

### Public Financial Institutions & the Low-Carbon Transition Case Study: EBRD

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This case study has been prepared by CDC Climat Research based on publically-available information and data shared by the institution studied. It was prepared as a working document as part of the joint OECD-CDC Climat study on the role of public financial institutions (PFI) and the low-carbon transition. The study analyses the role of five PFIs in fostering the low-carbon energy transition through domestic climate finance activities.<sup>3</sup> It the key tools and instruments currently used by these institutions to mobilise private sector investment, principally in OECD countries.

Public financial institutions (PFIs) are well-positioned to act as a key leverage point for governments' efforts to mobilise private investment in low-carbon projects and infrastructure. Between 2010-2012, these five institutions have provided over 100 billion euros of equity investment and financing for energy efficiency, renewable energy and sustainable transport projects. They use both traditional and innovative approaches to link low-carbon projects with finance through enhancing access to capital; facilitating risk reduction and sharing; improving the capacity of market actors; and shaping broader market practices and conditions.

The final report of the study is available at: <http://www.cdcclimat.com/Public-financial-institutions-OECD.html?lang=en>

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**CDC Climat Research is a public research office dedicated to help public and private decision-makers to improve the way in which they understand, anticipate, and encourage the use of economic and financial resources aimed at promoting the transition to a low-carbon economy.**

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## **Executive Summary:** **European Bank for Reconstruction and Development**

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### **Key Figures**

Country	International financial institution operating in over 30 countries from Eastern Europe to Central Asia
Created	1991
Rating	<ul style="list-style-type: none"> <li>• Fitch Ratings : AAA</li> <li>• Moody's : Aaa</li> <li>• Standard &amp; Poor's : AAA</li> </ul>
Assets under management <sup>4</sup>	As of December 31, 2012: EUR 51 billion <ul style="list-style-type: none"> <li>• Financial assets: EUR 25.5 billion</li> <li>• Loan investments: EUR 18.8 billion</li> <li>• Share investments: EUR 6.7 billion</li> <li>• Others (intangible assets, etc.): EUR 95 million</li> </ul>
Investment in Low-Carbon Areas <sup>4,5</sup>	2006- October 2013 <ul style="list-style-type: none"> <li>• Renewable energy: EUR 3.2 billion</li> <li>• Energy efficiency: EUR 8.5 billion</li> <li>• Sustainable transport: EUR 1 billion</li> </ul>

### **The EBRD's Contribution to the Low-Carbon Energy Transition**

#### *Mandate*

The EBRD was established in 1991 in response to the widespread economic and political change in Central and Eastern Europe in the wake of the dissolution of the Soviet Union. The EBRD is owned by 63 countries, the European Union and the European Investment Bank. It maintains a close political dialogue with governments, authorities and representatives of civil society to promote its goals. The EBRD is a multinational institution set up with the specific aim of assisting countries to develop into market-oriented economies. Thus, every EBRD investment must help move a country closer to a "full market economy". The EBRD supports projects in over 30 countries, from Eastern Europe to Central Asia and the southern and eastern Mediterranean.<sup>6</sup>

Specifically, the EBRD seeks to promote the development of the private sector within these economies through its investment operations and through the mobilisation of foreign and domestic capital. It also works with publicly owned companies, to support privatisation, restructuring state-

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<sup>4</sup> Source : EBRD's financial report 2012, balance sheet p.16.

<sup>5</sup> Source : Financing Sustainable Energy : EBRD action and results, first page.

<sup>6</sup> Comprising 7 OECD countries (Turkey and 6 Central Europe and Baltic States: Czech Republic ; Estonia ; Hungary ; Poland ; Slovak Republic ; Slovenia) and 24 non-OECD countries (Croatia ; Latvia ; Lithuania ; Albania ; Bosnia and Herzegovina ; Bulgaria ; FYR Macedonia ; Kosovo ; Montenegro ; Romania ; Serbia ; Armenia ; Azerbaijan ; Belarus ; Georgia ; Moldova ; Ukraine ; Kazakhstan ; Kyrgyz Republic ; Mongolia ; Tajikistan ; Turkmenistan ; Uzbekistan ; Russia). New potential recipient countries in Southern and Eastern Mediterranean include: Egypt, Jordan, Morocco and Tunisia.

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owned firms and improving municipal services. This occurs both through the provision of finance and investment as well as through technical cooperation and a larger policy dialogue. The Bank uses its close relationship with governments in the region to promote policies that will bolster the business environment.

Environmental sustainability is part of the EBRD's mandate. The Bank is directed by its founding Agreement *"to promote in the full range of its activities environmentally sound and sustainable development."*<sup>7</sup> The EBRD's official "Environmental Policy" document has addressed climate change since 1996. Furthermore, the EBRD recognizes sustainable energy – including energy efficiency, renewable energy and GHG emissions reduction - as a driver for market transition, sustainable development and private sector competitiveness.

The EBRD has recognized that a well-functioning market economy is a low carbon economy as the removal of a further market failure improves the functioning of the market in general. However, given the current economic structure of regions in which it invests, these economies will continue to rely on energy-intensive industries in the short to medium term. As such, rather than excluding activities,<sup>8</sup> the EBRD focuses on making these industries more energy-efficient. Thus priority is given to best available techniques without excluding a specific activity as long as they contribute to develop a market-based and sustainable economy in the operating area.

As a recognized partner of both public and private sector actors and a mission to support long-term lending, EBRD has the potential to play an important role in financing the transition to a low-carbon economy, either directly or through leveraging private sector participation:

- A mandate for action in a region with large potential energy savings and GHG emissions reductions
- The capacity to leverage capital & pair financing with additional donor and FDI
- Combining financing and a larger policy dialogue through the Sustainable Energy Initiative

### *Funding*

The EBRD is owned by 64 countries and two intergovernmental institutions, the European Union and the EIB. These countries and organisations have each made a contribution to the EBRD's EUR 20 billion capital base.<sup>9</sup> Between 1991-2011, the EBRD has used this base to leverage financing from the international capital markets to provide EUR 71 billion in investments for 3,374 projects resulting in EUR 210 billion together with other public and private co-financiers.

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<sup>7</sup> Article 2.1.vii of the "Agreement establishing the European Bank for Reconstruction and Development – EBRD" in the Official Journal L 372, 31/12/1990 P.0004 – 0026.

<sup>8</sup> The EBRD does not finance defense-related activities, the tobacco industry, selected alcoholic products, substances banned by international law and stand-alone gambling facilities (EBRD 2013i)

<sup>9</sup> The top 10 contributors to the EBRD's capital base are the USA, France, Germany, Italy, Japan, the United Kingdom, the Russian Federation, Canada, Spain, the European Investment Bank and the European Union. Contributions from the 64 shareholders range from EUR 3 billion (USA) to EUR 1 million (Jordan). (EBRD 2013m)

**Box 1: The Sustainable Energy Initiative**

The European Bank for Reconstruction and Development's activities support for low-carbon projects and development occur principally through the Sustainable Energy Initiative (SEI). The SEI was created in 2006 to address specifically the twin challenges of climate change and energy efficiency, to mainstream both aspects into all EBRD operations across all sectors, and to scale up sustainable energy finance in the operating region. SEI investments are in five categories: industrial and corporate energy efficiency; Sustainable Energy Financing Facilities (SEFFs); power sector energy efficiency; renewable energy; and municipal infrastructure energy efficiency. SEI activities also include carbon market development, climate change adaptation, financial products development (e.g. financing tools for ESCOs), Sustainable Energy Financing Facilities and sustainable energy policy dialogue to support regulatory change.

**Current Levels of Investment in the Low-Carbon Economy:**

From 2006 to 31 October 2013, the EBRD invested EUR 12.7 billion through the Sustainable Energy Initiative. In 2012, EUR 2.3 billion of annual business volume was directly related to sustainable energy initiative activity, accounting for 26% of the EBRD's activities. This is estimated to foster 8.8 million tCO<sub>2</sub>e emissions reductions and a saving of 2.79 million tonnes of oil equivalent.

**Table 1: Levels of EBRD SEI financing 2006-2013\***

	Financing 2006-2013*
Renewable Energy	EUR 3.2 billion
Energy Efficiency**	EUR 8.5 billion
Sustainable Transport	EUR 1.021 billion
Total	EUR 12.7 billion
* Data available through 31 October 2013	
** Includes industrial, municipal and power-sector energy efficiency	
<i>Source: Data provided by the EBRD</i>	

The EBRD works together with donors to provide additional financing for projects. From 2009 to 2011, 20 bilateral donors<sup>10</sup> and seven multi-donor funds<sup>11</sup> contributed EUR 108 million for technical assistance and EUR 332 million of concessional finance, for the Sustainable Energy Initiative.

Given the European Bank for Reconstruction and Development's mandate to support a transition towards a market economy, its investment strategy in general focuses on developing private sector and freeing up public sector resources for investment in other areas. Thus, the EBRD's activities often benefit private beneficiaries – from small, medium and large companies to private households. This equally holds true for their financing of renewable energy and energy efficiency projects. Nevertheless, the EBRD is working with both national and local government bodies to provide financing for projects – particularly in the areas of transport and municipal infrastructure.

- Sustainable transport projects (rail and public transport) – EUR 1.021 billion (2006-2013)

The EBRD has been supporting sustainable transport projects<sup>12</sup> through close to EUR 1 billion of financing through its *Sustainable Energy Initiative*. From 2007 to 2012, it provided almost EUR 870

<sup>10</sup> Austria, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Japan, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, Taipei China, United Kingdom, United States

<sup>11</sup> European Union, Climate Investment Funds (CIF), Global Environment Facility (GEF), Northern Dimension Environmental Partnership (NDEP), Eastern Europe Energy Efficiency and Environment Partnership (EEP), Western Balkans Investment Framework (WBIF), EBRD Shareholders Special Fund.

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million for energy efficiency investments in the transport sector under the SEI programme. These investments included more fuel efficient rolling stock, ships and other vehicles, and better use of traffic management systems and supporting the adoption of best practice in terms of energy efficiency standards in the built environment for transport infrastructure, such as airports and port terminals. Together, these projects are estimated to reduce CO<sub>2</sub> emissions by an estimated 600,000 tonnes per year.

- Energy efficiency – EUR 8.5 billion (2006-2013)

Energy efficiency is a cross-cutting issue that the EBRD addresses in various sectors including transports, industries, municipal and environmental infrastructures, energy production and the residential sector. The EBRD lending for energy efficiency projects occurred through intermediated and direct lending. In 2012 the EBRD's Sustainable Energy Financing Facilities (SEFFs – see Section 3), which provide dedicated credit lines to local financial institutions, provided new loans worth EUR 4,221 million to 33 financial institutions across 12 countries. In addition to the corporate, industrial and residential sectors, the EBRD widened its outreach by extending financing through banks to local municipalities and by increased activities in the agricultural sector.

- Renewable Energy – EUR 3.2 billion (2006-2013)

Between 2006 and October 2013, the EBRD provided EUR 3.2 billion of financing for renewable energy projects. In the majority of the countries within which the EBRD invests, renewable energy accounts for a relatively small share of the overall energy mix. The lack of investments in these areas have often lagged due to weak institutional and regulatory frameworks as all as the high specific investment costs per kW installed and the low tariffs prevailing in many countries. Thus, the EBRD's actions range from the establishment of the first renewables projects to supporting market development. To address this challenge, the EBRD works to increase the region's capacity for renewables: from providing project finance to offering technical cooperation. Furthermore, the EBRD is active in leading policy dialogues to shape the regulatory frameworks that support investments.

***Climate Finance Tools and Instruments supporting project finance***

- **The provision of long term capital, through debt, limited equity and donor contributions**

The EBRD works to add to private sources of finance, rather than displacing them. It provides capital only to projects that could not otherwise attract financing on similar terms. The EBRD prioritizes co-financing whenever possible, since this increases the resources available for funding other projects and introduces borrowers to the international debt markets.

The EBRD provides capital to projects through: direct lending and equity in projects, typically in collaboration with other financial actors; through intermediated lending; and through carbon market mechanisms. Throughout its lending, the EBRD tailors each project to the needs of the client, and to the specific situation of the country, region and sector. It typically funds up to 35% of the total

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<sup>12</sup> For the EBRD, sustainability in the transport sector encompasses a broad range of topics, including environmental, social and economic issues. Climate change mitigation and adaptation, integrated network development, pollution prevention, air quality and biodiversity protection, economic inclusion and gender equality, and road safety, are important sustainable transport issues for the EBRD's strategy in this sector. (EBRD 2013t)

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project cost for a greenfield project. There must be additional funding from the sponsors, other co-financiers or generated through the EBRD's syndications programme. The EBRD invests through equity with partner majority sponsors with the objective of reducing the overall equity burden - in general, its share remains no more than 25%

The EBRD works with donors to provide further capacity support and financial incentive to facilitate project development and implementation. Through its direct financing facilities, the EBRD provides non-intermediated funds for projects. The loans financed by the EBRD (at commercial rates) are combined with technical cooperation and, in some instance, incentive payments financed by donors for targeted projects.

**Table 2: EBRD's roles and financial instruments to finance the low-carbon transition**

Table 2: EBRD's roles and financial instruments to finance the low-carbon transition			
Detailed functions	Energy Efficiency	Renewable Energy	Sustainable Transport
I. Facilitate access to capital			
<ul style="list-style-type: none"><li>Long-term capital provider</li><li>Facilitate access to private capital</li></ul>	<ul style="list-style-type: none"><li>Limited subsidies and grants (donor financed)</li><li>Direct debt</li></ul>		
	<ul style="list-style-type: none"><li>Intermediated debt through local finance institutions (Sustainable Energy Financing Facilities)</li><li>Facilities leveraging donor funds</li></ul>		
		<ul style="list-style-type: none"><li>Direct Equity investment</li></ul>	
II. De-risking			
	No dedicated activities or instruments identified		
III. Filling the capacity gap			
<ul style="list-style-type: none"><li>Aid project development</li><li>Reducing project risk</li></ul>	<ul style="list-style-type: none"><li>SEFFs (advice to local banks and help to borrowers with the loan application)</li></ul>		
	<ul style="list-style-type: none"><li>Donor finance technical cooperation</li><li>Policy dialogue (sustainable energy action plans signed with governments)</li></ul>		

- Derisking**

Given the economies within which the EBRD invests, it estimates that its participation in a project is often a key piece of drawing in additional financing from private investors and other public and international development financing partnerships and funds. The EBRD can, in general, help borrowers to gain access to the financial market through the provision of guarantees. Nevertheless, within the analysis of the low-carbon projects conducted by the authors, no specific mention of dedicated derisking or credit enhancement tools were identified.

- Filling the capacity gap: technical cooperation and policy dialogue**

Technical cooperation and policy dialogue are a fundamental part of the EBRD's strategy to build an enabling environment to help valorise its own project finance activities. The EBRD provides grant co-financing (financed by donor partners) to provide appropriate incentives and address affordability constraints. Indeed, with the donor-funded Technical Cooperation funds, the EBRD provides its clients with technical support across the whole investment life-cycle. This includes undertaking

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energy audits in order to unlock opportunities to achieve sustainable reforms, and developing capacity building programmes with some clients.

In addition, the EBRD focuses on project-related institution building and policy dialogue to support the effective development and implementation of projects in terms of policy, legal, regulatory, technical and organisational capacity in EBRD's countries of operations (e.g. the EBRD and public authorities of concerned countries can sign Sustainable Energy Action Plans). The EBRD aims at deploying an integrated approach combining investment, technical cooperation and policy dialogue to reach reforms on a transformational scale.

***Mainstreaming Climate and Energy across all Activities:***

Since 2010, the EBRD has piloted a toolkit for identifying and managing climate change risks to investments. This has included guidelines for climate change screening and risk profiling and integrating risk assessment and adaptation into project feasibility studies, environmental and social impact assessments, environmental action plans and water audits.

Since the creation of the Sustainable Energy Initiative in 2006, the EBRD has adopted phase targets for investment and quantified GHG emission reductions. The EBRD has set the financing target for the Phase 3 of the Sustainable Energy Initiative at EUR 4.5 to EUR 6.5 billion for the 2012-2014 time period. Furthermore, the EBRD set an absolute GHG emissions reduction target for SEI projects over the same time period of 26 to 32 mtCO<sub>2</sub>e per year. The target setting is subject to a number of factors, including historical data. The carbon reduction impact of the SEI activities in 2012 was estimated at 8.8 million tonnes of CO<sub>2</sub>e.

The EBRD has assessed the impact on greenhouse gas emission of its direct investments (loan and equity) since 2003. GHG quantification occurs for projects leading both to an emission increase (i.e. typically greenfield projects and capacity expansion in sectors including energy generation) and a reduction of emissions (i.e. typically SEI projects).

The results of quantification are used to integrate GHG assessment into project appraisal and identify any opportunities to incorporate GHG emission reductions into the project. All new projects proposed for EBRD investment undergo not only financial and legal analyses, but also an assessment of the project's transition impact and environmental and social impacts. Typically, data on costs per tonne saved is monitored but has to be evaluated in the context of the specific project. Costs may vary substantially across size, sector, and location of the project. In addition, the EBRD is using shadow prices for carbon and other emissions as part of its due diligence in a case by case basis.

## **1 The EBRD and the Low-Carbon Energy Transition**

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The EBRD was established in 1991 in response to the widespread economic and political change in Central and Eastern Europe in the wake of the dissolution of the Soviet Union. The EBRD is owned by 63 countries, the EU and the EIB. It maintains a close political dialogue with governments, authorities and representatives of civil society to promote its goals. This involvement in policy dialogue allows the EBRD to play a role in building an enabling environment to sustain the projects in which the institution invests.

### **1.1 An institution focused on developing market-based economies**

The European Bank for Reconstruction and Development is a multinational institution set up with the specific aim of assisting countries to develop into market-oriented economies. Thus, every EBRD investment must help move a country closer to a full market economy. It takes risk that supports private investors and does not crowd them out and apply sound banking principles. The EBRD supports projects in over 30 countries, from Eastern Europe to Central Asia and the southern and eastern Mediterranean.<sup>13</sup> The relative share of cumulated annual business volume committed to OECD countries between 1991 and 2012 amounts to 19.7% of total commitments.<sup>14</sup> Investing primarily in private sector clients whose needs cannot be fully met by the market, the Bank promotes entrepreneurship and fosters transition towards open and democratic market economies.

Specifically, the EBRD seeks to promote the development of the private sector within these economies through its investment operations and through the mobilisation of foreign and domestic capital. The EBRD provides both new ventures and investments in existing companies. It also works with publicly owned companies, to support privatisation, restructuring state-owned firms and improving municipal services. This occurs both through the provision of finance and investment and through technical cooperation and a larger policy dialogue. The Bank uses its close relationship with governments in the region to promote policies that will bolster the business environment.

The European Bank for Reconstruction and Development acknowledges that the economic growth capacity of the regions in which it invests will continue to rely on energy-intensive industries. Recently, the EBRD has recognized that a well-functioning market economy is a low carbon economy as the removal of a further market failure improves the functioning of the market in general (Peszko 2013). Given this, rather than excluding activities,<sup>15</sup> the EBRD focuses on making these industries more energy-efficient. Thus priority is given to best available techniques without excluding a specific activity as long as they contribute to develop a market-based and sustainable economy in the operating area.

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<sup>13</sup> Comprising 7 OECD countries (Turkey and 6 Central Europe and Baltic States: Czech Republic ; Estonia ; Hungary ; Poland ; Slovak Republic ; Slovenia) and 24 non-OECD countries (Croatia ; Latvia ; Lithuania ; Albania ; Bosnia and Herzegovina ; Bulgaria ; FYR Macedonia ; Kosovo ; Montenegro ; Romania ; Serbia ; Armenia ; Azerbaijan ; Belarus ; Georgia ; Moldova ; Ukraine ; Kazakhstan ; Kyrgyz Republic ; Mongolia ; Tajikistan ; Turkmenistan ; Uzbekistan ; Russia). New potential recipient countries in Southern and Eastern Mediterranean include: Egypt, Jordan, Morocco and Tunisia.

<sup>14</sup> Calculated from the EBRD's Annual Report 2012, p.2

<sup>15</sup> The EBRD does not finance defense-related activities, the tobacco industry, selected alcoholic products, substances banned by international law and stand-alone gambling facilities (EBRD 2013i)

### **1.1.1 Financing & Governance**

The EBRD is owned by 64 countries and two intergovernmental institutions, the European Union and the European Investment Bank (EIB). These countries and organisations have each made a contribution to the EBRD's EUR 20 billion capital base.<sup>16</sup> Between 1991-2011, the EBRD has used this base to leverage financing from the international capital markets to provide EUR 71 billion in investments for 3,374 projects (EBRD 2013i) resulting in EUR 210 billion together with other public and private co-financiers.

The powers of the EBRD are vested in the Board of Governors to which each member appoints a governor, generally the minister of finance. The Board of Governors delegates most powers to the Board of Directors, which is responsible for the EBRD's strategic direction. The President is elected by the Board of Governors and is the legal representative of the EBRD. Under the guidance of the Board of Directors, the President manages the work of the Bank. (EBRD 2013i)

### **1.1.2 Applying a commercial logic but able to bear certain risks**

The EBRD identifies one of its principal strengths, compared with private commercial banks, to be its willingness and ability to bear risk, as a result of its shareholder base. This allows the EBRD to act at the frontier of commercial possibilities and be an effective 'demonstrator.' The Bank also shares the project risk by acting with other private sector entities, such as commercial banks and investment funds, as well as multilateral lenders and national export credit agencies.

The EBRD assists companies that have difficulty in securing financing: as such, it complements the efforts of other lenders. While its structure is unlike that of a commercial bank, the EBRD has a similar approach to dealing with projects. A project has to be commercially viable to be considered. The EBRD prices its products on a commercial basis. It does not issue guarantees for export credits or provide retail banking services. With its AAA credit rating, the Bank is able to raise funds at the finest rates from international capital markets. (EBRD 2013i)

### **1.1.3 Engaging multiple partners to support project development and implementation**

The EBRD develops partnerships with local and international business and investment community. It acts in close cooperation with its members, public and private entities and multilateral institutions concerned with the economic development of, and investment in countries from Central Europe to Central Asia. These include the European Union, the European Investment Bank, the World Bank Group, the International Monetary Fund and the United Nations and its specialised agencies.

The EBRD partners with a number of Donors (national governments and international organisations) to support projects. Donor contributions for EBRD projects cover essential costs of projects such as consultancy services, audits and training of staff. These costs are often unaffordable for EBRD clients to cover on their own. From 1991 to the end of 2012, cumulative grant funds made available from donors amounted to EUR 3.7 billion. Donor funding helps the EBRD to address the challenges facing the transition countries. Funding ranges from agreements with single donors for specific projects to programme-wide arrangements involving multiple contributors.

The Bank deploys donor funds in the following ways (EBRD 2013d):

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<sup>16</sup> The top 10 contributors to the EBRD's capital base are the USA, France, Germany, Italy, Japan, the United Kingdom, the Russian Federation, Canada, Spain, the European Investment Bank and the European Union. Contributions from the 64 shareholders range from EUR 3 billion (USA) to EUR 1 million (Jordan). (EBRD 2013m)

- **Technical cooperation:** project preparation and implementation; institutional building and strengthening; SME development (including Small Business Support); policy dialogue and legal reform; training programmes.
- **Investment grants:** Investment grants are an alternative source of funding for projects for which the use of loan financing may be limited. Grants are particularly effective for infrastructure and energy projects in poorer countries and regions with limited finances and in heavily indebted countries subject to borrowing constraints.
- **Performance fees and incentives:** These represent incentive payments made to financial institutions under finance facilities supported by the European Union and other donors. Performance fees have focused mainly on programmes providing finance for small and medium-sized enterprises (SMEs), infrastructure improvements and energy efficiency.
- **Risk-sharing facilities:** Risk sharing is often provided by donors in conjunction with lending or concessional financing, principally in the area of financial intermediaries. For example, grant support to risk-sharing facilities also underpins the work of the EBRD's Trade Facilitation Programme (TFP) which promotes trade in the EBRD's countries of operations. Donor contributions provide guarantees to international banks and factoring companies.

#### ***1.1.4 A mandate for Environmental Sustainability including Climate Change***

The objectives of the EBRD are set by Article 1 of the Founding Agreement:

*"In contributing to economic progress and reconstruction, the purpose of the Bank shall be to foster the transition towards open market-oriented economies and to promote private and entrepreneurial initiative in the Central and Eastern European countries committed to and applying the principles of multiparty democracy, pluralism and market economics."*<sup>17</sup>

Environmental sustainability is part of the EBRD's mandate. The Bank is directed by its founding Agreement *"to promote in the full range of its activities environmentally sound and sustainable development."*<sup>18</sup> The EBRD's official "Environmental Policy" document has addressed climate change since 1996. Furthermore, the EBRD recognizes sustainable energy – including energy efficiency, renewable energy and GHG emissions reduction - as a driver for market transition, sustainable development and private sector competitiveness.

## **1.2 Enabling characteristics**

A number of characteristics of the EBRD's activities suggest that it is already an important player in the low-carbon energy transition.

#### ***1.2.1 A mandate for action in a region with large potential energy savings and GHG emissions reductions***

The EBRD operates in one of the world's most carbon-intensive areas.<sup>19</sup> This is mostly due to a legacy of inefficient energy use in various sectors, distorted energy prices, lack of energy efficiency regulations and standards, the use of obsolete technologies, lack of public awareness on the opportunities of energy efficiency and renewable energy. Large emissions reductions stand to be

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<sup>17</sup> Article 1 of the "Agreement establishing the European Bank for Reconstruction and Development – EBRD", Official Journal L 372, 31/12/1990 P.0004 – 0026.

<sup>18</sup> Article 2.1.vii of the "Agreement establishing the European Bank for Reconstruction and Development – EBRD" in the Official Journal L 372, 31/12/1990 P.0004 – 0026.

<sup>19</sup> After the United States and China, transition economies were among the highest greenhouse gas emitters, accounting for 13 per cent of the global total in 2012.

achieved at a lesser cost compared to Western European countries through investments in energy efficiency of infrastructures and renewable energy.

### **1.2.2 The capacity to leverage capital & pair financing with additional donor and FDI**

With its AAA rating, the EBRD is able leverage funds at below-market rates on international capital markets. It uses these funds to co-finance projects with other private and public actors – either through direct grants or through fund structures. The EBRD's committed funds have historically mobilized larger co-investments from other actors. For example: the EBRD's grant impact leverage ratio for sustainable energy investments amounted to 1:5.5 euros in 2012 (EBRD 2012f).

As indicated above, the EBRD works with donor countries and institutions to support its investments. In 2012, of the EUR 129 million committed by donors, approximately EUR 38 million financed actions within the EBRD's Sustainable Energy Initiative (EBRD 2013c). Furthermore, the EBRD also works with investors from its member countries to supply co-financing for projects through foreign direct investment.

#### **Box 2: The EBRD as a recipient of climate-specific donor funding**

Among other sources of funding, the EBRD is endowed with financial resources from climate specific funds. Most recently in 2012, the EBRD received EUR 831,175 from the Clean Technology Fund and EUR 656,094 from the Global Environment Facility. This nevertheless represents only a small percentage of the total EUR 128 million committed by donors to the EBRD in 2012 (1.15%) (EBRD 2013c).

The EBRD has been involved in the development of the Climate Investment Funds (CIFs) created in 2008 subsequently to the Bali COP. Their goal is to deliver additional financial resources to developing countries for mitigation and adaptation measures, develop and test approaches for future delivery of climate finance, inform the development of the Green Climate Fund, and deliver fast-start finance within the UNFCCC framework. The EBRD has contributed to their development since early stages in 2007, adding a private sector perspective to the operational and legal development and implementation of the CIFs. An EBRD CIF Special Fund was established in order to grant the EBRD an access to CIF financing. The EBRD contributed to develop three CTF investment plans in Kazakhstan, Turkey and Ukraine, during 2009 – 2010, jointly with the World Bank and the IFC. The total envelope was USD 378 million for concessional co-financing and grant funding to projects in renewables, district heating refurbishment, SMEs and residential energy efficiency. As for EBRD's involvement in the PPCR, a USD 50 million CIF envelope is dedicated for the EBRD helping Tajikistan's government developing a strategic programme for climate resilience. The work focuses on adaptation issues in the hydropower sector.

Since 2004, the EBRD has also received Technical Cooperation (TC) and grant co-financing through the Global Environment Facility (GEF) for international waters and climate change projects. GEF was established in 1991 as a pilot programme at the World Bank to promote environmental sustainable development at a local and regional scale. It provides grants for projects focusing on six major themes including climate change. Projects in this area target developing countries and economies in transition to enhance their contribution to the overall objective of reducing GHG emissions. The EBRD and GEF have a strong partnership thanks to a close collaboration in financial and operational terms (i.e. the EBRD brings its own experience in investing in improving public sector services or in the private sector, in market creation and transformation, and its ability to combine both large-scale finance and the grant element from the GEF).

The EBRD uses various other climate relevant funds. The Investment Facility for Central Asia blends EU grant funding with loans by financial institutions in investment fields covering infrastructure, energy, environments, SMEs and social infrastructure. The EU Neighbourhood Investment Facility (NIF) also endows the EBRD with funds for technical assistance and investment grants dedicated to infrastructures projects in eastern European countries (including Armenia, Azerbaijan, Georgia, Moldova, Ukraine and Belarus) and southern Mediterranean countries (including Egypt, Tunisia, Morocco and Jordan).

Source: EBRD factsheet on “The EBRD and Climate Investment Funds”, last update: 2012; and EBRD’s page on donor countries and organisations, consulted online at:  
<http://www.ebrd.com/pages/about/workwith/donors/countries.shtml#i>

### **1.2.3 Combining financing and a larger policy dialogue through the Sustainable Energy Initiative**

As described in detail below, the Sustainable Energy Initiative is the EBRD’s principal program to address climate and energy through their market-centred mandate. This initiative combines projects and investments with a larger policy dialogue and technical assistance for both countries and project developers. This approach addresses the twin challenges of climate change and energy efficiency in the EBRD’s region of operation through: scaling up the EBRD’s sustainable energy investments in all sectors, improving the business environment for sustainable investments, and work closely with donors to develop effective measures to address key barriers.

## **2 Current activities related to the low-carbon energy transition**

The European Bank for Reconstruction and Development’s activities support for low-carbon projects and development occur principally through the Sustainable Energy Initiative (SEI). The SEI was created in 2006 to address specifically the twin challenges of climate change and energy efficiency, to mainstream both aspects into all EBRD operations across all sectors, and to scale up sustainable energy finance in the operating region. SEI investments are in five categories: industrial and corporate energy efficiency; Sustainable Energy Financing Facilities (SEFFs) (described in Section 3); power sector energy efficiency; renewable energy; and municipal infrastructure energy efficiency. SEI activities also include carbon market development, climate change adaptation, financial products development (e.g. financing tools for ESCOs), Sustainable Energy Financing Facilities (described in Section 3) and sustainable energy policy dialogue to support regulatory change (described in Section 3).

### **2.1 Quantifying the current role of the EBRD**

From 2006 to 31 October 2013, the EBRD cumulative investment through the Sustainable Energy Initiative amounts to EUR 12.7 billion. In 2012, EUR 2.3 billion of annual business volume was directly related to sustainable energy initiative activity, accounting for 26% of the EBRD’s activities (EBRD 2013p). This is estimated to foster 8.8 million tCO<sub>2</sub>e emissions reductions and a saving of 2.79 million tonnes of oil equivalent.

**Table 3: Levels of EBRD SEI financing 2006-2013\***

	Financing 2006-2013*
Renewable Energy	EUR 3.2 billion
Energy Efficiency**	EUR 8.5 billion
Sustainable Transport	EUR 1.021 billion
Total	EUR 12.7 billion
* Data available through 31 October 2013	
** Includes industrial, municipal and power-sector energy efficiency	
<i>Source: Data provided by the EBRD</i>	

In addition to EBRD financing, the Bank has worked together with Donors to provide additional financing for projects. From 2009 to 2011, the 20 bilateral donors<sup>20</sup> and seven multi-donor funds<sup>21</sup> contributed EUR 108 million for technical assistance and EUR 332 million of concessional finance, for the Sustainable Energy Initiative (EBRD 2013p).

## **2.2 Scope, Range and Beneficiaries of Activities of Low-Carbon Investment Activities**

Given the European Bank for Reconstruction and Development's mandate to support a transition towards a market economy, its investment strategy in general focuses on developing private sector and freeing up public sector resources for investment in other areas. Thus, the EBRD's activities often benefit private beneficiaries – from small, medium and large companies to private households. This equally holds true for their financing of renewable energy and energy efficiency projects. Nevertheless, the EBRD is working with both national and local government bodies to provide financing for projects – particularly in the areas of transport and municipal infrastructure.

Historically, the EBRD's transport operations have been heavily oriented towards the public sector, reflecting both the dominant involvement of the state in the provision of transport infrastructure and services, and the stage of transition across the region. As the transition process has advanced, the EBRD has steadily increased the proportion of private sector operations in response to the market, supporting private companies, commercially financed infrastructure projects (concessions and PPPs), and the non-sovereign loans with state-owned entities ("SOEs"), which are structured on a commercial basis. (EBRD 2013t)

As described in detail below, the EBRD becomes involved principally in the development and construction phases of projects. In the development phases, the EBRD is active in assisting project development through technical cooperation, donor-subsidized grants and, more broadly, through policy dialogue. In the construction (financing) phases, the EBRD is most active in providing financing for low-carbon projects through direct and intermediated lending (commercial terms), donor-subsidised lending, and limited equity investments. While the EBRD may continue to be present in the operational phases of projects through continue equity holdings and debt payments, it does not actively invest or finance brownfield (operational) projects.

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<sup>20</sup> Austria, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Japan, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, Taipei China, United Kingdom, United States

<sup>21</sup> European Union, Climate Investment Funds (CIF), Global Environment Facility (GEF), Northern Dimension Environmental Partnership (NDEP), Eastern Europe Energy Efficiency and Environment Partnership (ESP), Western Balkans Investment Framework (WBIF), EBRD Shareholders Special Fund.

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**Table 4: Principal Sectors, Project Types and Instruments of Intervention**

	Renewable Energy		Energy Efficiency				Transport
	Small Scale	Large-Scale	Small Scale		Large Scale		
			Residential	SMEs	Commercial/ Industrial	Public Buildings	
Access to Capital	<ul style="list-style-type: none"> <li>- Intermediate d lending (SEFFs<sup>22</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>- Intermediated lending (SEFFs)</li> <li>- Direct Lending</li> <li>- Equity</li> <li>- MCCF<sup>23</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Intermediated lending (SEFFs)</li> <li>- MCCF</li> </ul>	<ul style="list-style-type: none"> <li>- Intermediated lending (SEFFs)</li> </ul>	<ul style="list-style-type: none"> <li>- Intermediated lending (SEFFs)</li> <li>- Direct lending</li> <li>- Equity</li> <li>- MCCF</li> </ul>	<ul style="list-style-type: none"> <li>- Intermediated lending (SEFFs)</li> <li>- Direct lending</li> <li>- Donor-subsidized loans (GESF)<sup>24</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Direct lending</li> <li>- Equity</li> </ul>
Derisking	<ul style="list-style-type: none"> <li>- No dedicated activities or instruments identified</li> </ul>						<ul style="list-style-type: none"> <li>- PPPs</li> </ul>
Capacity/ Expertise	<ul style="list-style-type: none"> <li>- Donor finance technical cooperation</li> <li>- Policy dialogue (sustainable energy action plans signed with governments)</li> </ul>						
	<ul style="list-style-type: none"> <li>- SEFFs (advice to local banks and help to borrowers with the loan application)</li> </ul>						

<sup>22</sup> Sustainable Energy Financing Facilities

<sup>23</sup> Multilateral Carbon Credit Fund

<sup>24</sup> Green Energy Special Fund

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**Table 5: Principal phases of project involvement and principal forms of intervention**

	Development:	Construction:	Operational:
Renewable Energy	<ul style="list-style-type: none"> <li>- Technical Cooperation (donor funded grants, etc.)</li> <li>- EBRD-ELENA</li> </ul>	<ul style="list-style-type: none"> <li>- Direct &amp; intermediated lending</li> <li>- Equity</li> <li>- Fund structures (CIF; GEF)</li> </ul>	<i>No dedicated instruments or activity identified</i>
Energy Efficiency			
Sustainable Transport	<ul style="list-style-type: none"> <li>- Technical cooperation</li> </ul>	<ul style="list-style-type: none"> <li>- Donor-subsidized loans (GESF)</li> </ul>	

**Table 6 : Principal Beneficiaries of Intervention**

	Public	Private		
	Agencies, Sub-national governments	Utilities /Large Corporations	SMEs	Households
Renewable Energy	X	X	X	X (SEFF)
Energy Efficiency	X	X	X	X (SEFF)
Sustainable Transport	X	X		

## 2.3 Renewable Energy

Between 2006 and October 2013, the EBRD provided EUR 3.2 billion of financing for renewable energy projects.<sup>25</sup> In the majority of the countries within which the EBRD invests, renewable energy accounts for a relatively small share of the overall energy mix. The lack of investments in these areas have often lagged due to weak institutional and regulatory frameworks as all as the high specific investment costs per kW installed and the low tariffs prevailing in many countries (EBRD 2013r). Thus, the EBRD's actions range from the establishment of the first renewables projects to supporting market development. To address this challenge, the EBRD works to increase the region's capacity for renewables: from providing project finance to offering technical cooperation. Furthermore, the EBRD is active in leading policy dialogues to shape the regulatory frameworks that support investments.

The EBRD's activities in renewable energy have been accelerating over the last few years. In 2012, half of EBRD's investments in power and energy projects were dedicated to large and small-scale renewable power generation, totalling 14 projects that amount to EUR 300 million (EBRD 2013o). The investments included large-scale wind farms and solar installations and small-scale hydropower and biomass projects.

The EBRD supports large-scale projects through a number of instruments:

- **Direct loans:** Potentially syndicated with other financial institutions; loans paired with donor support for projects (grants and subsidies) through the Sustainable Energy Direct Financing Facilities (SEDFFs – see Section 3).
- **Intermediated loans:** The EBRD expands renewable energy finance beyond large-scale projects to small and medium-sized enterprises through its Sustainable Energy Financing Facilities (SEFFs – see Section 3 for more details) that provide intermediated loans and advice to final beneficiaries. Credit lines can be granted to local financial institutions to finance municipal sector investments.
- **Equity investments:** More recently, equity was used for the first time to scale up investment in wind farms in Hungary and Poland (EUR 125 million equity investment in the Polish and Hungarian subsidiaries of Iberdrola Renovables in 2010). Equity investments can be combined with loans such as in 2012 when the EBRD financed the first wind farm in Mongolia with a USD 42 million loan and a USD 4 million equity investment.

The EBRD is active in policy dialogue that is an instrument which can deliver transformational change in a more extensive way than stand-alone projects can achieve. *Sustainable Energy Action Plans*, which define the areas in which the Bank and a government can work together, have been signed with authorities of several countries. These provide a road map to increased investment in renewables for each signatory country.

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<sup>25</sup> Data communicated by the EBRD.

**Box 3: The EBRD's Revised "Energy Strategy"**

On 10 December 2013, the EBRD issued its revised "Energy Strategy," a key document that sets the parameters for the institution's work in the energy sector. Within the countries that the EBRD operates, a number of "transition" challenges are present: markets are still small, prices are not cost-reflective and private participation is limited. Similarly, environmental costs are not reflected in prices and carbon intensity remains high. The EBRD role will focus on delivering energy that satisfies the three goals of security, affordability and sustainability while at the same time facilitating a transition to a market oriented energy sector.

The EBRD's revised energy strategy is built around energy efficiency. The Energy Strategy therefore fits within the institution's Sustainable Energy Initiative by defining the scope of EBRD's operations in the energy sector itself, focusing on the sustainability of the production, generation, transmission and distribution of energy, while other elements of the SEI promote sustainability in the use of energy.

Within this context, the EBRD addresses how it will treat both hydrocarbon and renewable energy projects. A number of countries of operations are significant producers of hydrocarbons. For these countries the energy sector provides an opportunity to boost employment and economic development, while facing specific challenges. The EBRD finances hydrocarbon projects (i.e. oil, gas and thermal coal). Its policy on such projects is to promote best practices, with the introduction of "...efficiency- and productivity-enhancing technologies. This includes areas such as enhanced oil recovery, simulation, oil spill response, occupational health and safety, energy efficiency, waste management, emissions control and environmental management systems" (EBRD 2013f, p.49).

The EBRD also focuses on cleaner energy production and supply in conventional energies, promoting "the transition to a low-carbon model sector" with promoting improved efficiency as a key characteristic. For instance concerning the coal industry, the *Energy Strategy* supports fuel-switching from coal to gas where this is realistic. For example in 2012, the EBRD granted a EUR 100 million loan to the Russian Far East Energy Company to build a state-of-the-art gas-fired combined heat and power plant in Vladivostok. This is the first new plant built in the region in 30 years. It is estimated to reduce annual CO<sub>2</sub> emission by 700,000 tonnes (EBRD 2013o). Furthermore, the EBRD "... will not finance any greenfield coal-fired power plant except in rare circumstances, where there are no economically feasible alternative energy sources" (EBRD 2013f, p.56). Furthermore, the *Energy Strategy* lays out a "tripartite test" to screen all investments in coal-fired generation or associate infrastructure, including thermal coal mining: 1. The infrastructure being considered the least carbon-intensive of the realistically available options; 2. The infrastructure must use best available techniques (BAT) as defined in the IED<sup>26</sup>; 3. The plant must also comply with the IED requirements in relation to carbon capture and storage readiness (EBRD 2013f, pp.56–57).

In terms of renewable energy, the EBRD's Energy Strategy recognizes the role of renewable energies in the low carbon transition, based on the 450 Scenario in the World Energy Outlook 2012 by the International Energy Agency. The Bank's strategy reiterates its continued strong support for the deployment of renewable energy throughout its countries of operation, financing investments in new capacity and combining those investments with policy dialogue and technical cooperation to initiate and strengthen regulatory frameworks. The EBRD plans to support multiple technologies, including wind, solar, large- and small-scale hydro and biomass. The strategy identifies the different forms that this support can take, depending on the degree of maturity and renewable energy potential in the relevant country:

- For those countries of operation where renewable energy is not widely deployed the Bank will focus on supporting the key initial projects which confirm the sector's viability and establish it as part of the broader energy sector.<sup>27</sup> In this early stage of development the Bank will also support countries in establishing regulatory frameworks that encourage investment in renewable energy on transparent

<sup>26</sup> EU Industrial Emissions Directive, (2010/75/EU)

<sup>27</sup> This may include funding early stage projects across different technologies, supporting new private operators in state-dominated environments, scaling up pilot operations to commercial scale and helping to build a critical mass of investments that establish renewable energy as a mature, mainstream industry in the country.

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and open terms.

- In other countries of operations, some renewable technologies, notably wind, are more mature and there is widespread penetration. In countries that are in this situation the Bank will focus on ensuring the sustainability of the sector in the face of the financial, technical, environmental and market challenges. This will include investments and policy dialogue that make the renewables sector more diverse, through the introduction of new participants and new funding models, and the development of more sophisticated and market-oriented support mechanisms that integrate renewable generators in wholesale markets and communicate price signals more accurately.

Source: (EBRD 2013f)

**Table 7: Renewable Energy Investment by the EBRD**

<b>Government Engagement</b>	- <i>Not Applicable</i>
<b>EBRD Commitment</b>	- Quantified annual GHG reduction target for avoided emissions - Prioritize lending to renewable energy projects
<b>Identified Need</b>	- Weak institutional and regulatory frameworks - High specific investment costs per kW installed and low tariffs
<b>Phases of involvement</b>	- Development: Support market and project development - Construction: provision of financing of projects (direct and intermediated); combining financing with donors and partner financial institutions (development banks, etc.)
<b>Financial Instruments</b>	Principally debt (direct or intermediated) to: - Direct debt (senior) - Intermediated debt - Equity
<b>Risk sharing / transfer</b>	- <i>No dedicated risk-sharing instruments identified</i>
<b>Capacity support</b>	- Sustainable Energy Financing Facilities (advice to local banks and help to borrowers with the loan application); - Policy Dialogue (sustainable energy action plans signed with governments)
<b>Current levels of Investment</b>	2006 - October 2013: EUR 3.2 billion

## 2.4 Energy efficiency

Energy efficiency is a cross-cutting issue that the EBRD addresses in various sectors including transports, industries, municipal and environmental infrastructures, energy production and the residential sector. Between 2006 and October 2013, the EBRD has provided close to EUR 8.5 billion for these projects.

The EBRD lending for energy efficiency projects occurred through intermediated and direct lending.

In 2012 through the EBRD's Sustainable Energy Financing Facilities (SEFFs – see Section 3) which provide dedicated credit lines to local financial institutions, new loans worth EUR 4,221 million were provided to 33 financial institutions across 12 countries. In addition to the corporate, industrial and residential sectors, the EBRD widened its outreach by extending financing through banks to local municipalities and by increased activities in the agricultural sector. At the end of 2012, the EBRD had provided loans to 75 partner financial institutions which had on-lent to sub-borrowers supporting

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over 41,900 sustainable energy projects and produced projected lifetime energy savings of more than 140 million MWh and projected emission reductions of 55 million tCO<sub>2</sub>e. (EBRD 2013a)

Energy efficiency permeates the official strategy documents of the SEI-targeted business areas. For instance, concerning municipal and environmental infrastructures (MEI)<sup>28</sup>, general guidance and means of improving energy efficiency in each type of infrastructure are listed. As for actual funding provided to MEI, the EBRD committed a total of EUR 113 million to five energy efficiency projects in 2012. For instance, the EBRD and the Clean Technology Fund (CTF)<sup>29</sup> co-financed a loan in Aktau, Kazakhstan, for a district heating and waste-to-energy project, and the establishment of a waste management facility generating electricity from landfill gas recovery and the anaerobic digestion of organic waste.

In addition to lending and its actions through the SEFFs, the EBRD has developed an integrated support program for energy efficiency particularly in the case of its Central European Initiative (CEI) Fund.<sup>30</sup> In the countries of operations of the CEI Fund and of the EBRD, energy has typically been cheap in past years. Companies have traditionally been slow to consider environmental issues and improve their energy efficiency. In recent years, the CEI Fund has increasingly collaborated with the EBRD's Energy Efficiency and Climate Change team. Both the Bank and the CEI recognise the promotion and development of energy efficiency and security of supply as key priorities. The collaborative services offered by the EBRD and CEI Fund provide integrated support for companies aiming to enhance their energy efficiency. The fundamental components of integrated support are:

- Energy audits: aim to identify potential energy efficiency opportunities and investments.
- Support in project implementation: starting with a feasibility study and definition of the technical specifications related to the measures to be implemented. The support then extends to the preparation of tender documentation for the selection of suppliers, to the technical and contractual evaluation of offers and to supervisory activities during the construction phase.
- Know-how transfer: dedicated company training aimed at transferring the necessary know-how for the proper operation of newly-installed equipment and implementation of energy management practices.

This support helps companies through the whole energy efficiency implementation process, starting from the initial appraisal of existing energy use, through the identification of the best

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<sup>28</sup> That is, delivery of urban services such as water and wastewater management, public transport, urban roads and lighting, solid waste management, district heating and energy efficiency.

<sup>29</sup> The Clean Technology Fund (CTF) is a global multilateral financing instrument promoting the scaled-up deployment and transfer of clean technologies by funding low-carbon programmes and projects that have significant potential for long-term greenhouse gas emissions savings. (EBRD 2012g)

<sup>30</sup> The Central European Initiative, established in 1989, is a regional forum for cooperation and consultation at political, economic and cultural levels in Central and Eastern Europe. In 1992 Italy signed an agreement with the EBRD on the establishment of a CEI Fund "to assist the Bank's countries of operations in central and eastern Europe in their economic and social transformation process". The CEI Fund, to which the Italian Government has been the sole donor with a total contribution to date of EUR 36.5 million, mainly provides grant-type assistance for specific components of technical cooperation (TC) projects. Since its inception, it has provided more than EUR 22.2 million for TC funding. It has also contributed more than EUR 1.4 million to the Know-How Exchange Programme, which supports transfer of best practice from the EU to the non-EU countries within the CEI and is the Fund's second most important instrument. (EBRD 2012c)

technologies/practices to be adopted, and finally to their incorporation in companies' core activities. (EBRD 2012c)

As described in its "Energy Strategy" the EBRD equally addresses energy efficiency through its larger policy dialogue. Its policy dialogue activities aim to enable energy-efficient behaviour, supports the introduction/upgrading of energy efficiency standards and establishment of appropriate energy efficiency policy frameworks. For the EBRD, the most effective driver of energy efficiency is the promotion of cost-reflective pricing of energy supplies. Where structural barriers to cost-reflective pricing must be addressed in the medium- and long-term, it plans to promote a gradual move towards cost-reflective pricing and combine this with efforts to mitigate the impact of price rises through energy efficiency policies, transparent, competitive price discovery and measures to protect vulnerable consumers. (EBRD 2013f)

**Table 8: Energy Efficiency Investment by the EBRD**

<b>Government Engagement</b>	- <i>Not Applicable</i>
<b>EBRD Commitment</b>	- Quantified annual GHG reduction target for avoided emissions
<b>Identified Need</b>	<ul style="list-style-type: none"> <li>- Low capacity to implement energy efficiency projects (technologies, use, deployment)</li> <li>- Low incentive to implement projects due to relatively low energy prices</li> </ul>
<b>Phases of involvement</b>	<ul style="list-style-type: none"> <li>- Development: Support market and project development</li> <li>- Construction: Provision of financing of projects (direct and intermediated); combining financing with donors and partner financial institutions (development banks, etc.)</li> </ul>
<b>Financial Instruments</b>	Principally debt: <ul style="list-style-type: none"> <li>- Direct debt (senior)</li> <li>- Intermediated debt (Sustainable Energy Financing Facilities)</li> </ul>
<b>Risk sharing / transfer</b>	- <i>No dedicated risk-sharing instruments identified</i>
<b>Capacity support</b>	<ul style="list-style-type: none"> <li>- Sustainable Energy Financing Facilities (advice to local banks and help to borrowers with the loan application);</li> <li>- Policy Dialogue (sustainable energy action plans signed with governments)</li> <li>- Integrated energy efficiency approach (energy audits, support in project implementation, know-how transfer)</li> </ul>
<b>Current levels of Investment</b>	2006 - October 2013: EUR 8.5 billion

## 2.5 Sustainable transport projects

Between 2006 and October 2013, the EBRD has been supporting sustainable transport projects<sup>31</sup> through close to EUR 1 billion of financing through its *Sustainable Energy Initiative*. From 2007 to

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<sup>31</sup> For the EBRD, sustainability in the transport sector encompasses a broad range of topics, including environmental, social and economic issues. Climate change mitigation and adaptation, integrated network development, pollution prevention, air quality and biodiversity protection, economic inclusion and gender equality, and road safety, are important sustainable transport issues for the EBRD's strategy in this sector. (EBRD 2013t)

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2012, the Bank provided almost EUR 870 million for energy efficiency investments in the transport sector under the SEI programme. These investments included more fuel efficient rolling stock, ships and other vehicles, and better use of traffic management systems and supporting the adoption of best practice in terms of energy efficiency standards in the built environment for transport infrastructure, such as airports and port terminals. Together, these projects are estimated to reduce CO<sub>2</sub> emissions by an estimated 600,000 tonnes per year. (EBRD 2013t, p.17)

Furthermore, the EBRD is a signatory of the joint International Financial Institutions statement issued at the Rio+20 United Nations Conference on Sustainable Development in 2012. These IFIs, including the EBRD, made a joint pledge to invest USD 175 billion in sustainable transport systems over the next decade (EBRD 2013g).

In the transport sector in general, the EBRD works to support “...sustainable transport systems which embody market principles, balance economic, environmental and social needs and are responsive to the demands of industry and the individual” (EBRD 2013t, p.19). The EBRD provides financing for both urban and non-urban transport through loans, focusing principally on public-private partnerships (PPPs) and private sector operations.<sup>32</sup>

In the field of **non-urban transportation**, the EBRD invests broadly in aviation (7%), ports and shipping (7%), railways (34%), roads (49%), and intermodal logistics(3%). While the EBRD does support road, aviation and other projects reliant today on fossil-fuel technologies, the SEI has now been integrated across the EBRD’s transport operations, and it has dedicated in-house sustainable transport expertise. Energy efficiency measures in the transport sector were the second-highest contributor to the Bank’s SEI, with around EUR 325 million of SEI’s investments in 2012. Thus while EBRD’s investments in this sector may support carbon-intensive modes of transport, the EBRD nevertheless fosters “sustainable” transport by applying energy efficient technologies, operational practices and standards, reducing energy consumption in the transport sector, developing logistic services and new technologies to reduce the need to travel.<sup>33</sup> The EBRD’s *Transport Sector Strategy* approved in 2013 includes a “sustainability focus” indicator based on the target of doubling the Transport SEI contribution up to 25% of Transport annual business volume over the next five year period 2013 – 2018 (compared to the 13% share of transport for the period 2007 – 2012).<sup>34</sup> The strategy further mentions the development of low carbon transport through the Sustainable Energy Initiative, following an “Avoid-Shift-Improve” approach.<sup>35</sup>

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<sup>32</sup> Non-urban transport is managed by a dedicated transport team within the EBRD Infrastructure Business Group, while urban transport is competence of the Municipal and Environmental Infrastructure Team. (EBRD 2013h)

<sup>33</sup> For instance in the rail sector, sovereign-guaranteed loans were used to purchase energy-efficient rolling stock in FYR Macedonia. The EBRD also engaged with rail companies in Serbia and FYR Macedonia to build capacity on energy management through technical cooperation funds for the implementation of energy management systems.

<sup>34</sup> The EBRD’s “Transport Sector Strategy” document defines sustainability principles applying to non-urban transport projects. Climate change mitigation and adaptation are both mentioned as “important aspects of sustainable transport” in the document. And more specifically, “mitigation against climate change through energy efficiency interventions, both investments and policy, is a key challenge for the [EBRD]”.

<sup>35</sup> The EBRD’s strategy on Avoid-Shift-Improve includes : Avoid means reducing the need to travel and the distance travelled, for example by integrating transport planning, developing multimodal logistics networks which optimize the use of transport resources or the introduction of new traffic management technologies; Shift means shifting to more energy efficient modes or routes, such as encouraging the use of rail or inland

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In **urban transport**, the EBRD's activities focus principally on maximizing energy efficiency or low-carbon transport. The EBRD's policy for municipal transport projects is addressed in the Municipal and Environmental Infrastructure MEI Sector Strategy. The strategy for developing urban transport sustainability focuses on various goals: increase walking, cycling and public transport usage; reduce traffic congestion through traffic reduction measures; increase the energy efficiency of urban transport systems; introduce the use of sustainable renewable energy for urban public transport. The projects generally included in "sustainable transport" reduce the carbon intensity of the sector, with electric transport (i.e. tram, trolley, light rail transit and metro) being prime examples. Projects in dense urban cities that favour walking and cycling also rank highly. Financing best available technologies in terms of energy efficiency is also central to the EBRD's sustainable transport. This includes various approaches such as: rolling-stock renewal (e.g. moving on to compressed natural gas bus units, trams and metro cars with regenerative braking capabilities); the use of light emitting diode technology for public lighting; traffic management systems that smooth traffic flow and reduce vehicle emission per car. (EBRD 2012d)

The EBRD supports low-carbon projects principally through direct senior loans, at times paired with guarantees from national governments of project host countries.<sup>36</sup> As in both the renewable energy and energy efficiency sectors, the EBRD is active in promoting and providing technical cooperation for projects in the transport sector. Policy Dialogue activities in this sector focus on the restructuring of state-owned railways, energy efficiency investments and the development of frameworks for public-private partnerships<sup>37</sup>. (EBRD 2013t)

**Table 9: Sustainable Transport Investment by the EBRD**

<b>Government Engagement</b>	- <i>Not Applicable</i>
<b>EBRD Commitment</b>	<ul style="list-style-type: none"> <li>- Quantified annual GHG reduction target for avoided emissions</li> <li>- Develop "sustainable transport systems which embody market principles, balance economic, environmental and social needs and are responsive to the demands of industry and the individual."</li> </ul>
<b>Identified Need</b>	-
<b>Phases of involvement</b>	<ul style="list-style-type: none"> <li>- Development: Support market and project development</li> <li>- Construction: provision of financing of projects (direct and intermediated); combining financing with donors and partner financial institutions (development banks, etc.)</li> </ul>
<b>Financial Instruments</b>	<ul style="list-style-type: none"> <li>- Principally senior debt (direct or intermediated)</li> <li>- Participation in the structuring of public-private partnerships</li> </ul>
<b>Risk sharing / transfer</b>	- <i>No dedicated risk-sharing instruments identified</i>
<b>Capacity support</b>	- Technical cooperation

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waterway networks where feasible, or introducing policy measures such as internalising external costs through pricing instruments; and Improve means using technologies that are more energy efficient for every mode, such as through improving vehicle standards; and improving transport efficiency using information technology.

<sup>36</sup> The authors used the EBRD's online database of project description documents to identify the financing method of projects between 2010 and 2013.

<sup>37</sup> A common area of policy dialogue is supporting the development of the legislative and regulatory framework for the successful implementation of PPPs. This objective is addressed in collaboration with the EBRD's Legal Transition Programme.

	- Policy Dialogue (sustainable energy action plans signed with governments)
<b>Current levels of Investment</b>	- 2006-October 2013: EUR 1 billion - 2007-2012: EUR 870 million for energy efficiency investments

## **2.6 Other activities in terms of low-carbon investments**

### **2.6.1 The Sustainable Resource Initiative (SRI)**

The EBRD identified resource efficiency as a global priority, due to rapid growth in demand, volatile prices and growing environmental concerns including the impacts of climate change. The SRI is the EBRD's response to this challenge. The new umbrella initiative builds on the model of the existing EBRD's Sustainable Energy Initiative (SEI). Working primarily with the private sector, SRI will promote water and materials efficiency (including recycling and reuse), by combining financing, technical assistance and policy dialogue. Indeed, while price increases encourage improvements in efficiency, poor business environments and subsidies can delay the adoption of new technology and undermine incentives for change. Projects under the SRI often contribute to mitigation of and adaptation to climate change.

### **2.6.2 Carbon market development**

The EBRD aims at connecting its regions of operations with current and future carbon markets to facilitate the transition towards a sustainable energy future. The EBRD became active in this area well before the Kyoto Protocol entered into force in 2005.

The EBRD's role in developing carbon markets is threefold:

- The EBRD manages two carbon credit funds: The EUR 32 million Netherlands Emissions Reduction Cooperation Fund (NERCoF) established in 2003, and the Multilateral Carbon Credit Fund (MCCF) jointly established by the EBRD and the EIB in 2006 with total commitments of EUR 208.5 million (EBRD 2012a). The EBRD purchases carbon credits through the NERCoF on behalf of the Netherlands for them to reach their Kyoto Protocol emission reduction target, while transactions through the MCCF benefit sovereign and private fund participants. Credits are sourced principally from EBRD-funded projects. To date, approximately 11.5 million carbon credits of various types have been transferred and delivered to buyers in both carbon funds (EBRD 2013b).
- The EBRD assists clients in developing and monitoring their carbon assets by providing clients with technical assistance on dealing with carbon markets. Technical assistance ranges from the preparation of project design documents to the development of new baseline and monitoring methodologies under Joint Implementation or the Clean Development Mechanism, and from validation to verification services.
- The EBRD builds capacity for carbon markets development. Such activities include the determination of the carbon grid emission factors (in Kazakhstan, the Russian Federation and Ukraine) to lower transaction costs in the development of emission reduction projects.

The EBRD also integrates carbon market developments into its Sustainable Energy Initiatives. Programmes like the Carbon Market Development Support for the Mid-sized Sustainable Financing Facility (MIDSEFF) in Turkey or the facilitation of Green Investment Scheme transactions with Poland are multi angled initiatives that couple specific carbon market development support with financing programmes.

### 2.6.3 Adaptation to climate change

Climate change adaptation was introduced in Phase 2 of the Sustainable Energy Initiative (2009-2001). As a cross-cutting issue, it also relates to projects under the Sustainable Resource Initiative. The EBRD supports both “hard” adaptation measures (e.g. physical modifications and additional infrastructure/ technology) and “soft” adaptation measures (e.g. adaptive management to provide improved flood or hydrological monitoring and emergency response plans) (EBRD 2012e). Since 2006, the EBRD has provided EUR 348 million to 43 adaptation projects in 13 countries through the SEI (EBRD 2012b). The institution identified sectors with critical climate adaptation needs, including water supplies in early transition countries, hydropower investments, water efficiency in water-intensive industries, and coastal and port infrastructures (EBRD 2011).

The EBRD also supports projects focused on adaptation and resilience to climate change by providing finance and technical assistance, from identifying climate change impacts to development of strategies for adaptation and investing in measures and technologies to improve their resilience.

## 3 Climate Finance tools and instruments supporting low-carbon projects

As discussed above, the European Bank for Reconstruction and Development addresses energy efficiency and climate change through its Sustainable Energy Initiative. The SEI business model combines the full range of tools used by the EBRD in its investment activities to support not only project finance, but building an enabling environment consisting of technical assistance and policy dialogue.

**Table 10: The EBRD’s roles and financial instruments to finance the low-carbon transition<sup>38</sup>**

Role	Detailed functions	EIB Tools and instruments
I. Access to long-term financing: capital provider and facilitator	1. Provider	<ul style="list-style-type: none"> <li>• Direct debt</li> <li>• Intermediated debt through local finance institutions (Sustainable Energy Financing Facilities)</li> <li>• Limited subsidies and grants (donor financed)</li> </ul>
	2. Facilitator	<ul style="list-style-type: none"> <li>• Facilities leveraging donor funds</li> <li>• Donor-sponsored funds</li> <li>• Facilitating access to carbon finance (CDM)</li> <li>• Direct Equity investment</li> <li>• Leveraging capital through bonds (<i>Environmental Sustainability Bonds</i>)</li> </ul>
II. Derisking	1. Reducing financial risk (financing and re-financing across project phases)	<ul style="list-style-type: none"> <li>• Limited provision of loan guarantees (first loss)</li> <li>• Public-private partnerships</li> </ul>
	2. Reducing project risks (operation, construction) between project participants	

<sup>38</sup> The information presented in this table, and more broadly this section, is drawn from EBRD official documents (principally (EBRD 2013p)) and from the authors’ analysis of the EBRD’s online database of project description documents. Approximately 88 investment projects in the areas of renewable energy, energy efficiency and sustainable transport between 2010 and 2013 were analysed in terms of the financing methods proposed and technical cooperation. The results of this analysis are interpreted as indicative rather than definitive in terms of the EBRD’s means of financing projects in these sectors.

III. Filling the capacity gap	Expertise Capacity building and training	<ul style="list-style-type: none"> <li>• Donor-finance Technical Cooperation</li> <li>• Dedicated facilities</li> <li>• Project preparation support / Technical assistance</li> <li>• Institution building and policy dialogue</li> </ul>
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### **3.1 The provision of long term capital**

The EBRD works to add to private sources of finance, rather than displacing them. It provides capital only to projects that could not otherwise attract financing on similar terms. The EBRD prioritizes co-financing whenever possible, since this increases the resources available for funding other projects and introduces borrowers to the international debt markets.

The EBRD provides capital to projects through: direct lending and equity in projects, typically in collaboration with other financial actors; through intermediated lending; and through carbon market mechanisms.

#### **3.1.1 Provision of long-term capital through senior loans**

In the analysis of the EBRD's project summary documents for low-carbon projects, direct senior loans were one of the primary tools used by the EBRD. While specific detail concerning the terms of each loans was not available, general information on the EBRD's lending practices gives a general idea of the institution's lending practices. Throughout its lending, the EBRD tailors each project to the needs of the client, and to the specific situation of the country, region and sector. It typically funds up to 35% of the total project cost for a greenfield project. There must be additional funding from the sponsors, other co-financiers or generated through the EBRD's syndications programme. EBRD's loans have a number of adaptable features on a case-by-case basis (guarantees, syndication, senior/subordinated/ mezzanine/ convertible debt, maturities from 1 to 15 years, project-specific grace periods where necessary, etc.) (EBRD 2013k). The loans identified by the authors in the analysis of the project summary documents were often senior loans to public or private project proponents or to national governments themselves. These loans were at times secured by national or municipal guarantees. In many instances, loans were syndicated (A/B loan structure).<sup>39</sup>

#### **Box 4 EBRD Loan Syndication**

A prime objective for the EBRD is, as stated in its founding Agreement, "to mobilise domestic and foreign capital" in its countries of operations. To achieve this objective, Loan Syndications is a flexible and market-oriented approach. Its goal is to broaden the EBRD's co-financing base by increasing the number of commercial lenders with which it works, by continuing to introduce new co-financing structures and methods, and by introducing new countries to the market. The critical factor in the success of these activities is the extent to which commercial sources of finance are willing to commit funds.

For private sector projects, the EBRD is normally prepared to provide, in the form of debt or equity, up to 35 per cent of the long-term capital requirements of a single project or company. Pricing of debt will reflect primarily country and commercial risks and will conform to prevailing conditions in the syndicated loan market. The EBRD's standing as an international institution and, particularly, its preferred creditor status are taken into account in assessing the risks. Loans by international institutions such as the EBRD are, by tradition, excluded from sovereign debt rescheduling. Banks participating in loans for which the EBRD remains the lender of record share the benefits of this preferred creditor status.

<sup>39</sup> The A/B loan syndication structure, where the EBRD remains the lender of record for the entire loan and the commercial banks derive benefit from the EBRD's preferred creditor status.

Source: <http://www.ebrd.com/pages/workingwithus/loans.shtml>

### **3.1.2 Provision of equity for projects**

The EBRD invests through equity with partner majority sponsors with the objective of reducing the overall equity burden - in general, its share remains no more than 25% (EBRD 2013h). Furthermore, the EBRD may indirectly participate in equity investments through the purchase of common or preferred stock, privatizations and initial public offerings, infrastructure funds, meaning equity and public private partnerships (EBRD 2013h). The authors' analysis of the low-carbon transport, energy efficiency and renewable energy projects presented in the EBRD's online database of project description documents identified a few examples of the EBRD's use of equity investments.

- KKS-Group, Russia: The EBRD signed to provide financing to OJSC "KKS-Group", a privately owned Russian operator of utility services to support the Group's priority investment programme, including an upgrade of district heating infrastructure facilities operated by KKS-Group in four municipalities in Tula and Kemerovo regions of Russia. This support was structured through a mix of debt and equity with the objective of increasing private sector participation in the district heating market in Russia by supporting the KKS-Group's on-going investment plans and acquisitions.<sup>40</sup>
- Kaztemirtrans JSC (KTT), Kazakhstan: The EBRD has signed a USD 200 million senior loan with equity conversion option to Kaztemirtrans JSC (KTT), a subsidiary of Kazakhstan Temir Zholy, Kazakhstan's National Railways Company (KTZ), to finance the acquisition of freight wagons. KTT would use the loan proceeds to purchase freight wagons continuing with its fleet modernisation programme. Purchase of new modern wagons would also allow the Company to capitalise on the productivity improvements from the new cars in terms of maintenance unit costs. The EBRD would hold a free option to convert the loan into a minority stake in KTT equity within a certain limited period of time and subject to fulfilment of certain pre-agreed conditions.<sup>41</sup>

The EBRD in 2010 provided equity for the first time to support the development of windfarms in Poland and Hungary alongside of Iberdrola Renovables.

### **3.1.3 Intermediated lending through the Sustainable Energy Financing Facilities: funding smaller energy efficiency and renewable energy projects**

The EBRD uses intermediated lending to finance smaller projects, such as through the Sustainable Energy Financing Facilities (SEFF) model which is part of the SEI. SEFFs are used to finance energy efficiency and small-scale renewable energy investment opportunities and typically benefit industrial and residential sector borrowers. SEFFs currently operate in 15 countries via 70 local financial institutions. Financing is based on the EBRD extending long-term credit lines to local banks that participate in the Facilities. The authors have understood that each credit line is specifically dedicated for on-lending to final beneficiaries. In turn, the local banks use the credit line to provide loans at commercial rates and at their own risks, to borrowers with eligible investment opportunities. Loan amounts vary depending on the Facility and the investment opportunity and typically range from EUR 2,500 to EUR 5 million.<sup>42</sup> The EBRD supports each credit line with a comprehensive

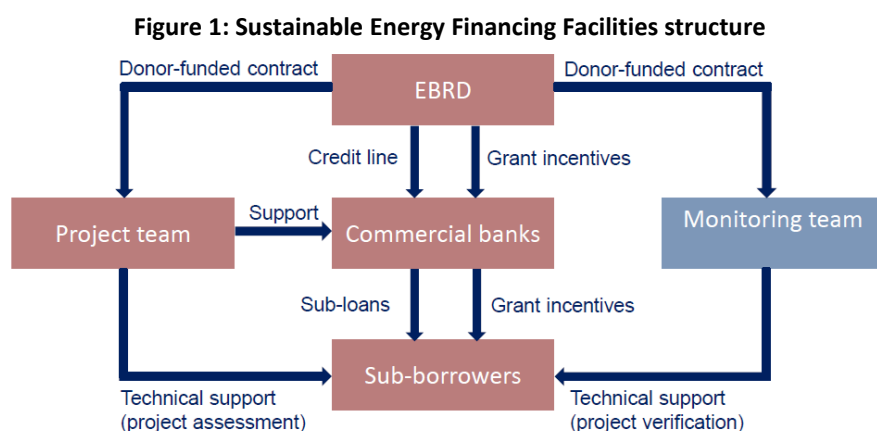
<sup>40</sup> <http://www.ebrd.com/english/pages/project/psd/2012/43829.shtml>

<sup>41</sup> <http://www.ebrd.com/english/pages/project/psd/2010/41926.shtml>

<sup>42</sup> Loan amounts typically range from a few hundred thousand euros to a few million euros for industrial energy efficiency projects ; from a few thousand euros for individual apartments to a few hundred thousand euros for multi-apartment buildings ; and can be as high as a few million euros for renewable energy projects.

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technical assistance package that helps potential borrowers prepare loan applications, and familiarises local bank loan officers with sustainable energy investment opportunities (see Figure 1 below). Since 2006, more than EUR 900 million was on-lent to approximately 1,000 businesses, 500 housing associations and 30,000 households (McCallion 2012).



Source: (van de Ven 2013)

The EBRD contends that SEFFs not only encourage investments in energy sustainability. By ensuring that local financial experts are able to identify such investment opportunities, appraising and financing these investments, SEFFs also generate long-term local capacity and contribute to the establishment of self-supporting markets for investment in energy sustainability.

**Box 5: SEFFs & Donor Financing: The Turkish Sustainable Energy Finance Facility**

In early 2009 the EBRD hired a consultant to conduct a market study, funded by Italy, to assess the potential for sustainable energy investment in Turkey. Based on the results, the Bank developed the USD 285 million (EUR 216 million) Turkey Sustainable Energy Financing Facility (TurSEFF), which was launched by the EBRD in 2010 to provide finance through local partner banks for on-lending to Turkish businesses and households. The TurSEFF finances energy efficiency and small-scale renewable energy investments in geothermal, solar, biomass and biogas projects for implementation by businesses and households to help them cut wastage and reduce Turkey's energy import costs.

The TurSEFF benefits from USD 50 million (EUR 38 million) in concessional and grant co-financing

through the Clean Technology Fund (CTF), combined with about USD 7.5 million (EUR 5.7 million) in Technical Cooperation (TC) funding from the EU, in collaboration with the Turkish Treasury. TC funds are used to support participating banks in developing energy efficiency financing to help sub-borrowers design and implement projects, and to increase awareness of the benefits of sustainable energy investments. Concessional finance support from the CTF reduces loan costs for local banks and end-borrowers and therefore encourages banks to develop sustainable energy lending as part of their portfolio. By the end of 2012 the TurSEFF disbursed all the original funds, generating a total investment of USD 500 million (EUR 380 million) and over 900,000 tonnes of CO<sub>2</sub> emission reductions per year. An extension to the Facility and new credit lines focusing on the residential and municipal sectors are being prepared.

Source: (EBRD 2013c, p.31)

### **3.1.4 Combining EBRD Financing with Donor Contributions: direct financing facilities**

As indicated earlier, the EBRD works with donors to provide further capacity support and financial incentive to facilitate project development and implementation. Through its direct financing facilities, the EBRD provides non-intermediated funds for projects. The loans financed by the EBRD (at commercial rates) are combined with technical cooperation and, in some instance, incentive payments financed by donors for targeted projects.

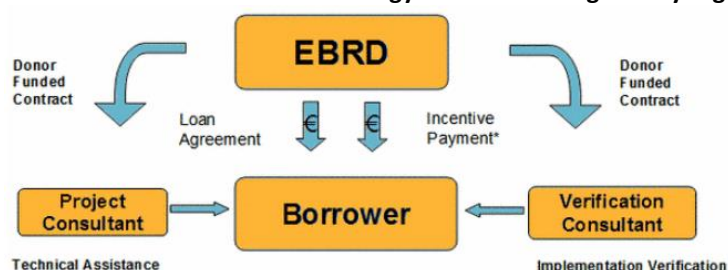
#### **Box 6: The Western Balkans Sustainable Energy Direct Financing Facility.**

The EBRD establishes Sustainable Energy Direct Financing Facilities (SEDF) such as the Western Balkans sustainable energy Direct Financing Facility (WeBSEDF). This instrument is complementary to SEFFs that work with local financial institutions. SEDFF provides debt financing directly from the EBRD for renewable energy, industrial energy efficiency and ESCO projects to local SMEs.

Individual loans under WeBSEDF can range from EUR 1 million to EUR 6 million, without exceeding 65% of total investment costs. Tenors can be up to 15 years, including an appropriate grace period. Interest rates are market based. Collateral is required and depends on the type of provided financing. In line with the EBRD's general methods, the facility includes donor-funded technical assistance through project consultants (to participate in project evaluation), verification consultants (to verify the successful completion of each project and to advise on the eligibility for incentive payments), and legal advisors (to conduct due diligence and prepare the legal documentation).

Equally, the facility provides eligible projects with an incentive payment upon successful physical completion of the construction of the project facilities and beginning of their operation. It aims at encouraging entrepreneurs to develop sustainable energy projects. The amount is calculated at early stage based on the estimated CO<sub>2</sub> emission reductions, and emulates a Clean Development Mechanism (CDM) carbon credits transaction without generation or actual carbon credits for the project sponsor or third party. It reduces the interest and loan principal payments over the life of the loan, reaching up to 10% of the loan principle.

**Figure 2: Western Balkans Sustainable Energy Direct Financing Facility organization**



\* Incentive payments will be paid upon technical completion of the investments to eligible borrowers

Source: <http://www.websedff.com/index.php?id=26&L=erimgfxcvtij>

WeBSEDF was originally endowed with up to EUR 50 million for providing loans and up to EUR 12 million in incentive payments and technical cooperation funds (for technical assistance). In January 2012, WeBSEDF was replenished with additional EUR 50 million for providing loans bringing the total funding to EUR 100 million. Technical cooperation funds were also replenished with up to EUR 9 million.

Source: 1) Factsheet on the EBRD Western Balkans Sustainable Energy Direct Financing Facility (last update : May 2013). 2) EBRD presentation on the Western Balkans Sustainable Energy Direct Financing Facility, tailor-made financing for small Renewable Energy and industrial energy Efficiency projects, June 2011.

### **3.1.5 EBRD-Managed multi-donor funds**

The EBRD is involved in low-carbon sectors through fund structures managed in-house. The EBRD manages the Eastern Europe energy efficiency and Environmental Partnership (E5P).<sup>43</sup> This EUR 90 million multi-donor fund aims at promoting energy efficiency investments in Ukraine and other eastern European countries, focusing on district heating and other energy efficiency projects, but also environmental projects or renewable energy. It was established under the initiative of the Swedish government during its presidency of the European Union in 2009. The EBRD is an implementing agency of the fund, along with the Nordic Environment Finance Corporation (NEFCO), the European Investment Bank (EIB), the Nordic Investment Bank and the World Bank Group.

Secondly, the EBRD's **Green Energy Special Fund** (GESF) is used by the EBRD to bridge the affordability gap for low-carbon municipal infrastructure projects. The EBRD has been making efforts to include energy-efficient and green technology components within standard loan-financing terms. However, the experience revealed that municipal clients tend to choose standard products with little energy efficiency, resulting from their reluctance to high initial capital expenditure associated with advanced technologies in a challenging budgetary context for many of the EBRD's countries of operation.

The Green Energy Special Fund (GESF) was thus created in 2011 to bridge the affordability gap that municipal clients face in particular, therefore allowing the EBRD to finance investments in advanced and efficient technologies. The GESF is a subsidised loan facility used in parallel to EBRD investments, and its component value is expected to be EUR 2.5 million on average per investment. The subsidised interest rate is calculated based on the expected environmental benefit of the project and relatively to the EBRD reference market rate. The loan tenor does not exceed the expected lifetime or period of usage of the asset, and a grace period is possible and limited to the planned implementation period of the asset.

The use of GESF proceeds is not specific to a technology, product or sector, and it may benefit to all EBRD countries of operation with a focus on small and medium municipalities and early transition countries. The funds can also benefit to utility companies and private companies in the frame of PPPs. The Taiwan International Cooperation Development Fund (TaiwanICDF) made an initial contribution of USD 80 million to the fund in 2011. The Central European Initiative (CEI) also supports the GESF. The GESF is to provide concessional loans during its 10-year life period (i.e. 2011 – 2021). (EBRD 2013d; EBRD 2013j)

### **3.1.6 The Multilateral Carbon Credit Fund: a fund structure to provide additional revenues from Carbon Credits**

During the operational phase of a project, the EBRD is able to provide project investors with additional revenues through the sale of their carbon credits through the Multilateral Carbon Credit Fund (MCCF). This joint EBRD / EIB climate change initiative is one of the few carbon funds dedicated to the EBRD's operating region. Investors of emission reduction projects financed by the EIB or the

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<sup>43</sup> The grants from the E5P complements energy efficiency loans provided by these five institutions. On 12 June 2013 the E5P provided the Ukrainian City of Lviv with its largest grant yet (EUR 10 million) packaged with an EBRD loan (EUR 20 million), a local contribution (EUR 3 million) and technical assistance (EUR 1.3 million) financed by Sweden. These funds will benefit a municipal district heating company owned by the City of Lviv, to modernize and rehabilitate the existing district heating infrastructure in the city.  
[http://www.swedenabroad.com/ImageVaultFiles/id\\_12162/cf\\_52/E5P\\_Newsletter-2\\_-\\_English.PDF](http://www.swedenabroad.com/ImageVaultFiles/id_12162/cf_52/E5P_Newsletter-2_-_English.PDF)

EBRD can sell the generated carbon credits to private and public companies as well as EBRD and EIB shareholder countries. This allows investors to increase the financial return on their projects (e.g. renewable energy projects are able to boost their internal rate of returns by 1-7 per cent).

### **3.1.7 Raising additional capital through Environmental Sustainability Bonds**

EBRD's "Environmental Sustainability Bonds" aim at providing an opportunity to invest in environmental and sustainable solutions through a triple-A security that supports state and private sector environmental businesses in the EBRD's countries of operations. The proceeds from the bonds benefit to a specific "Green Project Portfolio" as legally defined in bond documentation.

The Green Project Portfolio comprises investments in the following areas: energy efficiency, clean energy, water management, waste management, sustainable living, environmental services, and public transport. EBRD's Environmental, Banking, Treasury and Legal departments define the eligibility criteria to the so-called "green project portfolio", based on "widely accepted 'green' investment principles". The Environmental specialists at EBRD ensure that the portfolio includes only projects where the funds are virtually entirely dedicated to environmental goals.<sup>44</sup>

As of the end of June 2013, the Green Project Portfolio comprised 261 loans across 28 countries, totalling EUR 4.7 billion of which EUR 2.7 billion was drawn down, with the average tenor of 12 years and the average life remaining of 9.9 years. The EBRD first issued Environmental Sustainability Bonds targeted at Japanese retail and institutional investors from 2010 to 2013. In September 2013, a new bonds issuance worth an equivalent EUR 370 million targeted international institutional investors. (EBRD 2012e; EBRD 2013q)

## **3.2 Derisking**

Given the economies within which the EBRD invests, its participation in a project is often a key piece of drawing in additional financing from private investors and other public and international development financing partnerships and funds. The EBRD can, in general, help borrowers to gain access to the financial market through the provision of guarantees. These include various types, ranging from all-risk to risk-specific contingent guarantees, but in all cases the maximum exposure must be quantifiable and the credit risk acceptable. (EBRD 2013l)

Nevertheless, within the analysis of the low-carbon projects conducted by the authors, no specific mention of dedicated derisking or credit enhancement tools were identified.

## **3.3 Capacity building**

Technical cooperation and policy dialogue are a fundamental part of the EBRD's strategy, which can build an enabling environment to help valorise its own project finance activities.

Providing technical assistance is a key part of the EBRD's strategy. The EBRD provides grant co-financing (financed by donor partners) to provide appropriate incentives and address affordability constraints. Indeed, with the donor-funded Technical Cooperation funds, the EBRD provides its clients with technical support across the whole investment life-cycle. This includes undertaking

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<sup>44</sup> The exclusion list presented in Section 4 also applies to the green portfolio, and the exclusion of projects whose goal is to construct new large hydropower installations (as defined by ICOLD); generate nuclear energy; product biofuel as long as no internationally recognized sustainability criteria are adopted; projects related with the production of alcohol.

energy audits in order to unlock opportunities to achieve sustainable reforms, and developing capacity building programmes with some clients.

In addition, the EBRD focuses on project-related institution building and policy dialogue to support the effective development and implementation of projects in terms of policy, legal, regulatory, technical and organisational capacity in EBRD's countries of operations (e.g. the EBRD and public authorities of concerned countries can sign Sustainable Energy Action Plans). The EBRD aims at deploying an integrated approach combining investment, technical cooperation and policy dialogue to reach reforms on a transformational scale.

### **3.3.1 Technical Cooperation**

Technical cooperation (TC) funds are those funds used for technical assistance that support the funding activities by the EBRD. They provide advisory services to private and public sector clients: consultancy services for feasibility studies as part of project preparation; procurement assistance during project implementation; development of management skills; legal advice to improve legislation and corporate governance and to promote regulatory development; etc. Such funds come from governments, international institutions and also multi-donor funds (part of which were described in Section 1), and are complemented by EBRD funds such as the EBRD Shareholder Special Fund.<sup>45</sup> In 2012, donor funding supported 562 technical cooperation projects for EUR 128.7 million (EBRD 2013a, p.35). Donors have also contributed to the Sustainable Energy Initiative (SEI) with more than EUR 214 million in technical cooperation funding from 2006 to March 2013: of this, 8% supported industrial energy efficiency, 10% cleaner energy supply, 10% renewable energy, 25% municipal infrastructure and 43% Sustainable energy financing facilities through local banks (EBRD 2013s).

**Figure 3: EBRD Estimated Leveraging Effect of Technical Cooperation and Grants**

Business area	TC impact leverage (€)	Grant impact leverage (€)
Industrial EE	1,077	22
SEFF	83	6.3
RE	198	5.9
Cleaner energy production	458	na
MEI	92	1.8
Total SEI	232	5.5

\*Every euro spent on technical assistance and grants mobilises the above volumes of sustainable energy investments.

Source: (EBRD 2012f)

In 2012, most Technical Cooperation resources were used for existing and newly established Sustainable Energy Financing Facilities (SEFFs). Technical cooperation are used in SEFFs to support the participating local banks in developing energy efficiency financing instruments, to help final beneficiaries design and implement such projects, as well as to increase the awareness about the benefits of sustainable energy investments. (EBRD 2013c; EBRD 2012g)

<sup>45</sup> The EBRD Shareholder Special Fund (SSF) is a multi-donor fund established to complement existing funding for projects which do not fit the donors' priorities. It provides flexibility, predictability, and additional funding for multi-donor funds where the SSF can provide co-financing.

Finally, the EBRD **Shareholder Special Fund** brings funds to projects which do not fit the donors' priorities. The fund is provisioned on the Board of Governors decision, and is used for technical cooperation, investment grants, incentive payments and equity participation. It brings flexibility and predictability to the EBRD's activities.

### **3.3.2 Policy Dialogue**

The EBRD also uses policy dialogue in order to create a broader "transformation impact" than what pure project finance could reach. It works on both top-down policy-making and bottom-up evidence-based policy making using experience feedback to remove barriers for a future growth. The EBRD also focuses on market and regulatory barriers at several levels of government and concerning various sectors of the economy. Policy dialogue is crucial in EBRD's countries of operations in the frame of the Sustainable Energy Initiative. The EBRD has identified a number of key countries in where it has or is carrying out policy dialogue around energy efficiency, including Russia (energy efficiency in the built environment and industry), Ukraine (energy efficiency in the built environment and renewable energy policy), Kazakhstan (renewable energy policy and urban waste management), and Turkey (urban waste management, ESCOs)" (EBRD 2013n). The EBRD's *Legal Transition Team*, plays a key role in the Policy Dialogue process. Furthermore, it has dedicated resources for the areas of infrastructure and energy efficiency. The team aims to use its expertise and long-term engagement to assist in building the transparent and stable regulatory environment that the sector requires (EBRD 2013f, p.63).

In the energy sector, the EBRD's *Energy Strategy* describes how the policy dialogue will be used to: "...support the introduction or upgrading of energy efficiency standards such as building codes and the establishment of energy efficiency policy frameworks" (EBRD 2013f, p.45). In terms of energy demand management, the EBRD has identified a number of instances where regulatory frameworks do not accommodate objectives: "for example there is typically no provision made for the selling of "negative generation", in other words reduced demand, as opposed to actual generation. Similarly, distribution tariff methodologies are seldom structured so as to incentivise companies to sell less of their product" (EBRD 2013f, p.46). Furthermore, in many instances the EBRD focuses on developing energy markets in these countries in general with the objective of scaling up renewable energy, such as allowing "...the introduction of new participants and new funding models, and the development of more sophisticated and market-oriented support mechanisms that integrate renewable generators in wholesale markets and communicate price signals more accurately" (EBRD 2013f, p.50). The EBRD will equally focus on regulations affecting the hydrocarbon fuels, including a focus on reducing gas flaring and laying the foundations for carbon capture and storage.

#### **Box 7: Policy Dialogue on Renewable Energies in the Balkan Countries, Ukraine and Kazakhstan**

A particularly successful experience in this area has been the Bank's engagement in policy dialogue on renewable energy legislation with governments and regulators in the Balkan countries, Ukraine and Kazakhstan. Here, assistance in drafting renewable energy legislation has helped develop regulatory frameworks that have subsequently attracted investments into the sector.

For example, in Ukraine the Bank financed in 2012 and 2013 its first windfarm and first solar projects in Ukraine, building on the donor-funded Technical Cooperation (TC) to create the support mechanisms these projects rely on. Using this experience, the Bank is also implementing a strategic environmental assessment of renewable energy in Kazakhstan in close coordination with its investment projects in the transmission and thermal generation sectors. These examples are also informed by lessons the Bank has learned from previous projects about the importance of building sound regulatory foundations for initial projects and then maintaining continuity and consistency in policy dialogue and TC. To ensure commitment to the results of

these activities, the Bank works closely with the beneficiaries, such as energy ministries, regulators and public energy companies, to develop the objectives and scope of each assignment.

Source: (EBRD 2013f, p.14)

### **3.3.3 The EBRD-European Local energy Assistance Facility (ELENA):**

EBRD-ELENA is an EBRD operated project development assistance facility for public authorities, public bodies and financial institutions. It can cover up to 90% of the costs of technical cooperation necessary to prepare and implement sustainable energy investments in the municipal sector (e.g. feasibility and market studies, identification and preparation of eligible projects, business planning, energy audits, implementation and verification of projects, establishment of a project implementation units, preparation of tender documentation, training of staff). The facility is funded by the European Union through the Intelligent Energy Europe II programme. (IEE 2013)

## **4 Mainstreaming Climate and Energy across all Activities**

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The European Bank for Reconstruction and Development acknowledges that the economic growth capacity of the regions in which it invests will continue to rely on energy-intensive industries. Thus, rather than excluding activities,<sup>46</sup> the EBRD focuses on making these industries more energy-efficient. Thus priority is given to best available techniques without excluding a specific activity as long as they contribute to develop a market-based and sustainable economy in the operating area.

The project investment decision-making process relies on compliance with the EBRD's key objectives of sound banking, additionality and transition impact. The sound banking principle refers to investing in financially viable projects together with the private sector; and additionality refers to providing projects with financing at reasonable terms, which would otherwise not be available from private sources (McCallion n.d.). The EBRD has a unique mandate to evaluate the "transition impact" of its activities or "the expected effects of a project on a client, sector or economy, which contribute to their transformation from central planning to well-functioning market-based structures". This is different from other development banks as the market transition is not always the same thing as development. Thus, the EBRD has developed a qualitative appraisal methodology to assess the contribution of projects to these objectives. (Peszko 2013)

Recently, the EBRD has recognized that a well-functioning market economy is a low carbon economy as the removal of a further market failure improves the functioning of the market in general (Peszko 2013). As such, since 2010 internal operational guidelines have mainstreamed climate change and energy efficiency aspects into project appraisals. In support of the Sustainable Energy Initiative, the EBRD has developed a system to screen and qualify projects as SEI, to assess and document the estimated climate impacts (e.g. reduced CO2 emission reduction, increased renewable energy and energy savings) and where appropriate to carry out project completion assessments (e.g. in case of projects that generate carbon credits). The indicators used include the number and type of projects in different sectors, aggregated annual data on SEI finance and GHG emission reductions and

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<sup>46</sup> The EBRD does not finance defense-related activities, the tobacco industry, selected alcoholic products, substances banned by international law and stand-alone gambling facilities (EBRD 2013i)

renewable energy production. Nevertheless, this evaluation occurs within the context of the EBRD's priority transition mandate and its existing transition impact assessment.

This section will detail the approaches currently taken to mainstream climate and energy concerns across all of its activities.

#### **4.1 The inclusion of climate and energy related criteria in the broader SRI policy**

The EBRD is mandated to support “environmentally sound and sustainable development”, which translates into an “Environmental and Social Policy” key document. It sets ten environmental and social performance requirements which every type of project is expected to meet. Such principles are consistent with Equator Principles Performance Standards, and include additional requirements such as compliance with EU environmental standards.

A dedicated *Environment and Sustainability Department* implements this policy, performing an environmental and social due diligence that benchmarks projects against the EBRD's environmental and social performance requirements. The *Environmental and Social Policy* defines the Bank's commitment to the principles of “environmentally sound and sustainable development” and good corporate citizenship.

This policy enables the EBRD not only to filter projects which receive funding, but also to monitor the progress on GHG emissions of those carbon-intensive projects that the EBRD may finance for development reasons. The EBRD also uses an exclusion list, meaning that in all circumstances it will not finance a range of activities for they are illegal or severely restricted under national or international law. In addition, a referral list regroups activities with “very serious environmental and social consequences” that EBRD-funded financial institutions should not finance without prior approval of the EBRD. (EBRD 2008)

##### **4.1.1 Quantified investment targets: financing volume and GHG absolute targets for Sustainable Energy Initiative projects**

Since the creation of the Sustainable Energy Initiative in 2006, the EBRD has adopted phase targets for investment and quantified GHG emission reductions. Phase 1 of the SEI covered the years 2006-08 and resulted in total Bank commitments of over EUR 2.6 billion. Phase 2 (2009-11) of the SEI had an investment target of EUR 3 to EUR 5 billion and a physical carbon reduction target of 25 to 35 million tonnes of CO<sub>2</sub> per year. These targets were met, with total investments reaching EUR 6.1 billion with total project value of EUR 29.7 billion. Approximately two-thirds of this activity was in the private sector. (RICARDO-AEA 2013)

The EBRD has set the financing target for the Phase 3 of the Sustainable Energy Initiative at EUR 4.5 to EUR 6.5 billion for the 2012-2014 time period. Equally, the EBRD set an absolute GHG emissions reduction target for SEI projects over the same time period of 26 to 32 mtCO<sub>2</sub>e per year (see below for the quantification method). The target setting is subject to a number of factors, including historical data. The carbon reduction impact of the SEI activities in 2012 was estimated at 8.8 million tonnes of CO<sub>2</sub>e.

#### **4.1.2 GHG assessment at the portfolio level**

The EBRD has assessed the impact on greenhouse gas emission of its direct investments (loan and equity) since 2003. Although in most years all direct investment projects with emissions, or emissions savings, exceeding 20 ktCO<sub>2</sub>e per annum have been assessed, the focus has been on large projects mainly in the energy and industrial sectors, which dominate the portfolio GHG footprint (EBRD 2010). Thus, every project that is expected to emit more than 100 ktCO<sub>2</sub>e per annum undergoes a GHG assessment (scope 1 and 2 emissions<sup>47</sup>), as required by the environmental and social policy.<sup>48</sup> Some direct investments involving corporate loans and most projects supported through financial intermediaries (FI) are generally not assessed as there is insufficient information on the precise nature of these investments.

GHG quantification occurs for projects leading both to an emission increase (i.e. typically greenfield projects and capacity expansion in sectors including energy generation) and a reduction of emissions (i.e. typically SEI projects). The EBRD defines the variation of GHG emissions as the difference between the emissions following the implementation of the project investment and the emissions that would have occurred in its absence.<sup>49</sup> General calculation methods are based on IPCC Guidelines. The result is an ex-ante estimate of carbon savings that will be achieved in the future once the projects have been implemented.

Using this information, the EBRD assesses the change in annual greenhouse gas (GHG) emissions that each year's new investment portfolio signings are predicted to make once the projects are fully implemented. Out of 380 commitments signed by the Bank in 2012, 31 projects met the criteria for inclusion in the GHG Assessment. The EBRD estimates that the projects above this threshold contribute 80-90% of total GHG emissions or savings. The 31 projects assessed in 2012 lead to an estimated 2 mtCO<sub>2</sub>e reduction in emissions per year.

#### **Box 8: EBRD Environment and Social Policy requirements concerning GHG Emissions**

From November 2008, the revised (May 2008) EBRD Environmental and Social Policy includes new requirements concerning GHG emissions. These are presented below to show the context in which the specific requirement to undertake quantitative GHG assessments apply:

Environmental and Social Policy, paragraph 40: *The EBRD will publish an annual Sustainability Report on its activities including . . . aggregate information on greenhouse gas emissions . . .*

Performance Requirement 1 (PR1) Environmental and Social Appraisal and Management, Paragraph 7: . . . *The appraisal will also consider potential transboundary and global issues, such as . . . greenhouse gas emissions . . .*

Performance Requirement 3 (PR3) Pollution Prevention Abatement: Paragraph 3:

*The objectives of this Performance Requirement (PR) are . . .to promote the reduction of project-related*

<sup>47</sup> Using the definitions adopted by the GHG Protocol of the WBCSD/WRI, direct emissions are termed 'Scope 1', emissions from grid electricity used are 'Scope 2' while other upstream and downstream emissions are 'Scope 3'. (EBRD 2010)

<sup>48</sup> This encompasses aggregate emissions of direct sources and indirect sources associated with purchased electricity for own consumption. The EBRD deems that a lower emission threshold may be appropriate where a project aims to bring about large improvements in production efficiency. (EBRD 2010)

<sup>49</sup> In the absence of the project investment by the EBRD, the baseline scenario is usually zero emission for a greenfield project, or the pre-existing facility annual emissions for a project of refurbishment or upgrading. (EBRD 2010)

greenhouse gas emissions.

Performance Requirement 3 (PR3) Pollution Prevention Abatement: Paragraph 17-19 (plus footnotes):

*17. The client will promote the reduction of project-related greenhouse gas (GHG) emissions in a manner appropriate to the nature and scale of project operations and impacts.*

*18. During the development of projects that are expected to or currently produce significant quantities of GHGs<sup>50</sup> the client will procure and report the data necessary to enable both an assessment of baseline (pre-investment) GHG emissions and an estimate of post-implementation GHG emissions. Guidance on data requirements should be sought from the Bank. The GHG assessment will cover direct emissions from the facilities owned or controlled within the physical project boundary, together with those from any external operations on which the project is dependent, including indirect emissions associated with the offsite production of power used by the project. An indication of the size of project likely to generate emissions of 100,000 tonnes of CO<sub>2</sub> equivalent can be found in Annex A of IFC's Pollution Prevention and Abatement Guidance Note 3.*

*Guidance on the definition of project boundary should also be sought from the Bank<sup>51</sup>. Quantification of the parameters needed to evaluate GHG emissions<sup>52</sup> will be conducted annually during the life of the project.*

*19. In addition, the client will assess technically and financially feasible and cost-effective options to reduce its carbon intensity during the design and operation of the project, and pursue appropriate options.*

Source: (EBRD 2010, pp.27–28)

## **4.2 The integration of GHG mitigation into individual project appraisal and analysis**

The results of quantification are used to integrate GHG assessment into project appraisal and identify any opportunities to incorporate GHG emission reductions into the project. All new projects proposed for EBRD investment undergo not only financial and legal analyses, but also an assessment of the project's transition impact and environmental and social impacts (EBRD 2013e).

The EBRD project cycle includes three review processes before signing:

- Concept review: The EBRD's Operations Committee (OpsCom) approves the project concept and overall structure, including proposed financing structure and supporting obligations. At this stage, the EBRD and the client signs a mandate letter, which outlines the project plan, development expenses and responsibilities.
- Final review: Once the basic business deal (including a signed term sheet) has been negotiated and all investigations have been substantially completed, the project receives a Final Review by OpsCom.
- Board Review: The EBRD President and operations team present the project to the Board of Directors for approval.

<sup>50</sup> The significance of a project's contribution to GHG emissions varies between industry sectors. Guidance on the amounts of GHG emissions likely to be associated with projects in different sectors is given in EBRD Methodology for Assessment of Greenhouse Gas Emissions – Guidance for consultants working on EBRD-financed projects (GN0). The significance threshold for this Performance Requirement is generally 100,000 tons of CO<sub>2</sub> equivalent per year for the aggregate emissions of direct sources and indirect sources associated with purchased electricity for own consumption. However, a lower emission threshold may be appropriate where a project aims to bring about large improvements in production efficiency. Clients are encouraged to consult the Bank in such cases on whether data procurement for GHG assessment will be required.

<sup>51</sup> Guidance on data requirements and the definition of project boundary are provided, respectively, in the Bank's Environmental Audit and Appraisal Protocols and EBRD Methodology for Assessment of Greenhouse Gas Emissions – Guidance for consultants working on EBRD-financed projects (GN1)

<sup>52</sup> For example the quantities of fuel or electricity usage.

As part of this process, project proponents are required to submit: 1. Project information, fully describing the project, the role of the EBRD's financing and a market review; 2. Financial information, including a breakdown of project costs and funding, implementation requirements, and anticipated future financial performance; 3. Environmental and regulatory information, including a summary of any environmental issues (including existing environmental audits or impact assessments) and the details of government-required licenses and permits related to host-country regulations. (EBRD 2013k)

Before financing, projects with potentially significant and diverse environmental and social impacts are subject to an impact assessment that includes an analysis of both GHG emissions and climate change vulnerability (adaptation). This process requires that means of reducing negative impacts and their management must be developed for all project phases (ranging from pre-construction to decommissioning).<sup>53</sup>

If a proposed business activity to be financed by the EBRD relates to existing facilities that do not meet the environmental and social performance requirements of the "Environmental and Social Policy" at the time of Board approval, the client will be required to adopt and implement an *Environmental and Social Action Plan* (ESAP) to achieve compliance with EBRD's requirements.

Clients are required to report to the EBRD at least once a year on their environmental and social performance and the implementation of their Environmental and Social Action Plan (ESAP). The institution provides enhanced supervision and assistance for projects that currently do not fully meet the Bank's requirements.

#### **4.2.1 Integration into appraisal: GHG quantification and application of a shadow price on carbon**

Given that the EBRD typically funds private sector projects, it rarely undertakes full Cost-Benefit Analysis (CBA) on projects (RICARDO-AEA 2013). Nevertheless, since 2010 internal operational guidelines have mainstreamed climate change and energy efficiency aspects into project appraisal. As seen in Box 8, the EBRD's Performance Requirement 3 requires that clients provide information on potential GHG impacts of projects expected to produce significant quantities of GHGs. This information is to be used to assess the technically and financially feasible and cost-effective options to reduce its carbon intensity during the design and operation of the project, and pursue appropriate options.

Typically, data on costs per tonne saved is monitored but has to be evaluated in the context of the specific project. Costs may vary substantially across size, sector, and location of the project. In addition, the EBRD is using shadow prices for carbon and other emissions as part of its due diligence in a case by case basis.

This is used in the appraisal of carbon intensive projects, in order to perform sensitivity analysis of their viability with carbon prices.<sup>54</sup> This typically occurs for projects in countries covered by the EU ETS to account for climate risk considerations as part of its sensitivity analysis. Within this analysis, a

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<sup>53</sup> <http://www.ebrd.com/environment/e-manual/r16eia.html>

<sup>54</sup> The carbon price benchmark used by the EBRD is typically the marginal damage cost from the literature rather than actual carbon market prices due to their current volatility and fragmented nature.

range of carbon prices can be applied - from the current EU ETS price at EUR 4/5 per tonne to DECC/IEA shadow prices that range from USD 25 – 80 / tonne (RICARDO-AEA 2013).

The EBRD also applies carbon assessment and shadow pricing to the so-called green projects, in many instances as a means of evaluating their carbon market preparedness and as a means of estimating potential future carbon market flows. These estimates are increasingly used to calibrate subsidy levels to reward low-carbon investment when EBRD funds are combined with donor funds (RICARDO-AEA 2013). An explicit shadow pricing of carbon occurs in direct lending facilities and in the case of subsidized larger projects. In many instances, credit line facilities (SEFFS, etc.) involving small projects use proxies based on transaction costs to look at market preparedness. The shadow price is calculated as the present value of hypothetical “carbon credit” revenues subject to a cap (usually 15-20% of the total loan amount). (Peszko 2013)

#### ***4.2.2 The integration of climate in the assessment of projects “transition impact”***

Given its transition mandate and its existing system to evaluate the transition impact of its actions, the EBRD does not rely solely on pure GHG reduction target to allocate its funding, since it is mandated to finance the development of all sectors of the economy in its whole area of operation. The EBRD notes that introducing performance standards for carbon effectiveness of finance could give an unwanted incentive to limit its focus to large power sector projects, as these types of projects are inherently the most cost-effective. Therefore, the EBRD’s investment decisions are guided by a number of principals and considerations. The EBRD does focus on mainstreaming the climate agenda across its financing activities - a rationale that the EBRD’s approach with sound banking, transition impact, additionality is even more effective to achieve transformational change, than just relying on some simple performance standards.

The transition impact assessment analyses “the expected effects of a project on a client, sector or economy, which contribute to their transformation from central planning to well-functioning market-based structures” (Peszko 2013). Since 2010, the EBRD has recognised that well-functioning market economy is a low carbon economy, as markets are more efficient without market failures. Starting from this point, internal operational guidelines mainstreamed climate change and energy efficiency aspects into project appraisal within the “Transition Impact methodology” and the Bank’s transition mandate.

The Chief Economist Office assesses each project entering EBRD’s pipeline. The transition impact (and risk to the transition) is appraised with a qualitative methodology, rated and monitored. The Transition Impact rating is discussed at Operational Committee and low-rated projects are usually rejected. Initially, the Transition Impact methodology focused on three broad criteria: the structure and extent of markets; the institutions and policies that support markets; market-supporting behaviours, skills and innovation.

The adaptation of the Transition Impact methodology to the low carbon economy includes other broader appraisal criteria. For instance, as far as market sustainability is concerned, how emission reduction is achieved (e.g. role of subsidies, commercial drivers) is more relevant than how much. The systemic impact of a project is taken in account as well through demonstration effect, commercial replicability and the role of regulations and institutions. There are three dimensions to this assessment:

- What extent the project contributes to the low carbon market, and to the structural changes in the market/improvements of the framework for markets (e.g. of emission trading, energy efficiency markets etc.)
- What extent the project (or any related interventions such as technical assistance or policy dialogue) contributes to the strengthening of the institutions and policies that support the low carbon market.
- What extent the project demonstrates new and market friendly behaviours, transfer of skills (previously unknown to the market) and can deliver innovative technology, business models or new products. For example, is it an innovative financial product that serves the purpose to reduce emissions and can also be commercially replicated by other member in the market? (RICARDO-AEA 2013)

The ability of a project to go beyond standard practices is part of its transition impact.<sup>55</sup> Emission reductions and positive environmental impacts are positive contributions to the transition impact and final approval for the project funding.

### **4.3 Mainstreaming adaptation to climate change**

The EBRD's Environment and Sustainability Department identifies which potential projects may be at least partially related to climate change adaptation.

Since 2010, the EBRD has been piloting a toolkit for identifying and managing climate change risks to investments including guidelines for climate change screening and risk profiling, and guidance on integrating risk assessment and adaptation into project feasibility studies, environmental and social impact assessments, environmental action plans and water audits. (RICARDO-AEA 2013)

Today, the EBRD provides clients with technical expertise on climate, water and energy issues specific to the client's industry. Their involvement ranges from initial risk assessment to the design of strategic responses. EBRD technical experts visit the client's site to carry out water and energy audits, climate resilience audits, providing a basis to identify, propose and discuss with the client possible technical and investment solutions. The whole process is described in Figure 4 below.

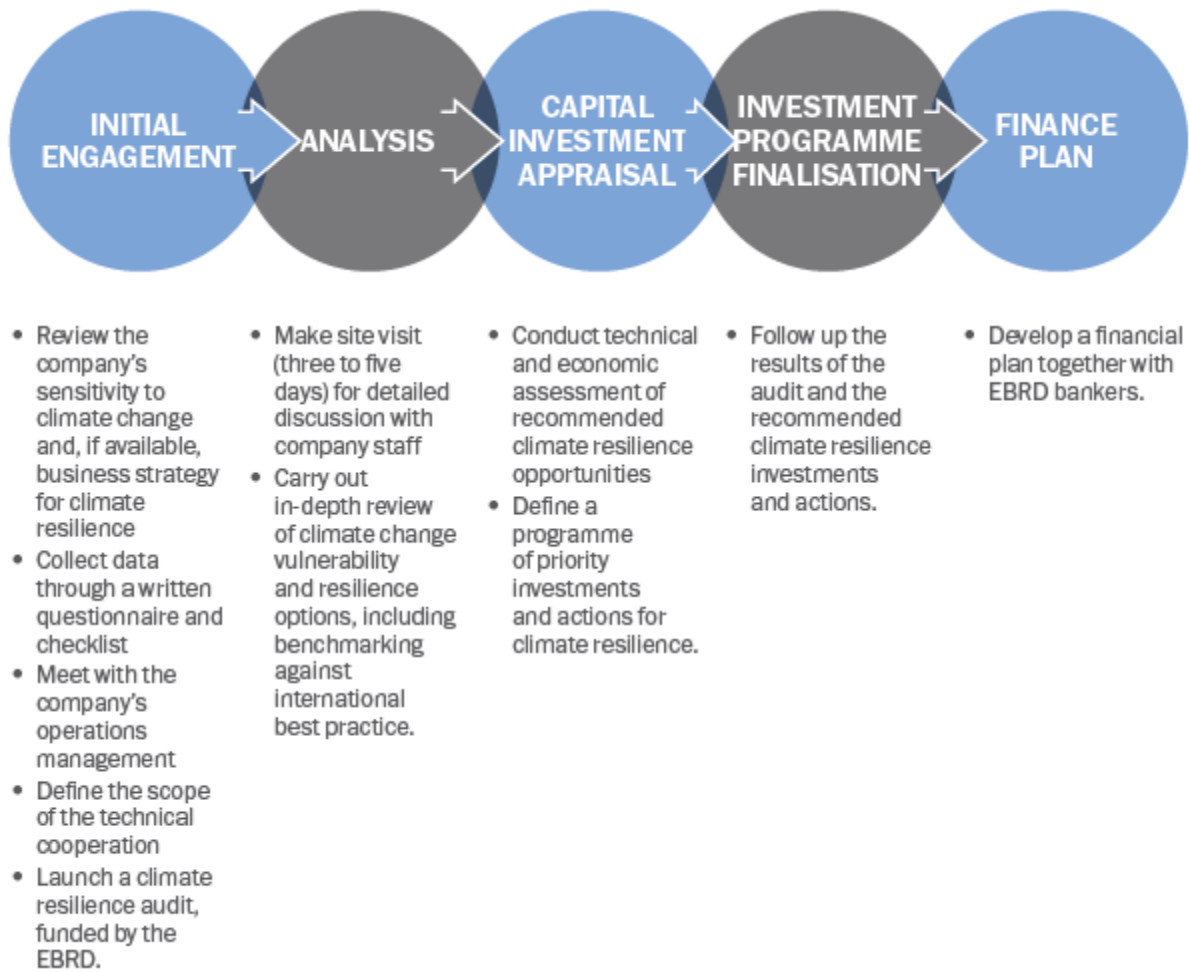
### **4.4 Joint MDB reporting**

In 2011, the EBRD together with other multilateral development banks (MDB) joined forces to develop a common methodology to track their financial flows dedicated to climate change. First reports containing mitigation and adaptation flows were published in 2012. The EBRD is currently coordinating the reporting activities amongst the different multilateral development banks.

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<sup>55</sup> This is measured against project/sector specific performance benchmarks (baseline or business as usual in a sector).

**Figure 4: The EBRD's approach to supporting climate resilient operations**



Source: (EBRD 2012b)

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