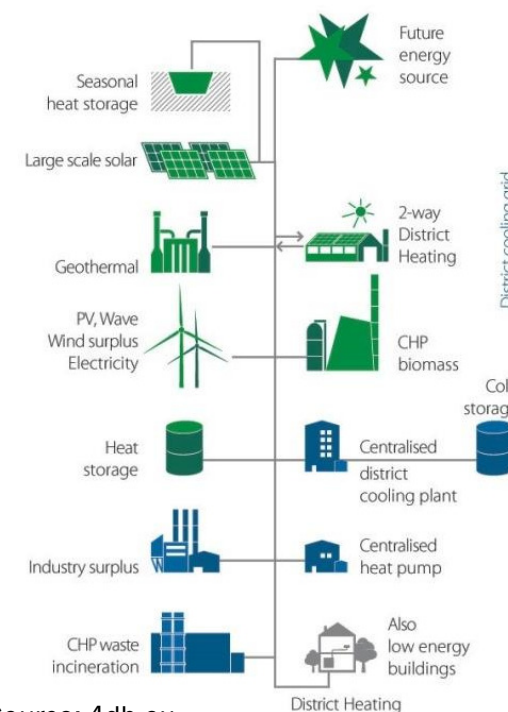


Source: solar-district-heating.eu

Target regions: Western Balkans, Kyrgyzstan

4th Generation district heating

- Also known as a 'smart thermal grid'.
- 4th generation DH systems supply heat to low-energy buildings with low grid losses while integrating low-temperature heat sources, including large-scale heat pumps, renewables, and waste heat.



Source: 4dh.eu

Most applicable: Eastern & Central Europe

Annex K: Sector context and transition challenges

Innovation in MEI: Solid waste management sector

Increasing source separation and recycling

- In 2015, the EU issued the Circular Economy Package (updated in 2018), including new and challenging targets to facilitate source separation and recycling with the aim of reducing landfilling over the next 15 years.
- In addition to new infrastructure for the separate collection of recyclables and bio waste, raising public awareness and financing collection systems are crucial.
- The introduction of Extended Producer Responsibility Schemes or other incentives facilitate viable source-separation financing.



Source: MEI



Improved technologies

- Waste technologies steadily improve
- Exploring Waste-to-energy solutions using new technologies aiming at better efficiency and flue gas cleaning.
- Inclusion of reasonable options for biowaste treatment, aiming at fertiliser production and/or energy recovery.
- Monitoring of waste facilities in terms of emissions or settlements (e.g. landfills) with drones.
- Waste sorting plants achieve higher efficiencies with near-infrared (NIR) plastic sorting.
- Recycling processes improve, e.g. in the field of e-waste many materials (rare earths etc.) can be recovered.



Source: Freerange

'Smart' collection systems

- Allows for usage-based tariff setting model.
- Users are charged based on the real quantities of waste disposed.
- Economic incentives encourage behavioural changes. Circumventing illegal dumping has to be considered.
- Different types of cost allocation: per bin/container and collection frequency, or based on actual collected weight/volume (e.g. using containers with microchips, access code in multi-family dwellings or collection vehicles with automatic identification of bins and real-time data transfer).
- Optimisation of route planning.

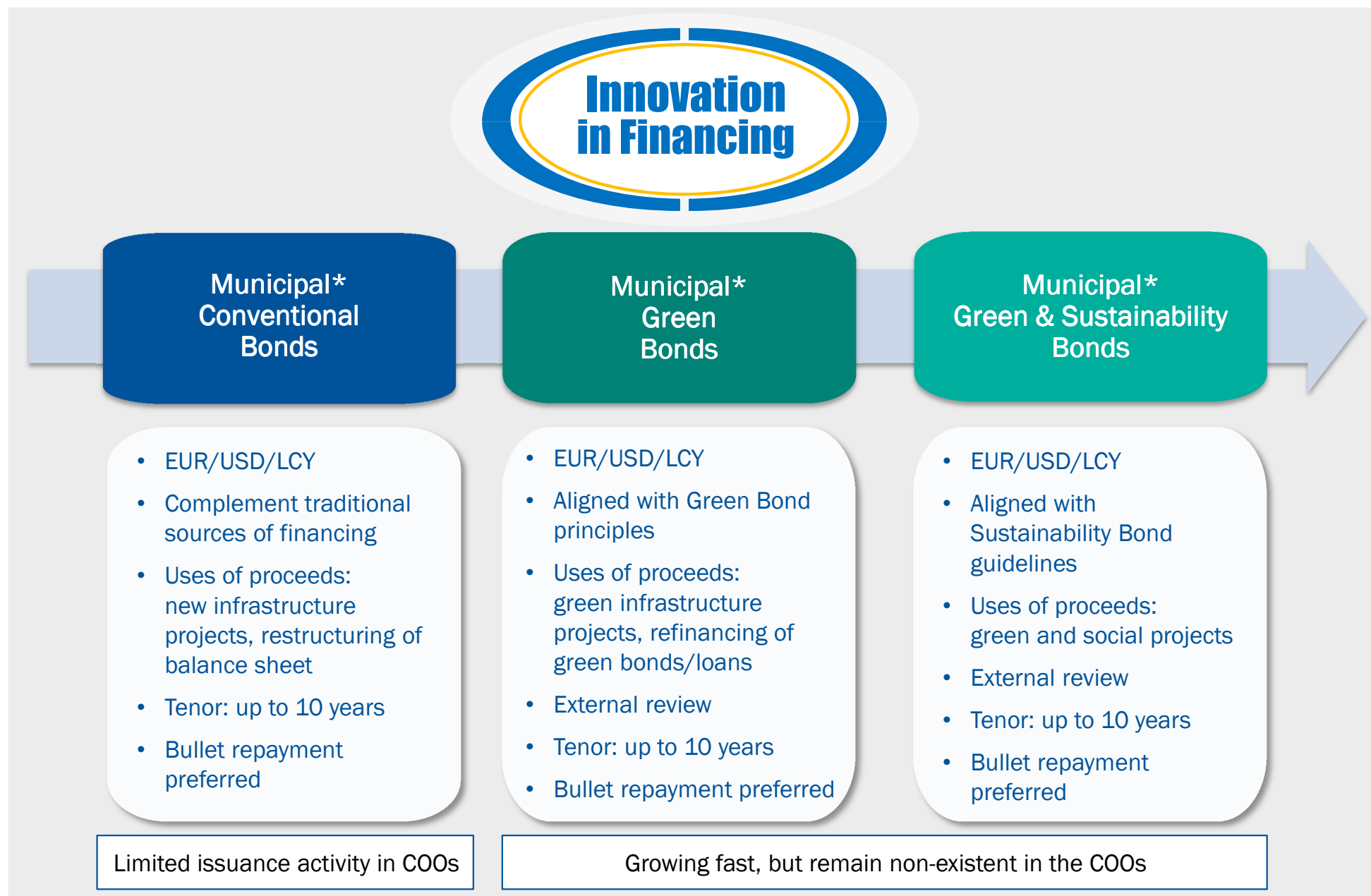


Source: Freerange

Prospective regions for implementation: Central Europe & Baltic States, South-eastern Europe, Eastern Europe & Caucasus

Annex K: Sector context and transition challenges

Innovation in MEI: Financing solutions



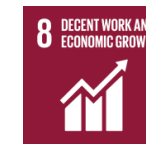
* Municipal bonds cover bonds of both municipalities and private companies providing municipal services.

Annex L: Strategic directions

UN SDGs context

Examples of SDG targets that could be addressed by MEI strategic directions

Green and Sustainable Investments



Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil **pollution and contamination**.

Target 6.1: By 2030, achieve universal and equitable access to safe and affordable **drinking water** for all.

Target 6.2: By 2030, achieve access to adequate and equitable **sanitation and hygiene** for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Target 8.6: By 2020, substantially reduce the proportion of **youth not in employment**, education or training.

Target 8.9: By 2030, devise and implement policies to promote sustainable **tourism** that creates jobs and promotes local culture and products.

Target 9.1: Develop quality, reliable, sustainable and resilient **infrastructure**, including regional and trans-border infrastructure, to support economic development and human well-being, with a

focus on affordable and equitable access for all.

Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased **resource-use efficiency** and greater adoption of **clean and environmentally sound technologies** and industrial processes, with all countries taking action in accordance with their respective capabilities.

Target 11.1: By 2030, ensure access for all to adequate, safe and **affordable housing** and basic services and upgrade slums.

Target 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding **public transport**, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

Target 11.3: By 2030, enhance inclusive and sustainable **urbanization** and capacity for participatory, integrated and sustainable human settlement **planning and management** in all countries.

Target 11.4: Strengthen efforts to protect and safeguard the world's **cultural and natural heritage**.

Target 11.a: Support positive economic, social and environmental **links between urban, peri-urban and rural areas** by strengthening national and regional development planning.

Target 11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards **inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters**, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

Target 12.5: By 2030, substantially reduce **waste generation** through prevention, reduction, recycling and reuse.

Target 13.1: Strengthen resilience and adaptive **capacity to climate-related hazards** and natural disasters in all countries.

Corporate Governance



Target 6.a: By 2030, expand **international cooperation and capacity-building** support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Target 10.4: Adopt **policies**, especially fiscal, wage and social protection policies, and progressively achieve greater **equality**.

Target 12.7: Promote **public procurement** practices that are sustainable, in accordance with national policies and priorities.

Target 16.5: Substantially reduce **corruption and bribery** in all their forms.

Target 16.6: Develop effective, accountable and transparent **institutions** at all levels.

Target 17.9: Enhance international support for implementing effective and targeted **capacity-building** in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation.

Innovative Financing



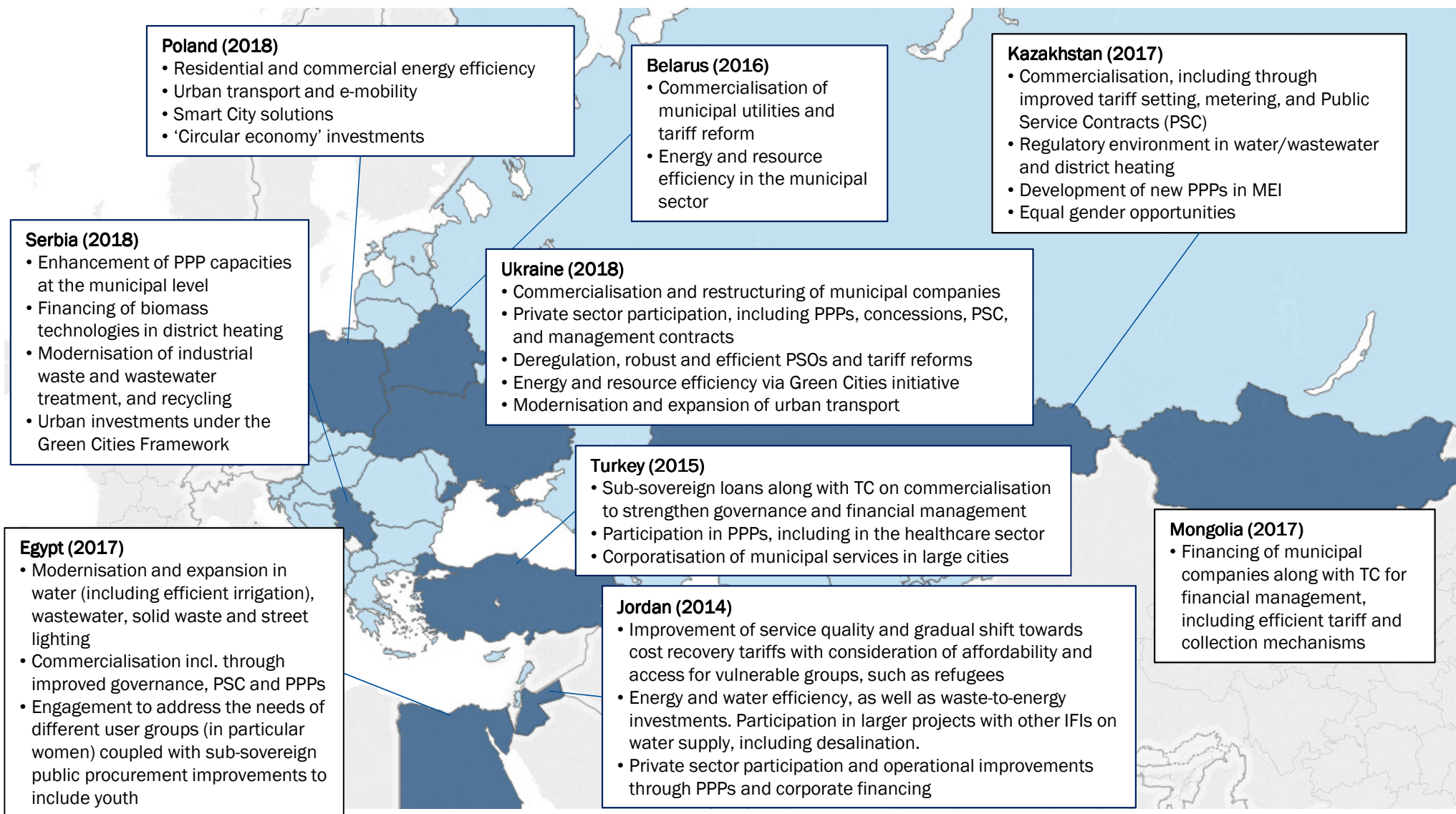
Target 10.b: Encourage official development assistance and **financial flows**, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.

Target 17.3: Mobilize **additional financial resources** for developing countries from multiple sources.

Annex M: Strategic directions

[Link to EBRD country strategies: Highlights](#)

Recent EBRD Country Strategies, including the illustrative examples below, reflect the MEI strategic priority areas tailored to local contexts, from commercialisation in Belarus to Smart cities in Poland.*



* These are select examples of Country Strategies and activities reflected therein. Most country strategies capture MEI-related activities to a different extent.

Annex N: Strategic directions

Cross-sectoral linkages

EBRD sector group	Potential areas of cooperation with MEI group
Power and Energy	Integrated renewables (solar water pumping, solar desalination, solar district heating, large-scale heat pumps), thermal energy storage using 'surplus' renewable electricity, co-generation, waste-to-energy, electrification and decarbonisation initiatives
Agribusiness	Water infrastructure schemes to protect biodiversity and ecosystem and water conveyance for irrigation purposes, biodegradable waste (including food waste) recovery and fertiliser production
Property and Tourism	Cultural heritage, urban regeneration
Financial Institutions	Energy efficiency in buildings, risk-mitigation instruments
Manufacturing and Services	Industrial parks, 'circular economy' and recycling solutions
Transport	Local roads and bridges, rural-urban linkages
Information and Communication Technologies	'Smart' solutions
Local Currency and Capital Markets Development	Local currency lending

Annex O: Strategic directions

MEI tool box



European Bank
for Reconstruction and Development

The Bank strives to promote decentralised / **sub-sovereign lending**.

The financing structure depends on project underlying cash flows.

While the Bank will promote sub-sovereign structures, it recognises that the scope for **PPPs and private investments** depends on the legal basis, client readiness, and value-for-money.

Donor-funded technical cooperation to overcome barriers and facilitate implementation

- *Project implementation*
- *Corporate development*
- *Stakeholder engagement*

Technical Cooperation

Policy Dialogue

Development of strong institutional and regulatory frameworks

- *Tariff reform*
- *Legal and regulatory reform*

Investments

Various types of financing to match client capacity to project needs

Sovereign-backed loans

Least expensive, but can become politicised

Central Government

Municipal loans or utility company loans guaranteed by municipality

Independence for self-financing city, but higher cost and burden on public debt book

Municipality

Utility Company

Quasi-corporate utility company loans

Off-balance sheet borrowing for city*
Need backing of Public Service Contract + Support Agreement

Municipality

Public Service Contract + Support Agreement

Utility Company

Loans to private/PPP companies

Private sector indebtedness
Need robust legal, regulatory and contractual framework

Municipality

PPP Contract

Private Company

Borrower

* Loan within the balance sheet of the utility company.

Annex P: Strategic directions

Lessons learned for future operations

The Bank systematically analyses the results of implemented projects to take advantage of lessons learnt.

Lesson learnt		
Project preparation	<ul style="list-style-type: none"> The quality of due diligence, deal structuring and planning is strongly correlated with efficient implementation (e.g. a well-designed procurement strategy, which takes into account permitting timetable, helps to avoid implementation delays; active involvement of the Bank's regional/local experts enables the Bank to tailor the deal to local context, identify potential issues early on and embrace new opportunities). Deal structures need to identify mitigants in the event of downside scenarios to minimise project delays or failures (financing instruments in local currency address the foreign exchange risk; availability of contingency funding is needed in adverse macroeconomic conditions; the Bank's security rights provide protection from client's insolvency). 	<ul style="list-style-type: none"> Certain risks cannot always be addressed through loan structuring, e.g. geopolitical risk, politicised decisions, lack of market interest, weak client engagement, low quality of external consultants. The Bank should identify key promoters and advocates within the government at an early stage and assess their role after signing in order to ensure continued "ownership" of the project and to mitigate the implementation risks due to loss of buy-in. When setting project targets it is necessary to be prudent in the choice of methodology to calculate benefits and realistic in terms of the goals to be achieved. Prior to deal structuring, a realistic assessment of the clients ability to fulfil financing conditionalities and implement the project needs to be assessed.
Project implementation	<ul style="list-style-type: none"> Project implementation timeline should reflect local considerations (e.g. more time for tendering and construction in remote locations or harsh climate conditions; deadlines accounting for political election cycles; reduced timeline using advance procurement). Shortcuts in project preparation can result in a longer tendering process and costs overrun. Innovative solutions in project delivery (e.g. advance procurement, project division into independent lots for parallel implementation) may lead to considerable savings in time and resources. 	<ul style="list-style-type: none"> Technical cooperation is crucial for implementation of innovative products. Active management of consultants performing technical cooperation assignments is required to ensure accuracy of assumptions, quality of reports, coordination with other consultants and stakeholders. Readiness to reassess project and adapt project components (e.g. technical assistance) if realities change is crucial.
Policy dialogue	<ul style="list-style-type: none"> Integrated approaches can achieve major regulatory changes, however a careful assessment of realistic policy dialogue activities and respective execution timeline is needed. Innovative initiatives (e.g. sector reform, new financing structure or technology) require counterparty buy-in to avoid undesirable outcomes. Policy dialogue considerations should not just be limited to the local level, but should extend to the central government to create the enabling environment for envisaged company-level changes. 	<ul style="list-style-type: none"> The outcome of policy dialogue is dependent on the level of market maturity and the level of understanding of the success of an initiative by authorities. Transition objectives should be either introduced in a granular manner with a step-by-step approach to ensure early wins and greater buy-in, or the focus and timeline for TI implementation should be in the project's first few years to minimise the consequences of the electoral cycle. A wider policy dialogue on budget planning, tax legislation, contracts enforcement mechanism is needed to enable PSC implementation.