

Financing Sustainable Infrastructure EBRD Policy and Project Preparation

Organisation, Principles and Operational Approach

Options for financing of infrastructure projects after 2020
Riga, 17 October 2019



European Bank
for Reconstruction and Development



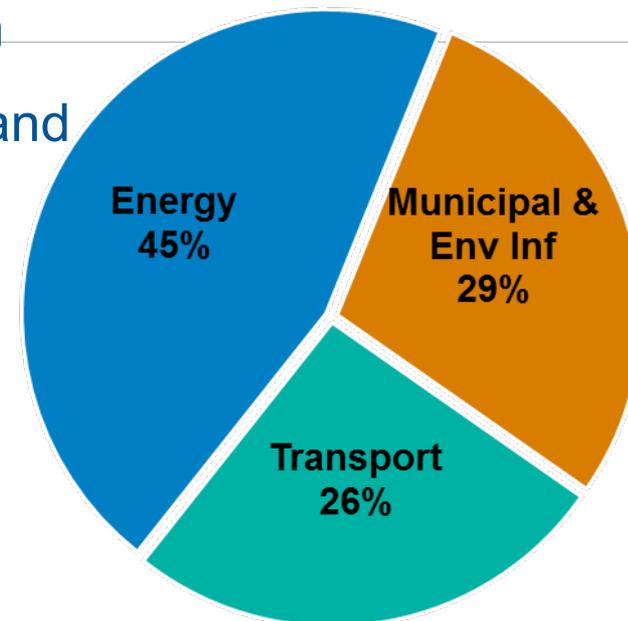
EBRD Sustainable Infrastructure Group Approach

- Combining energy, transport and municipal sectors
- Cross-sector, holistic approach

Our Definition of Sustainable Infrastructure:
“Infrastructure investments delivering the ambitions of the SDGs”



- Sustainable Infrastructure Group (SIG) formed in January 2019, encompassing energy, transport and municipal sectors
- € 21 billion portfolio
- 2018 annual investment = € 3.6 billion, across 90 projects p.a.



Logistics

- Supporting intermodal operations – **multipurpose logistics hubs and terminals**, diversified transportation network connections (i.e. Danube Logistics in Moldova, PIMK in Bulgaria, DLF Georgia Logistics Terminal in Georgia)
- Financing **fleet acquisition and renewal** to improve operational and resource efficiency (i.e. Arkas in Turkey, Globaltrans in Russia)
- Enhancing **automatization and competitiveness** of the postal services in the region (i.e. Meest Logistics and Nova Poshta in Ukraine)
- Contributing to **decarbonisation** through increasing operational optimization (i.e. Meest Logistics in Ukraine, PIMK in Bulgaria)
- Providing **equity investment for IPOs** to promote private sector participation (InPost in Poland)

Aviation

- Providing finance in **PPP schemes at key international airports** in the region (i.e. Budapest Airport in Hungary, Greek Airports, Dalaman Airport in Turkey, Tbilisi International Airport in Georgia)
- Financing **modernisation of air navigation** systems to allow shorter routes and significant fuel savings (SMATSA Upgrade in Serbia);
- Facilitating introduction of high energy **efficiency standards in the design of airport terminals** (i.e. Pulkovo Airport Concession Finance in Russia, TAV Ege Terminal in Turkey)
- Supporting **affiliation with** international organisations such as **EUROCONTROL** (SMATSA Upgrade Project in Serbia) and **implementation of the Single European Sky** programme (Macedonian Air Navigation Service Project in Macedonia)



Rail & Roads:

- Financing **renewal of rolling stock** - acquisition of wagons by private operators (i.e. in Russia, Ukraine, Kazakhstan), Electric Multiple Units (EMUs) and modern locomotives (i.e. in Croatia, Serbia, North Macedonia, Montenegro, Egypt)
- Investing in **energy efficient technologies** in ancillary rail infrastructure (i.e. in Ukraine, Serbia, North Macedonia)
- Increasing involvement of the **private sector in PPP** revenue generating projects which meet economic and financial criteria (i.e. D4/R7 Highway in Slovakia, M6 Motorway in Hungary)
- Improving **road safety** and road safety measures in the region (i.e. Flood Repair and Upgrade Project in Bosnia and Herzegovina, Kijeve – Zahaq Highway in Kosovo)

Maritime:

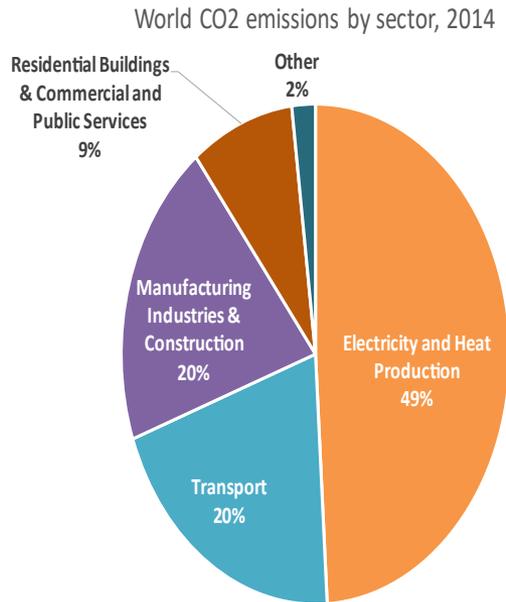
- Investing in pre- and post- delivery financing of **fleet modernisation and renewal** (i.e. Maridive in Egypt, Ekol in Turkey, Circle Maritime Invest in Kazakhstan)
- Financing **expansion of port infrastructure** (i.e. Nador West Med in Morocco, Deep-Water Container Terminal in Poland, Transshipment Hub in Lithuania) to contribute to more efficient and sustainable transport routes
- Participating in **port privatization** to support development of the local capital market (Port of Tallinn in Estonia) and in Initial Public Offering (IPO) to increase private sector involvement (Port of Bar in Montenegro)
- Supporting introduction of **innovative technologies to promote environmental and energy efficiency** best practices (i.e. Tersan Floating Dock in Turkey, Ukrelevatortrans in Ukraine)

Cross-sector integrated approach



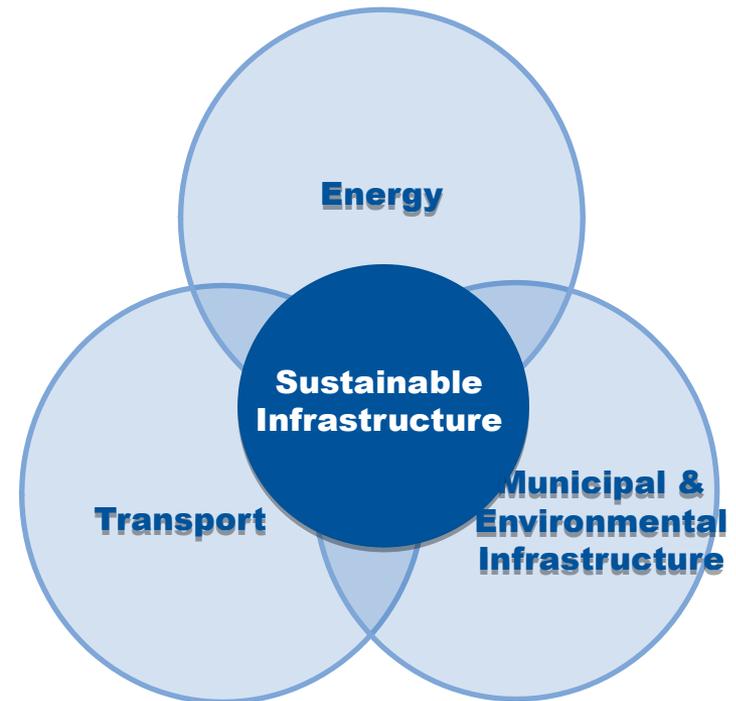
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World CO2 emissions by sector



Source: World Bank Database, 2014

Sustainable Infrastructure Group



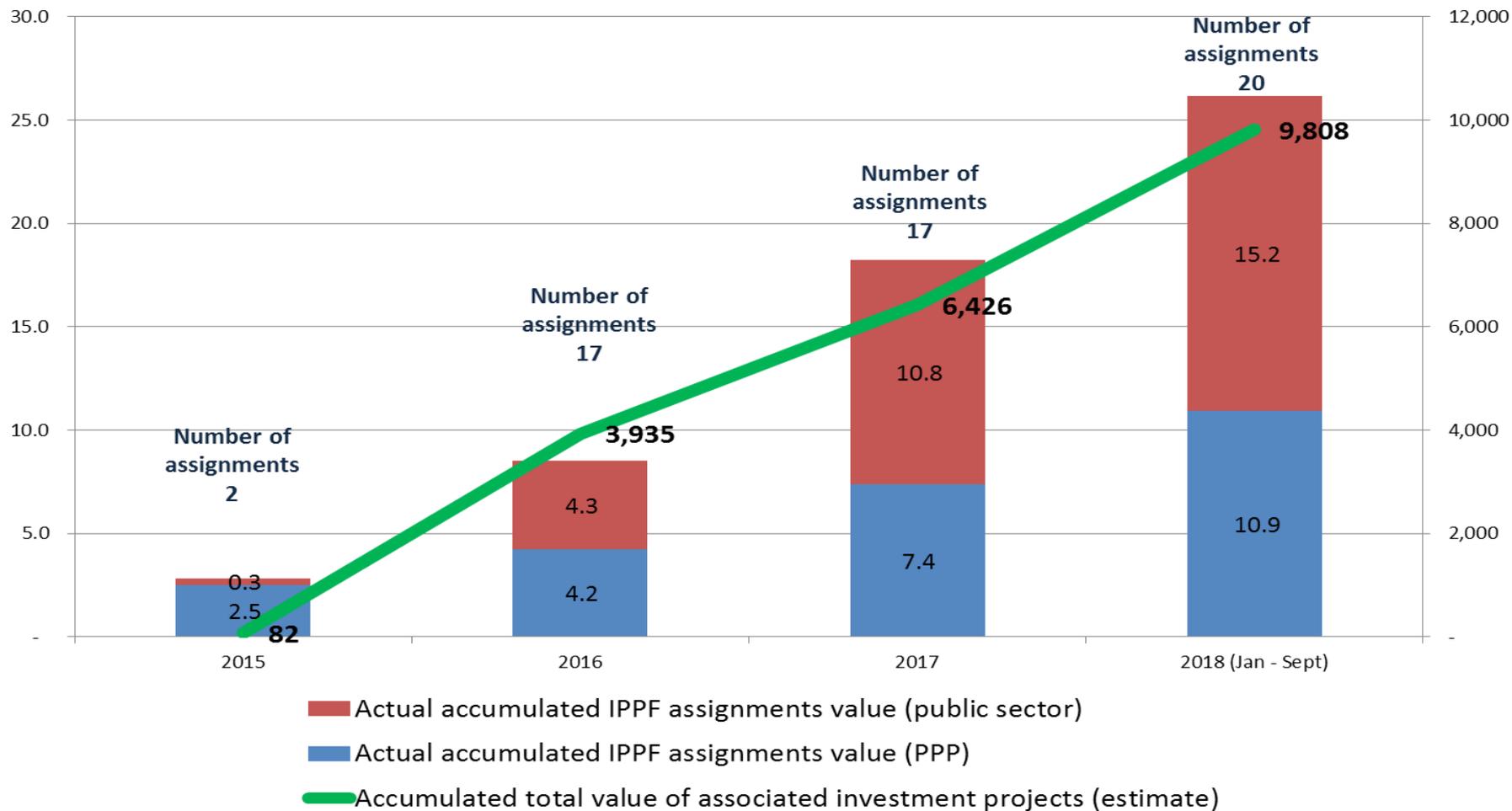
EBRD's **Sustainable Infrastructure Group** is well-positioned to drive preparation and delivery of high-quality 'cross-over' projects for clients, linking investments in clean energy generation with transport and municipal infrastructure

EBRD has delivered: 60+ projects prepared 2015-2018 under Infrastructure Project Preparation Facility



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IPPF-funding and the estimated associated investments (€ million)

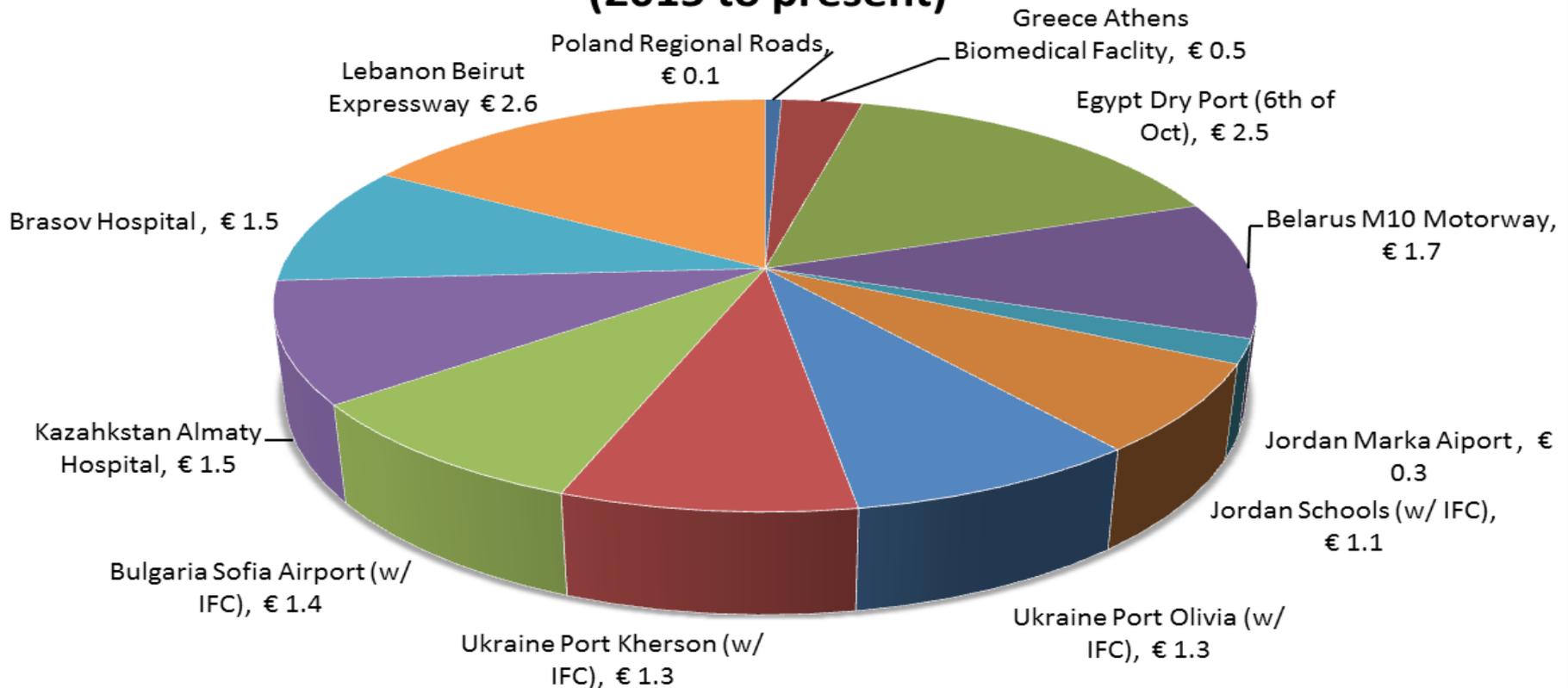


Strong track record of EBRD Preparation of PPPs



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EBRD PPP Preparation Mandates, in EUR m (2015 to present)





EBRD Sustainable Infrastructure Policy & Project Preparation (SI3P) Approach

SI3P Mission & Guiding Operational Principles



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MISSION: Deliver comprehensive, high-quality, timely services to the Sustainable Infrastructure Group as a whole, acting:

- a) **internally**, as a centre of expertise on project preparation and policies for the SI Group, its Operational Leaders, Management and the wider Bank; and
- b) **externally**, as a source of value-added services for clients and other stakeholders.

SI3P Mission & Guiding Operational Principles



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OPERATIONAL PRINCIPLES: A 'Service Team' function, with quantitative and qualitative targets, with a focus on:

- 1) business delivery
- 2) policy delivery (e.g., reforms, regulatory improvements; cross-over project promotion);
- 3) project preparation & implementation (e.g., technical due diligence, scoping, supervision and 'cross-over' project development);
- 4) PPP advisory outputs (e.g., successful PPP tenders) and Grant/TC support;



**Creating well-
prepared
Sustainable
Infrastructure
investments**

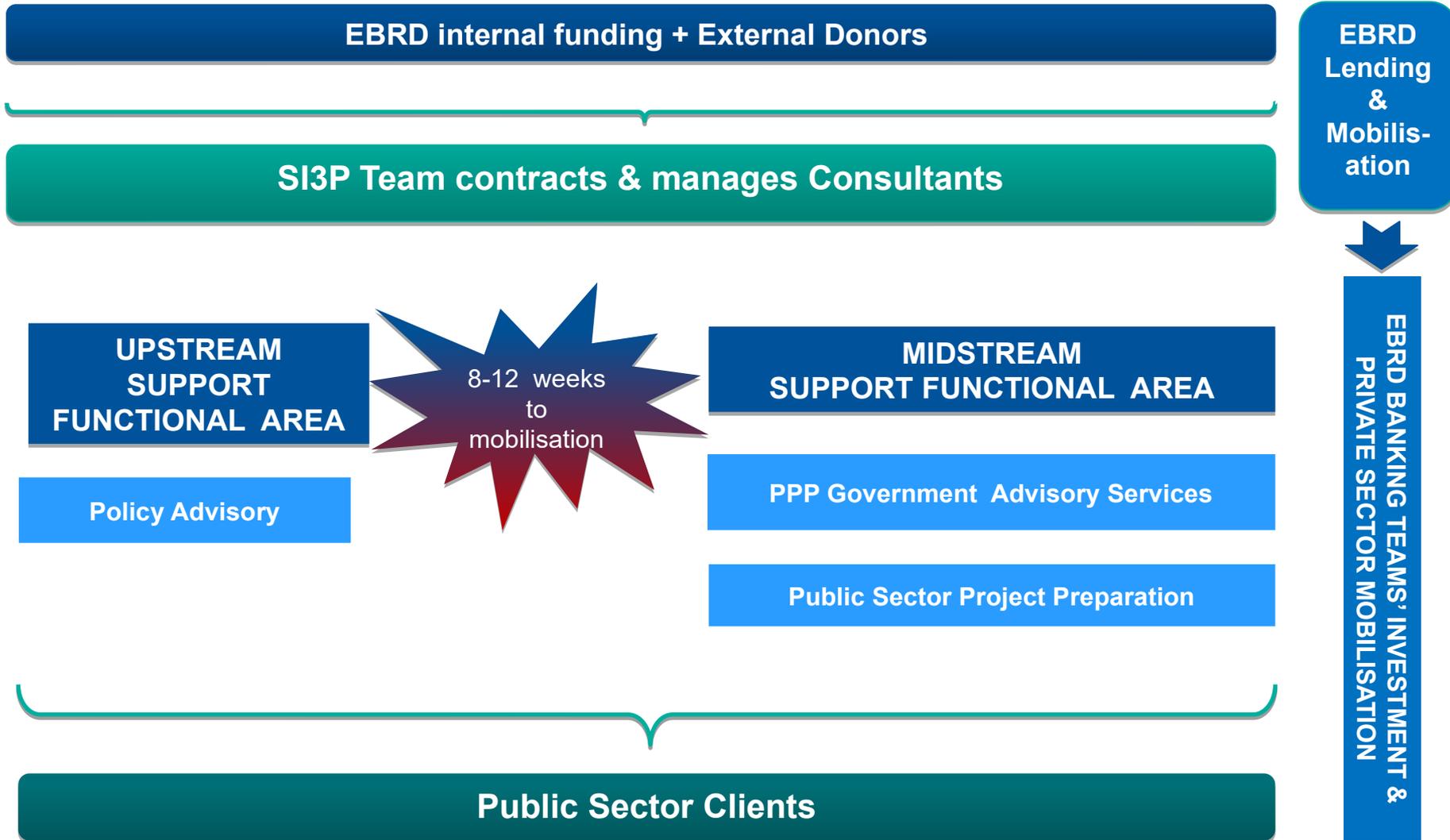
Mobilising significant donor support (approx. EUR 150m per annum across 90+ projects):

- Policy activities anchored in the SDGs, e.g.,
 - Renewable auctions
 - “Grids for Green”
 - “EBRD Green Cities”
- Project Preparation support (feasibility, ESIA) for sustainable infrastructure
- PPP transaction advisory to drive private sector investment
- Project Implementation support
- Targeted capex grants

Architecture



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SI3P



UPSTREAM SUPPORT FUNCTIONAL AREA



MIDSTREAM SUPPORT FUNCTIONAL AREA

Policy Advisory*

With an ultimate focus on SI Group business delivery, support for both public sector and private sector programmes/projects, *inter alia*:

- PLANNING LEVEL
 - Programme Planning
 - Project Appraisal ,Options Analysis, Prioritisation
 - PPP unit design
 - National PPF Design
 - VfM Methodology & Life-Cycle Cost Analysis
 - Infrastructure resilience and mitigation assessments
 - Training (Programme/Project management & PPP Certification)
 - Green Cities
- MARKET STRUCTURING LEVEL:
 - Tariff setting / carbon pricing
 - Renewables Auctions / Feed-in-tariffs / PPA development
 - Legislative / Regulatory framework advice
 - Institutional strengthening
 - Enabling Environment

PPP Transaction Advisory Services

- PPP Transaction Preparation
- PPP “Phase Zero” Assessments
- Project Preparation (legal, technical & financial)

Public Sector Project Preparation

- Pre-feasibility
- Feasibility studies
- ESIA studies
- Other early project due diligence

SI 3P delivery approach is designed for quality and efficiency



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Policy Advisory: Led by SI 3P Policy Unit, agree one-step international tender to select first-in-class policy expert consultants. Individual experts will also be engaged as needed. Non-reimbursable. Level of support matched to needs

Up to 12 weeks to mobilisation

SI 3P Team
tenders for
services

SI 3P Team
selects from
open
international
competition

Consultants mobilise
and delivers policy
work under direct SI 3P
Team supervision



PPP Transaction Advisory: Led by SI3P PPP Unit, agile one-step international tender to select first-in-class PPP advisory consortia (legal, technical and financial). Individual experts will also be engaged as needed.

Up to 12 weeks to mobilisation

SI3P Team
tenders for
services

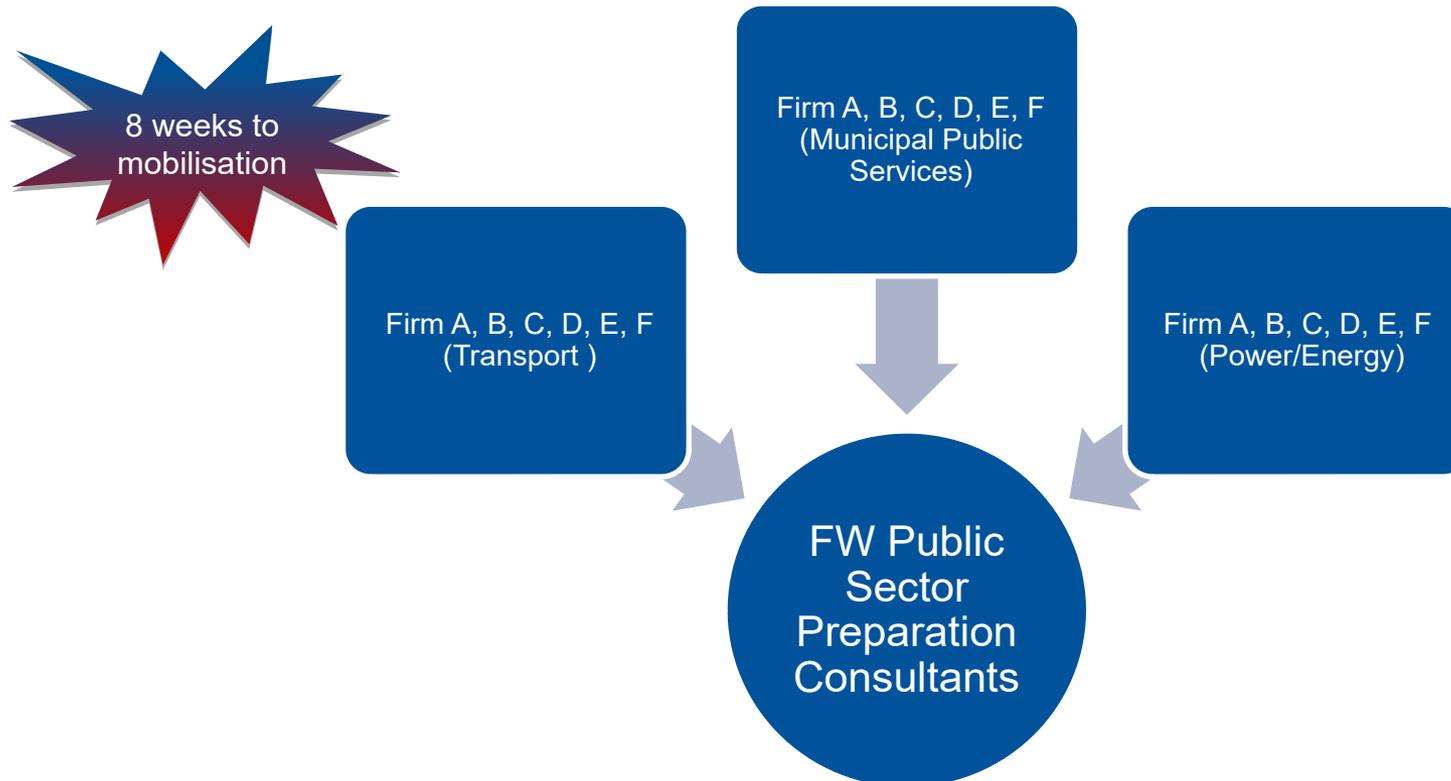
SI3P Team selects
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delivers PPP advisory
work under direct SI3P
Team supervision

* Of this total, EUR 6m from EBRD net reserves; EUR 7m from Global Infrastructure Facility and 5m from private sector (sponsor) reimbursements.



Public Sector Preparation : Usage of cohort of pre-selected **Framework Consultant Consortia:** quick call-off procedure by SI3P Team for world-class quality, ready for mobilisation. Consortia formed freely for each call-off. Lead consortium firm able to sub-contract freely. Individual experts will also be engaged as needed. **Non-reimbursable. Level of support matched to needs.**



*To be procured through international tender by SI3P Team.

Case study

14 Greek Airports Concession, Greece



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Client:	Fraport Regional Airports of Greece “A” and Fraport Regional Airports of Greece “B” S.A., two concessionaire SPVs based in Greece
EBRD finance:	EUR 186.7 million
Type of finance:	Senior loan
Total Project cost:	EUR 1,985.6 million
Year:	2017
Project description:	Financing of the concession for upgrade, maintenance, operation and management of 14 regional airports in Greece
Impact:	<ul style="list-style-type: none">• Demonstrating the viability of well-structured PPPs as a form of infrastructure provision in Greece, amidst challenging market and political conditions, and setting precedent for future PPP projects in Greece and the region• Modernisation and upgrade of existing airport facilities through a significant (EUR 400 million) capex programme in order to improve efficiency, quality and safety of services as well as energy and water performance across the airports

The Project supports the Government’s privatisation programme in the airport sector, demonstrating successful outsourced infrastructure services to the private sector through the concession arrangements.

IJ Global: Europe Airport Deal of the Year – 2017

EMEA Finance: Project Finance Best Transport Infrastructure Deal – 2017

OFFICIAL USE



Case study

Zagreb Airport refinancing (secondary market PPP), Croatia



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Client:	MZLZ, an SPV operating and managing Zagreb Airport under a 30-year concession granted following an open tender. Key sponsors include Bouygues Bâtiment International, Aéroports de Paris and the IFC.
EBRD finance:	EUR 57.8 million
Type of finance:	Senior loan
Total Project cost:	EUR 199.9 million
Year:	2019
Project description:	A loan of EUR 57.8m, as part of a EUR 199.9m club debt package which includes a long term amortising loan and a revolving debt service reserve facility to refinance existing soft mini-perm debt.
Impact:	Resilient – support development of PPP secondary market transactions. Well-governed – support sustainability of the first open tendered transport concession, related to one of Croatia’s key infrastructure assets.

The Project improves the sustainability of concession arrangements in the medium to longer term, permitting further private concessions and efficient operations by commercial parties in Croatia. The contribution to the restructuring is expected to maintain confidence in the operation and keep a key infrastructure run by the private sector.



Making progress
become reality



Case study

Budapest Airport financing (secondary market PPP), Hungary



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Client:	Airport Holding Kft (“AHK”), a limited liability company incorporated in Hungary holding 100 per cent of Airport Hungary Kft (“AHUK”).
EBRD finance:	EUR 100 million
Type of finance:	Senior note
Total Project cost:	EUR 1,320 million
Year:	2017
Project description:	Provision of EUR 100 million as part of a EUR 1,320 million senior debt to restructure the balance sheet of AHUK, the sole owner of the operating company Budapest Airport Zrt.
Impact:	<ul style="list-style-type: none">• Supporting the introduction of new capital market structures for mature infrastructure projects in the region.• Developing PPP secondary market transactions which will help AHK to attract leading institutional investors in the future.• Enabling AHK to benefit from improved operating performance and replace the existing financing structure.

The Project addresses critical issues linked to limited access of companies to private sources of funding and credit capital markets in Hungary and promotes private capital for financing infrastructure with an emphasis on PPPs.

IJ Global: Europe Refinancing Deal of the Year– 2017

Global Transport Finance – Airport Finance Deal of the Year – Europe 2017

EMEA Finance Achievements Awards: Best Repricing in EMEA – 2017

AIRPORT HUNGARY KFT.



Case study

Urban Transport and PPP support in Kyiv, Ukraine



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Client:	City of Kyiv
EBRD finance:	€60 million to Kyiv PasTrans, for buses and trolleybuses €40 million to Kyiv Metropolitan, for the Kiev metro €15 million to Kyiv Dorservice, for traffic management
Type of finance:	Senior loan
Project description:	Financing new rolling stock - a first step of a long-term capital investment programme of the companies improving their efficiency and reducing their operation and maintenance costs. EBRD assists with the preparation of PPPs for future urban transport projects strategic for the City (Dnipro river crossing).



Case study

Parking PPP – concessionaire loan in Wrocław, Poland



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Client:	SPV supervised by Mota-Engil Group
EBRD finance:	PLN 31.3m (equivalent to EUR 8m)
Project cost:	EUR 11.2m equivalent
Type of finance:	Senior loan, 15 year tenor
Year:	2011
Project description:	Design, construction and operation of an underground parking facilities of 331 places in close proximity to the historical centre of Wrocław under a 40 year concession from the City of Wrocław
Impact:	<ul style="list-style-type: none">• Ease traffic congestion caused by drivers searching for scarce parking• Enforcement of traffic laws and restrictions• A platform for other projects based on the PPP formula, not only in the parking sector but in other sectors with high visibility• Transfer of know-how and maintenance as well as corporate governance standards



EBRD's PPP Deal Sheet in the Municipal Sector



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EBRD Infrastructure PPP/Concession Deal Sheet

Count ry	Name	EBRD Finance	Total Projec t	Closing
Bulgaria	Sofia Water PPP	21	214	2008
Regional	Aqualia	80	163	2009
Bulgaria	Hebros Bus Urban Transport	6	8	2009
Turkey	TASK Water Venture – Dilovasi Debt	10.5	13.5	2010
Turkey	TASK Water Venture – Gulluk debt	2.5	2.5	2010
Regional	Dalkia Baltica	100	200	2010
Poland	Wroclaw Parking PPP	7.8	10.5	2011
Kazakhstan	CAEPCO District Heating - Pavlodar	14.6	20.8	2011
Kazakhstan	CAEPCO District Heating – Petropavlovsk	7	10.1	2011
Russia	CCS Regional District Heating - Debt	8		2013
Turkey	Adana Hospital PPP Project	115.0	547.6	2014
Turkey	Ankara Etlik Hospital PPP	125	1,076	2015
Turkey	Konya Hospital PPP	66.7	368.3	2015
Turkey	Izmir Hospital PPP	85.0	769.8	2016
Turkey	Kocaeli Hospital PPP	20.0	387.6	2016
Total	27 projects	1,435	5,481	



Policy Engagement with Investments in Sustainable Infrastructure Projects



Electrification of transport:

- electric buses and local delivery fleets, **off-road fleets** at ports and airports, powered from **renewables**; upgrade to local electricity grids; **storage**; and charging infrastructure
- Mobility as a Service (MAAS) approaches, where users use **app-based on-demand fleets** of shared transport: van pools; car-sharing; micro-mobility (e-scooters; e-bikes)



Solar-powered desalination and waste-water treatment plants:

- water scarcity is a growing issue
- in many markets, subsidy-free solar is now fully price-competitive

District energy

- solar thermal energy technology to provide inter-seasonal heated water

EBRD Green Cities



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€1 billion Framework to support cities to identify, benchmark, prioritise and invest in Green City measures to improve urban environmental performance through:



Delivery of strategy and policy support

Green City Action Plans (**GCAP**)
Policy dialogue

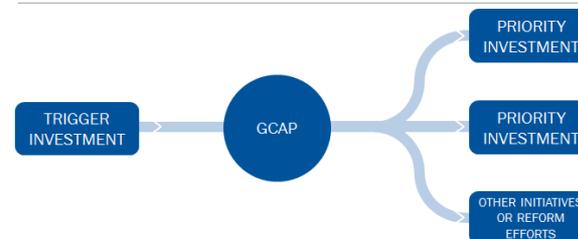


Facilitating and stimulating Green City infrastructure investments

Urban transport Water & Wastewater
District heating Building energy efficiency
Solid Waste Street Lighting & Roads



Building capacity of city administrators and key stakeholders



GREEN
CLIMATE
FUND

Adapting Electricity

Low carbon pathways:

- Set policy targets and roadmap for deep decarbonisation
- Country diagnostic studies:



Regulatory reforms:

- Studies and recommendations regarding market structures, policy and regulatory frameworks

New market / system services:

- Create frameworks for balancing/flexibility services
- ‘Smart’ networks / demand side response / network control & balancing platforms

Flexibility

Grid-connected storage (pump storage, batteries, hydrogen, other):

- Technical and market studies Develop new business models for scaling up investment

Behind-the-meter storage (batteries, heat):

- Technical and market studies for designing storage needs

Flexible demand response:

- Desalination, industrial facilities participating in absorbing variability



Grid Infrastructure

“Conventional” grid strengthening:

- Continue/scale up financing of grid modernisation and expansion programmes and cross-border interconnections



Digital transformation:

- Support roll-out of innovative AI and digital solutions for real-time grid management, supply and demand response and integration

Climate resilience:

- Improve the resilience of grids to more frequent extreme temperatures and weather as a result of climate change

Policy Engagement with Investment: Climate resilient water infrastructure



Water supplies, wastewater & irrigation

- Network upgrades
- Meters & leak detection measures
- Clean water reservoirs – nature-based solutions
- Utilisation of water efficient technologies
- Monitoring & forecasting equipment
- Flood and landslide protection measures

Climate resilient road infrastructure



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- Drainage design to accommodate climate change
- More resilient pavement material
- Reinforcement of slopes, bridges and tunnels
- Improved hydromet usage and forecasting
- Identification of vulnerable road sections
- Improved maintenance and monitoring using digitalisation/"smart road" approaches

Contacts



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