The EBRD and Climate Change Financing
Climate Resilience in Ports

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Climate Change Adaptation for Ports and Navigation Infrastructure
PIANC Seminar and Workshop (co-promoted by CEDA)
London, 7th March 2016
The EBRD is a **triple-A** rated* bank with a capital base of **€30 billion**.

Operating in **36 countries** from central Europe to central Asia, the EBRD:

- Promotes transition to market economies
- Mobilises foreign direct investment
- Improves people’s lives through enhancing municipal services
- Encourages sustainable development

The EBRD is owned by **65 countries** and two inter-governmental institutions.

* From all three main rating agencies (S&P, Moody’s and Fitch)
Where the EBRD invests

WHERE WE INVEST

Central Europe and the Baltic states
- 01 Croatia
- 02 Estonia
- 03 Hungary
- 04 Latvia
- 05 Lithuania
- 06 Poland
- 07 Slovak Republic
- 08 Slovenia

South-eastern Europe
- 09 Albania
- 10 Bosnia and Herzegovina
- 11 Bulgaria
- 12 Cyprus
- 13 FYR Macedonia
- 14 Kosovo
- 15 Montenegro
- 16 Romania
- 17 Serbia

Eastern Europe and the Caucasus
- 18 Armenia
- 19 Azerbaijan
- 20 Belarus
- 21 Georgia
- 22 Moldova
- 23 Ukraine

Central Asia
- 24 Kazakhstan
- 25 Kyrgyz Republic
- 26 Mongolia
- 27 Tajikistan
- 28 Turkmenistan
- 29 Uzbekistan

Southern and eastern Mediterranean
- 30 Egypt
- 31 Jordan
- 32 Morocco
- 33 Tunisia

34 Greece
35 Russia
36 Turkey
Carbon intensity in the EBRD region

• 11 out of the 20 most carbon-intensive economies in the world are in the EBRD region due to the heavy reliance on fossil fuels in their energy mix. 9 out of those 11 are net-importers of fossil fuels.

• Reducing the energy and carbon intensity through energy efficiency and renewable energy deployment is in line with the national security and economic interest of the EBRD region.

<table>
<thead>
<tr>
<th>The World’s 30 most carbon-intensive countries</th>
<th>Carbon intensity rank* (tCO₂ emission/toe TPES)</th>
<th>Overall energy self-sufficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mongolia</td>
<td>2nd (3.61)</td>
<td>465%</td>
</tr>
<tr>
<td>Kosovo</td>
<td>3rd (3.38)</td>
<td>74%</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>5th (3.18)</td>
<td>68%</td>
</tr>
<tr>
<td>Serbia</td>
<td>8th (3.05)</td>
<td>75%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>9th (3.02)</td>
<td>220%</td>
</tr>
<tr>
<td>Poland</td>
<td>12th (3)</td>
<td>73%</td>
</tr>
<tr>
<td>Estonia</td>
<td>13th (2.96)</td>
<td>92%</td>
</tr>
<tr>
<td>FYR Macedonia</td>
<td>14th (2.93)</td>
<td>51%</td>
</tr>
<tr>
<td>Greece</td>
<td>16th (2.92)</td>
<td>39%</td>
</tr>
<tr>
<td>Cyprus</td>
<td>17th (2.9)</td>
<td>5%</td>
</tr>
<tr>
<td>Jordan</td>
<td>19th (2.85)</td>
<td>4%</td>
</tr>
<tr>
<td>Morocco</td>
<td>21th (2.76)</td>
<td>9%</td>
</tr>
<tr>
<td>Turkey</td>
<td>29th (2.59)</td>
<td>26%</td>
</tr>
</tbody>
</table>
Water stress in the EBRD region

- Water efficiency is an important driver of business competitiveness, especially in the most water-scarce EBRD region such as SEMED and Central Asia.

- To mitigate the risks associated with water scarcity and the impact of climate change (e.g. variable precipitation), the EBRD invests in projects that promote water efficiency and support the introduction of innovative, water efficient technologies, with the focus on demand-side water efficiency improvements across a wide range of sectors.
The EBRD’s climate actions

In mid-2014, the EBRD already exceeded the three year (2012-14) target under the UN’s Sustainable Energy for All initiative. Investment in SEI/SRI between 2006-2014 amounts to €16.4 billion.

- Created a dedicated energy efficiency team.
- Launched the Sustainable Energy Initiative (SEI) to address the twin challenges of energy efficiency and climate change.
- The first MDB with a dedicated pool of technical experts in-house.
- Launched the Sustainable Resource Initiative (SRI), broadening the resource efficiency agenda from energy to water and materials efficiency.
- The first MDB to set itself a carbon emissions target.
SRI finance since 2006

SRI ABV since 2006 (€ in billion)

- Corporate energy efficiency: 4.9
- Cleaner energy production: 4.6
- Sustainable energy financing facilities: 3.3
- Renewable energy: 3.1
- Municipal infrastructure energy efficiency: 2.1
- Total: 18

SRI by business area (€ in billion)

- €18 billion invested in 1,020 SRI projects between 2006 and Oct 2015.
- 73 m tonnes CO₂/y of emissions reduced
- 25 million m³/y of water saved
- 1 million tonnes/y of waste avoided

SRI by region (€ in billion)

<table>
<thead>
<tr>
<th>Region</th>
<th>€ in billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>3.2</td>
</tr>
<tr>
<td>South-Eastern Europe</td>
<td>3.3</td>
</tr>
<tr>
<td>Eastern Europe and the Caucasus</td>
<td>3.1</td>
</tr>
<tr>
<td>Central Europe and the Baltic</td>
<td>3.0</td>
</tr>
<tr>
<td>Turkey</td>
<td>2.7</td>
</tr>
<tr>
<td>Central Asia</td>
<td>1.4</td>
</tr>
<tr>
<td>South and Eastern Mediterranean (SEMED)</td>
<td>0.6</td>
</tr>
<tr>
<td>Regional</td>
<td>0.7</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>
EBRD’s adaptation activities

• Many of the EBRD’s countries of operation are vulnerable to climate risks such as water scarcity, altered hydrology and flooding.

• Climate vulnerability is worsened by poor infrastructure, suboptimal technologies, poor policy context and lack of data, and limited access to appropriate finance.

• The EBRD helps clients undertake actions to adapt to climate change and make them resilient by identifying potential climate risks and providing both technical and financial support.

Our adaptation business tools include:

• Feasibility study methodology for climate-resilient water supplies

• Guidance on making ports and coastal infrastructure climate resilient

• Analytical tools for managing climate change risks to hydropower

• Industrial water efficiency audits
The EBRD’s adaptation finance

Climate resilience investment since 2011 (€ in million)

By business area (€ in million)

Municipal & environmental Infrastructure 439
Transport 65
Agribusiness 40
Power and Energy 35
Financial institutions 28
Natural Resources 23
Property and Tourism 6
Manufacturing and Services 7
Total 641

€641 million invested since 2011.
107 adaptation projects signed

By region (€ in million)

South-Eastern Europe 278
Central Asia 98
Southern and Eastern Mediterranean 82
Turkey 60
Eastern Europe and Caucasus 44
Central Europe and Baltics 43
Russia 32
Regional 4
Total 641
$28.3 billion in climate finance provided by WBG, EIB, EBRD, ADB, IFC, IDB and AfDB.

By Sector (USD in billions):
- Renewable energy: 8.2
- Energy efficiency: 5.0
- Transport: 6.3
- EE and RE financing through financial intermediaries: 2.0
- Cross-sector activities and others: 1.0
- Agriculture, forestry and land use: 0.4
- Waste and waste water: 0.2
- Total: 23.3

By Region (USD in billions):
- Non EU-Europe and Central Asia: 4.5
- East Asia and the Pacific: 2.8
- EU 13: 3.4
- South Asia: 5.9
- Sub-Saharan Africa: 4.2
- Latin America and the Caribbean: 4.7
- Middle East and North Africa: 2.5
- Multi-regional: 0.2
- Total: 28.3
EBRD in the Port Sector

A portfolio of 50 projects and 1 bln EUR invested in 17 countries

To deliver Transition...

• Bridging the infrastructure gap
• Port Sector reform: Restructuring, Corporatization and Commercialization (tariff reform, institutional development, etc.)
• Active support of private sector participation

.... And tackle climate change

• More focus on port sector: Promotion of maritime/intermodal transport
• Identification of EE opportunities for greener ports (TC funds available)
• Introduction of green standards and requirements (eg. ISO 50000, carbon footprint)
• Mobilization of grants and incentives to overcome barriers
• Identification of project risks and support for climate resilience design
How to deliver Sustainable Ports?

- Over EUR 18 mln p.a. mobilized to support sector reforms and challenges
- TCs for project identification (eg. Energy Audits) and preparation (IPPF)

- Improve business environment and regulatory framework
- Engagement with MDBs, donors and B2B initiatives (eg. PIANC)

- Tailored financing options
- Risk mitigation – catalyst (IFI status)
- Mobilize climate funds
EBRD investments in sustainable ports

**Klaipeda Smelte** (32 m€)
Transhipment container terminal: Identification of EE opportunities & carbon footprint

**DCT Gdansk** (45 m€)
Assessment CCA and incorporation of Green Technologies (cold ironing)

**Danube Logistics** (20 m€)
New multi-purpose/intermodal terminal

**Nador West Med** (200 m€)
Review of opportunities for Sustainability and CCA

**Globalports** (80 m€)
Financing EE programme across four terminals

**Port Odessa** (various)
Export Capacity for Grain with greener technologies

9 March, 2016
EBRD internal guidance on climate resilience in port investments

Internal technical guidance developed by EBRD in 2013
- A ‘first step’ intended to pilot approaches and build experience
- Subsequently applied on a number of port sector investments
Key climate risks:
• Changes in sea ice (positive)
• Sea level rise
• Changes in rainfall intensity
• Changes in wave conditions

Adaptation measures adopted:
• Quayside structures designed to cope with sea level rise of approximately 6-10mm per year over the next 100 years
• Communication channel established with the Port Authority to receive relevant information about sea level extremes and wave overtopping of port structures
New Port Facility: Morocco

Key climate risks:
• Sea level rise
• Increased storminess
• Increased extreme heat events

Adaptation measures adopted:
• Analyse breakwater design taking into account expected sea-level rise over the design life of the Port
• Installation of surfacing, mechanical and electrical equipment designed to withstand projected temperature extremes (>40 degrees C)
• Installation of surface drainage design able to cope with extreme rainfall and overtopping events
• Installation of storage facilities able to withstand extreme temperatures and extreme weather events
• Adoption of Emergency Response Plan and Coastal Erosion Monitoring Scheme
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