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CATALYZING PRIVATE SECTOR CLIMATE FINANCE

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CLIMATE FINANCING SOURCES RANGE

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Main sources of climate finance include:

- Bilateral / developed countries budget
- Multilateral funds
- Carbon market
- Multilateral development banks
- Developing countries domestic resources
- Private sector finance

PRIVATE CLIMATE FINANCE
INTRODUCTION

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The role of the private sector has emerged as an increasingly important topic to achieve a significant scaling up of international climate financing.

This presentation provides insights and knowledge on private sector climate finance based on the concrete experience of the EBRD over the past six years in the context of its **Sustainable Energy Initiative (SEI**). During this period, the EBRD has invested **€8.8 billion** in **464 SEI projects** of which **325 (70%)** are in the private sector.

The presentation is complemented by a set of specific project examples.

PRIVATE CLIMATE FINANCE
INTRODUCTION

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The key role of private sector in scaling-up long term financing for mitigation and adaptation strategies in developing countries is recognised and emphasised in a number of key global climate finance reports including:

- The 'Report of the Secretary-General's High-level Advisory Group on Climate Change Financing' (November 2010).

- The 'G20 Paper on Mobilizing Sources of Climate Finance' including a background paper on 'Engaging the Private Sector.

- Initial work on the Green Climate Fund which includes the examination of the potential role of the private sector in the effective development and implementation of private sector activity supported by the Fund.

PRIVATE CLIMATE FINANCE
INTRODUCTION

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The importance of private sector to climate change mitigation is driven by a range of key factors including:

- **project development and management capacity**
- very large number of potential **implementation channels**
- **focus on risk/return** and **financial sustainability**
- **dynamic entrepreneurial approach**
- **financial capacity** including corporate internally generated cash flow, equity funds, bond market, stock market and institutional investors
- **technical knowledge**, expertise and innovation across mitigation sectors
- **responsiveness** and activity scaling-up reflecting policy and market signals

By some estimates, the private sector is expected to account for around 85% of the 2020 climate financing target of $100 billion per year.

EBRD CLIMATE FINANCE TRACK RECORD
RESULTS 2006 - 2011

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- The EBRD Sustainable Energy Initiative (SEI) was launched in 2006 following the call of the G8 in Gleneagles for MDBs to scale up their clean energy financing activity. Considering the features of its region of operations, the SEI has focused on **energy efficiency** and **renewable energy financing**.

- Overall, EBRD SEI financing has risen significantly over 6 years reflecting its scaling-up objectives. EBRD climate financing more than trebled from **€748 million** during the first year of SEI in **2006** to **€2.6 billion** in **2011.** SEI financing accounted for close to **30%** of a record level of EBRD investment of €9 billion in 2011.

- Cumulative EBRD SEI financing reached **€8.8 billion (around $11 billion)** for the period 2006-2011 for **464 projects** with a total project value of **€46 billion (around $57 billion)**. Annual CO_2 emissions reduction is estimated at around 47 million tonnes.

- The EBRD region of operations includes Central and Eastern Europe, Central Asia and Turkey. The Board of Governors of the EBRD has also supported the expansion of the region of operations of the EBRD to the southern and eastern Mediterranean.

EBRD CLIMATE FINANCE TRACK RECORD
RESULTS 2006 - 2011

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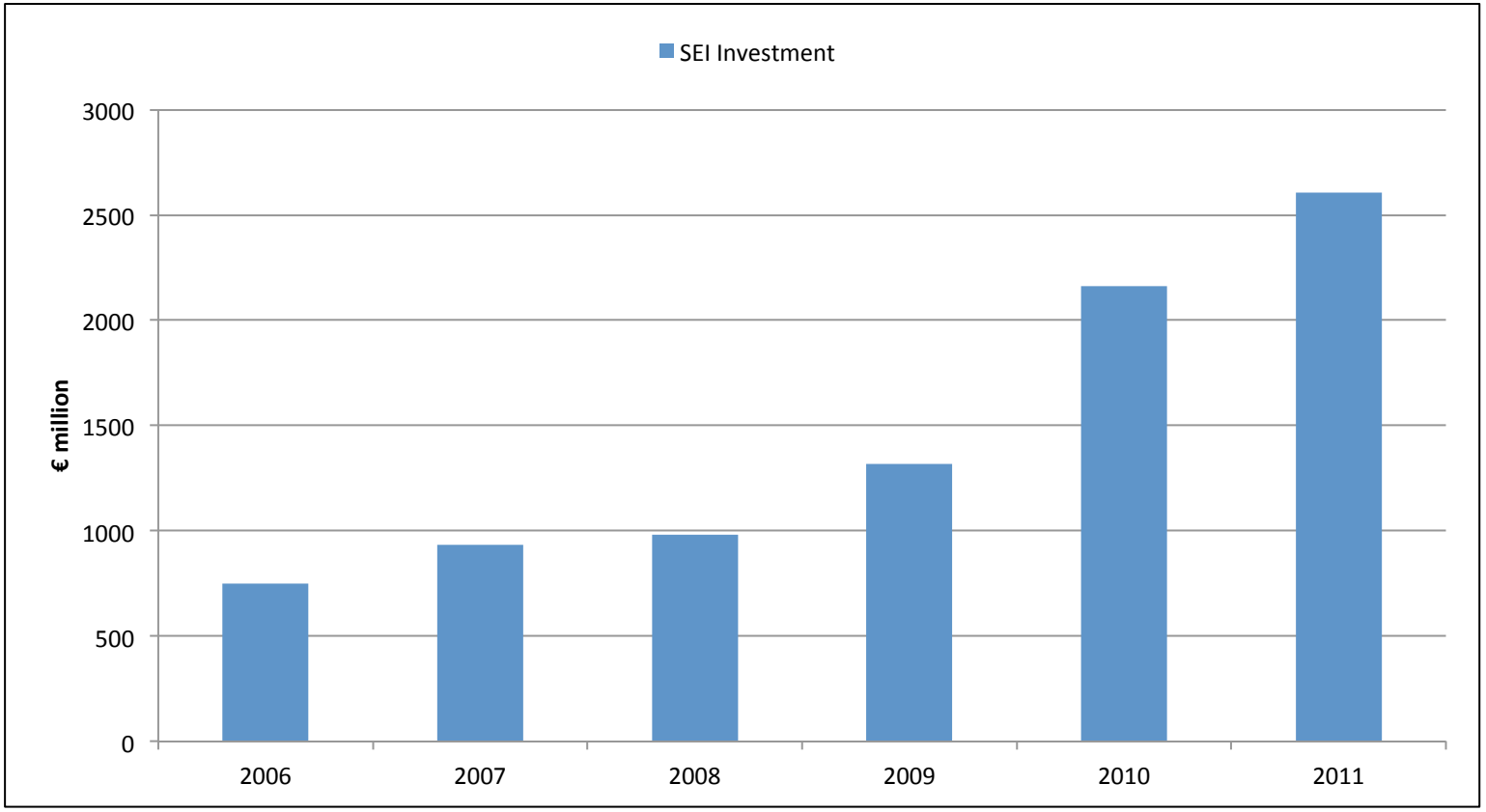

EBRD CLIMATE FINANCE TRACK RECORD
SEI ACTIVITY AREAS

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The SEI is structured along activity areas which correspond to specific climate change mitigation actions. These include:

- **Industrial energy efficiency** investments in energy-intensive industrial processes such as steel manufacturing, aluminium smelting, cement and glass production, as well as major transport investments, such as in railway operating companies.
- **Sustainable Energy Financing Facilities** (SEFFs) through local banks in countries of operations to support industrial energy efficiency in small and medium-sized enterprises (SMEs), small-scale renewable energy and building energy efficiency projects.
- **Power sector energy efficiency** to improve the energy efficiency of transmission networks and thermal power stations which generate the majority of energy in the region.
- **Renewable energy** project financing including technical cooperation to shape the institutional and regulatory frameworks for renewable energy investment.
- **Municipal infrastructure energy efficiency** including upgrading and development of district heating, public transport networks and water supply systems.

SEI activities also include climate change adaptation, carbon market development and sustainable energy policy dialogue supporting transformational change.

EBRD CLIMATE FINANCE TRACK RECORD
RESULTS BY ACTIVITY AREA BY YEAR

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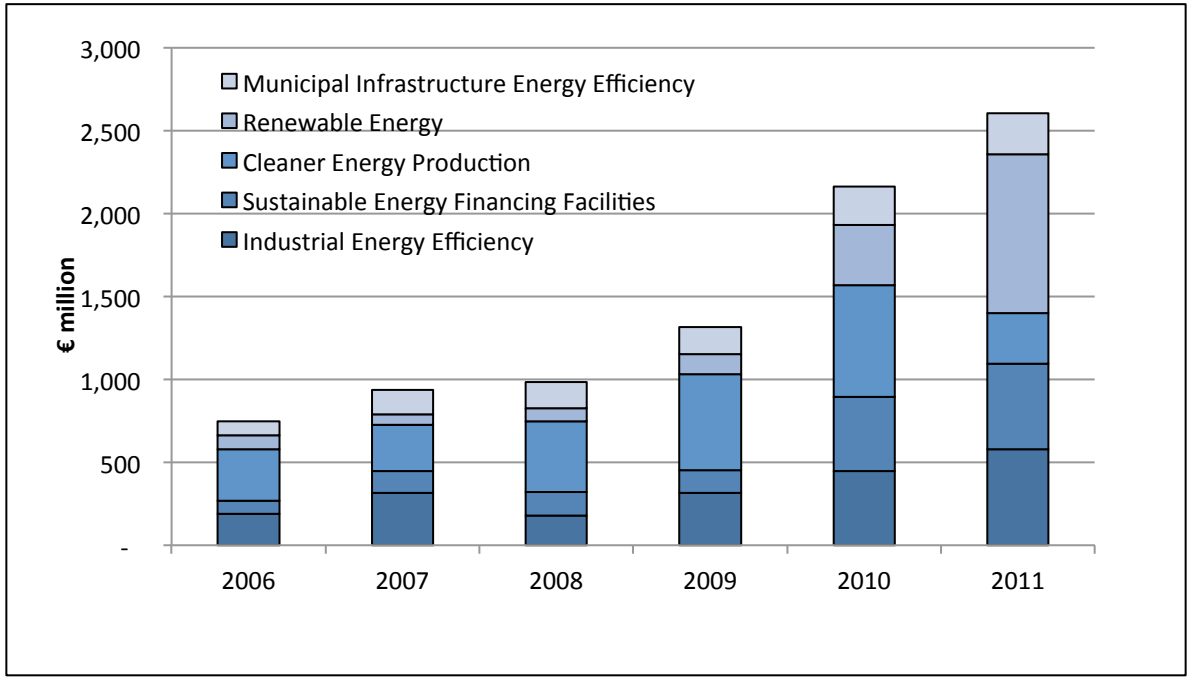
- SEI financing in renewable energy increased by a factor of 12 from less than €100 million per year during Phase 1 to close to €1 billion in 2011 alone.
- SEI financing in sustainable energy financing facilities increased by a factor of 6 from €81 million in 2006 to €518 million in 2011.
- SEI financing in industrial energy efficiency trebled from €188 million in 2006 to €578 million in 2011.
- The only area with no growth is power sector supply side energy efficiency reflecting decreased activity in fossil fuelled power generation.

2006 – 2011 (all projects)



EBRD CLIMATE FINANCE TRACK RECORD
CO_2 REDUCTION IMPACT

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- SEI activity from 2006 to 2011 is estimated to lead to a CO_2 annual emission reduction of **46.7 million** equivalent to the annual emissions of Serbia
- The largest estimated reductions are expected to be in electricity generation efficiency (25% of total estimate`) and industrial energy efficiency (19%).
- A significant share of estimated reductions is also expected to be generated by investments in renewable energy (14%).
- The bulk of emission reductions from the municipal infrastructure sector is expected from efficiency investments in district heating and public transport.

	ktonnes CO_2/y
Agribusiness EE	613
Building EE	78
Electric Power Distribution	1,807
Electric Power Generation	11,540
Electric Power Transmission	4,481
Industrial EE	8,760
Municipal Services/Waste/Water and Sewage	93
Municipal Services/Waste/Water and Sewage	35
Natural Resources	7,777
Public Transport EE	1,021
Renewable Energy	6,638
SEFFS	1,968
Steam/District Heating	1,057
Transport EE	794
Grand Total	**46,661**

PRIVATE CLIMATE FINANCE ANALYSIS

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Much discussion on climate finance is abstract with no link to specific projects, financing instruments and CO_2 reduction.

A typology of climate change mitigation projects is relevant as each project type tends to share similar features in terms of:

- set of private sector clients/counterparts often operating within a specific sector
- size of investment and in many cases financing plan structure
- technical features
- carbon emissions reduction patterns and volume
- need and rational for concessional climate finance
- policy issues and parameters for example in terms of low carbon policy or cost recovery

PRIVATE CLIMATE FINANCE
PRIVATE SECTOR SHARE

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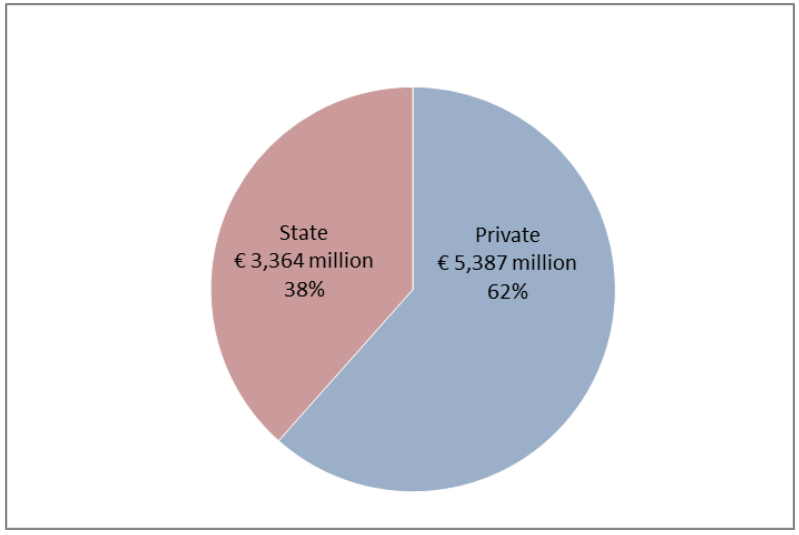
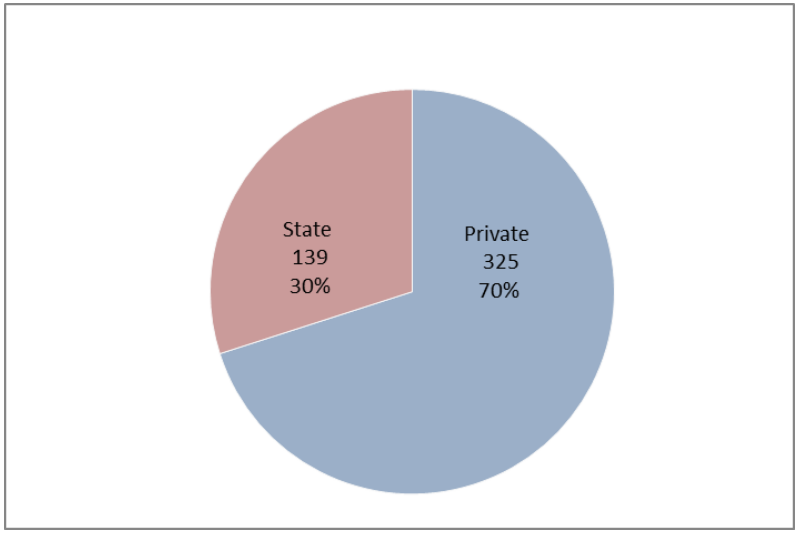
Reflecting the private sector development and transition focus of the EBRD, the majority of SEI activity has been in the private sector. Over Phases 1 and 2 EBRD private climate financing reached €5.4 billion accounting for 62% of total EBRD SEI financing for the period for 325 projects accounting for 70% of the total number of SEI operations.

% OF TOTAL SEI INVESTMENT BY INVESTMENT CLASS



% OF TOTAL SEI PROJECTS BY INVESTMENT CLASS



PRIVATE CLIMATE FINANCE
PRIVATE SECTOR SHARE BY ACTIVITY AREA

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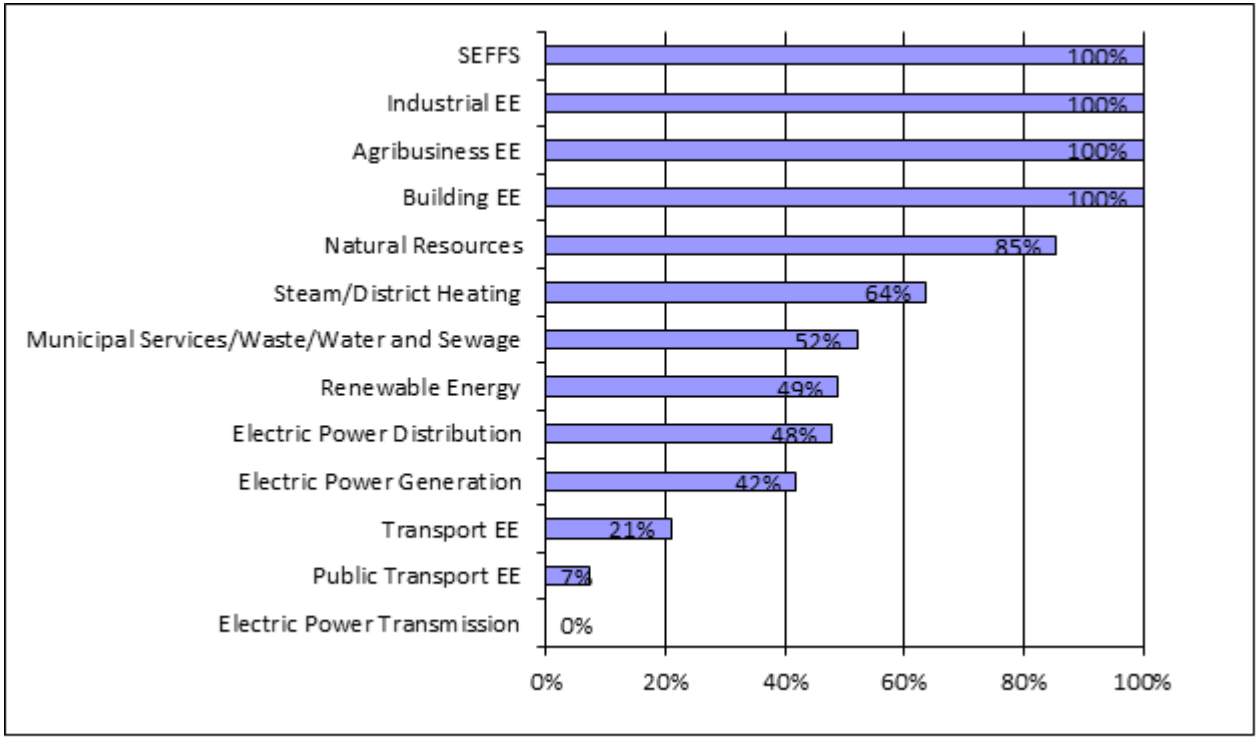
The private sector share varies across SEI areas ranging from 100% in industrial energy efficiency or Sustainable Energy Financing Facilities to 7% in public transport and no private financing in electric power transmission.

This reflects the nature of clients within each SEI area with the private sector dominant in the corporate and banking sectors and the public sector dominant in large infrastructure sectors.

Private Sector share of SEI financing volume by activity



PRIVATE CLIMATE FINANCE
RANGE OF PRIVATE SPONSORS

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SEI works with a broad range of private sector companies presented with examples by SEI activity area:

- Industrial manufacturing energy efficiency including large local private corporations (such as NLMK steel in Russia) or multinational corporations. (such as Lafarge cement).

- Agribusiness industrial energy efficiency including local agribusiness companies such as Astarta sugar in Ukraine

- Transport including private transport companies (such as Freight One in Russia or CMI in Kazakhstan, concessionaires such as Pulkovo Airport

- Sustainable energy financing facilities currently operating with a portfolio of around €1.5 billion through 70 banks including for example BCR in Romania, VUB in Slovakia, Erste Bank in Hungary, NLB Tutunska Bank in FYR Macedonia, Moldova Agroind Bank and Mega Bank in Ukraine

- Renewable energy including private wind energy projects in Bulgaria, Hungary, Poland and Romania with companies, private biomass energy companies such as Saturn and Konin in Poland and private renewable energy equity fund such as Crescent Clean Energy Fund

PRIVATE CLIMATE FINANCE
RANGE OF PRIVATE SPONSORS

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- Electric power generation energy efficiency with private utilities such as CAEPCo in Kazakhstan, AES Sogrinsk in Kazakhstan and Lukoil/TGK 8 in Russia
- Electric power transmission and distribution energy efficiency with private utilities such as SEDAS in Turkey, Telasi in Georgia and Electric Networks of Armenia
- Energy efficiency in natural resources sector including local energy companies such as Petrom in Romania and INA in Croatia, and gas flaring reduction projects with private companies such as Irkutsk Oil and Gas Company and Monolit in Russia
- District heating energy efficiency with private companies such as Dalkia and CAEPCo
- Water energy efficiency with private companies such as Aqualia.

PRIVATE CLIMATE FINANCE
PRIVATE CLIMATE FINANCE BY AREA

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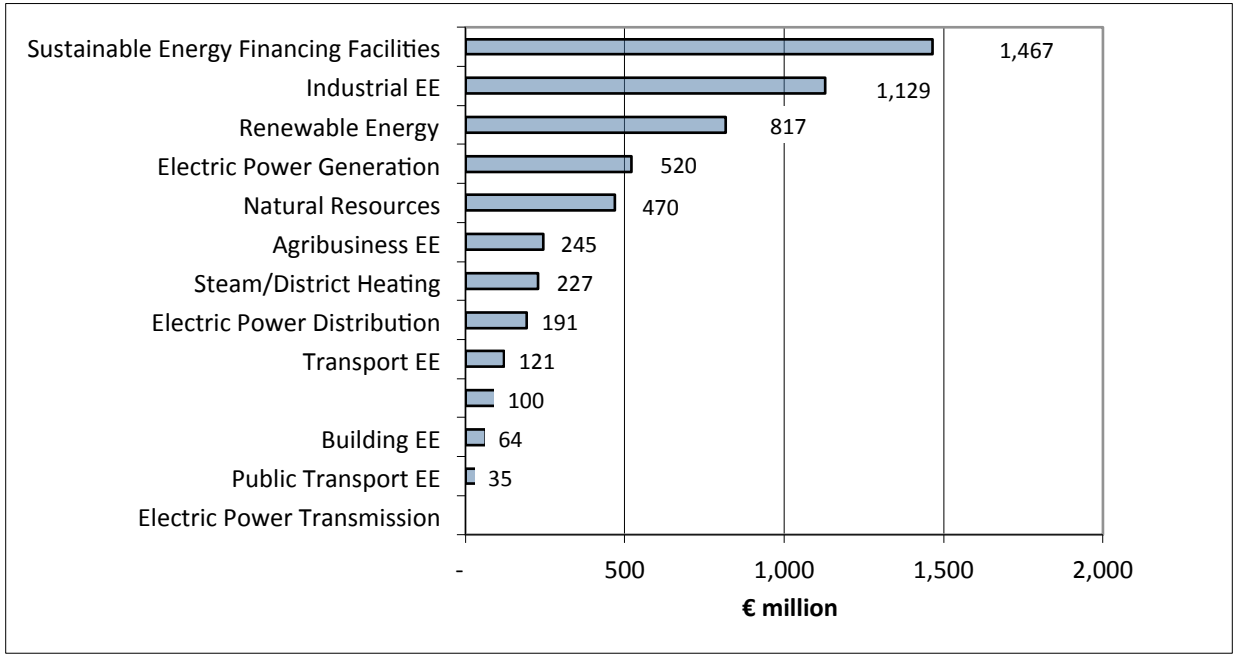
- The Sustainable Energy Financing Facilities and the Industrial Energy Efficiency have been the two largest SEI activity areas with respective SEI financing of €1.5 billion and €1.1 billion accounting for 27% and 21% of total EBRD SEI financing.
- Reflecting strong growth during SEI Phase 2, SEI renewable energy financing reached €817 million (15% of total EBRD SEI financing).
- Supply side energy efficiency including power generation and gas flaring reduction reached close to €1 billion.
- Lower private financing amounts in areas such as district heating or public transport reflect that most of the activity in these areas was in the public sector. However, most of this activity was financed on a sub-sovereign basis and in a number of cases involved private sector operators.

Private sector SEI investment in € million by area



PRIVATE CLIMATE FINANCE
PRODUCT STRUCTURE

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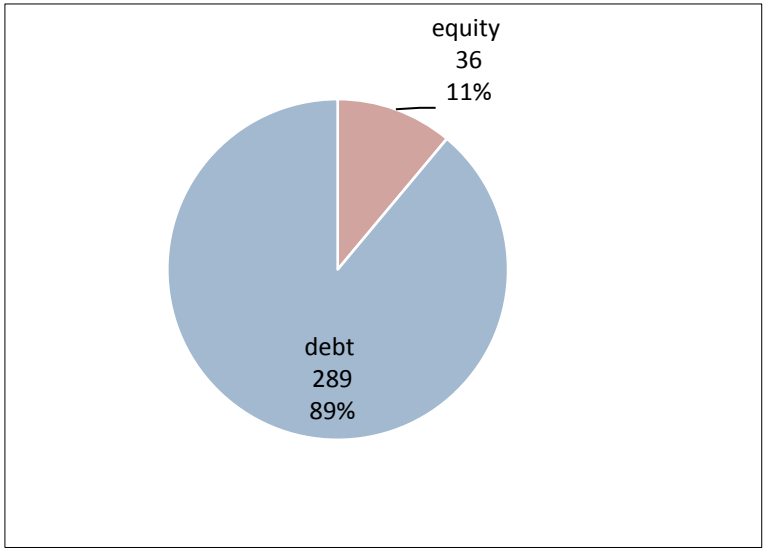
The majority of EBRD SEI financing was provided in the form of debt which accounted for 83% of SEI financing. Equity investments included:

- Direct equity investment in private renewable energy projects in Estonia, Hungary, Mongolia and Poland
- Direct equity investment in multi-project facility for private district heating and water network operating companies across EBRD region of operations
- Direct equity investment in corporate entity for industrial, building, power generation and transport energy efficiency
- Investment in equity funds for renewable energy

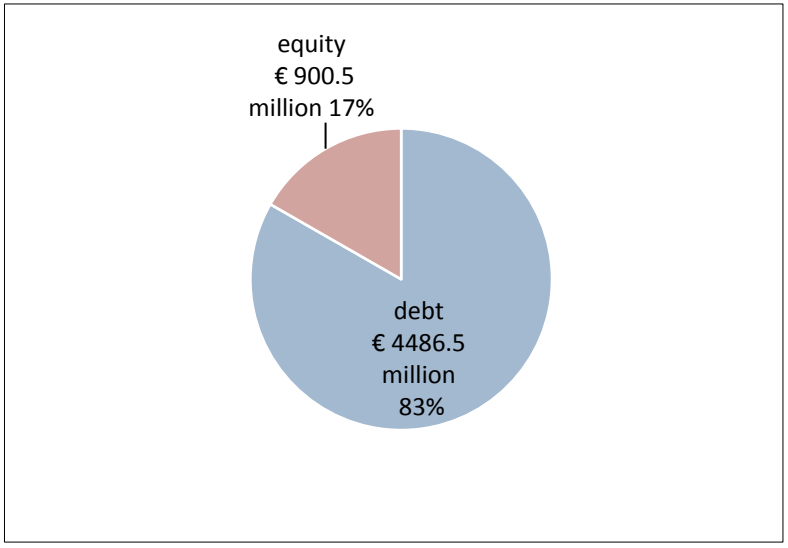
There was very limited use of guarantees. In the case of SEFFs this reflected the preference of local banks for debt rather guarantee.

Equity/debt share (2006-2011) only private

by number of projects



by SEI finance



PRIVATE CLIMATE FINANCE
PRIVATE FINANCING SOURCES

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The financing structure of EBRD SEI private sector transactions can involve the following financing sources:

- Equity and in-kind contribution from private sector
- Internal cash generation from private sector
- EBRD financing
- For larger projects, syndication from commercial banks and co-financing from bilateral/multilateral sources financing directly private sector (such as IFC)

Leverage is computed in terms of ratio of total project value divided by EBRD financing. Typically, the EBRD private project financing share will be about one third with a resulting financial leverage around 3:1. As the SEI activity is often a component of larger project the financial leverage of the SEI activity is assumed to be equal to the financial mobilisation at overall project level.

PRIVATE CLIMATE FINANCE
FINANCING SOURCES

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Private sector financing has been mobilised from a broad range of sources across projects including for example:

Commercial banks	Bank PKO and BRE Bank for **€65.7 million** for Saturn Biomass Project in Poland Wells Fargo Bank NA for **€52.6 million** for Vakifbank Mid-size Sustainable Energy DPR in Turkey Société Générale for **€15 million** for Victoria Group Sojaprotein energy efficiency project in Serbia
Institutional investors	Bond market for **€698 million** for RZD railways network energy efficiency project in Russia
Private operators	International Water (UK) for **€11.8 million** for Sofia Water System Concession Project
Private developer	Rotor Elektrik Uretim A.S. for **€83.9 mil**lion for Rotor Wind Farm in Turkey Iberdrola Renovables SA for **€225 million** for wind-farm development in Poland
Private corporate financing	NMLK contribution from own funds of **€365 million** for Novolipetsk steel mill energy efficiency project
IFI	International Finance Corporation for **€50 million** for Denizbank Mid-size Sustainable Energy DPR in Turkey

PRIVATE CLIMATE FINANCE
INVESTMENT LEVERAGE

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- The average financial leverage ratio of private sector SEI projects has been 3.3 for the period 2006 to 2011.
- Sustainable energy financing facilities (credit lines through banks) have the lowest leverage ratio reflecting the financing structure of these projects.
- Transport and natural resources energy efficiency projects have the highest leverage reflecting large average total investments requiring significant co-financing.
- Renewable energy projects (mostly wind excluding large hydro) have an above average leverage ratio of 4.9.

2006 - 2011 (only private projects)

SEI area	Project type	SEI ABV	EBRD ABV		Total project Value	Financial leverage
		€ million	€ million	% of EBRD ABV	€ million	(EBRD project value/EBRD ABV)
1	Industrial EE	1,129	1,956	58%	5,575	2.8
1	Agribusiness EE	245	794	31%	2,403	3.0
1	Transport EE	64	425	15%	3,177	7.5
1	Building EE	121	447	27%	1,662	3.7
2	SEFFS	1,467	1,595	92%	2,496	1.6
3	Electric Power Distribution	191	290	66%	1,351	4.7
3	Electric Power Generation	520	520	100%	1,264	2.4
3	Natural Resources	470	1,007	47%	4,960	4.9
3	Electric Power Transmission	-	-	0%	-	0.0
4	Renewable Energy (excl. large hydro)	773	948	82%	3,742	3.9
4	Renewable Energy (large hydro)	44	44	100%	108	2.5
5	Municipal Services/Waste/Water and Sewage	100	339	29%	869	2.6
5	Public Transport EE	35	94	38%	695	7.4
5	Steam/District Heating	227	252	90%	458	1.8
	Total	**5,387**	**8,713**	**62%**	**28,761**	**3.3**

CONCESSIONAL FINANCE
TECHNICAL COOPERATION

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Concessional finance has been part of the SEI strategy from its inception to address specific barriers to energy efficiency and renewable energy investment.

Concessional finance has been used in SEI for two main purposes:

- grants for technical assistance including energy audits and technical studies; and
- investment grants.

Technical cooperation (TC) is a fundamental and integrated part of EBRD's SEI business model. TC supports the scaling up of sustainable energy investments by :

- decreasing information barriers
- fostering policy dialogue
- building local institutional and organisational capacity
- supporting project preparation and implementation
- identifying sustainable energy investment opportunities

TECHNICAL COOPERATION
ACTIVITY RANGE

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Project related TC activities include:

- *energy audits* to identify both technical solutions and more importantly, the financial benefits, of investing in sustainable energy;
- *project support* to complex industrial, municipal, and transport sector energy efficiency, and renewable energy projects and programmes
- *marketing, structuring and implementation support* to Sustainable Energy Financing Facilities;
- *carbon market* development by generating cash flows for projects through funds, supporting clients in developing compliant transactions and improving the institutional framework for carbon markets.

TC activities not directly linked to projects but linked to overall sector or product development include:

- *market studies* to assess the potential for energy efficiency and renewable energy investments at the country level and to identify barriers and issues that need to be addressed;
- *policy dialogue* through working directly with governments and other stakeholders to provide specific advice on energy efficiency laws and renewable legislation and long-term planning, and to support the establishment of links with international climate finance programmes;
- *product development* to design innovative instruments building on policy dialogue activities and leading to new financing instruments such as the Direct Lending facilities.

TECHNICAL COOPERATION
FUNDING SOURCES

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SEI TC activities have increased rapidly with strong support from donors. SEI TC commitments increased from €5.3 million in 2006 to €25 million in 2009, and almost €43 million in 2011. SEI Donors include:

- Austria
- Bohunice International Decommissioning Support Fund (BIDSF)
- Canada
- Clean Technology Fund
- Czech Republic
- Denmark
- EBRD ETC Fund
- EBRD Mongolia Cooperation Fund
- EBRD SEMED Fund
- EBRD Shareholder Special Fund
- EBRD Western Balkans Fund
- Eastern Europe Energy Efficiency and Environmental Partnership (E5P)
- Finland
- France
- Germany
- Global Environment Facility (GEF)
- Greece
- Italy
- Japan
- Kozloduy International Decommissioning Support Fund (KIDSF)
- Luxembourg
- Northern Dimension Environmental Partnership (NDEP)
- Netherlands
- Neighbourhood Investment Facility (NIF)
- Norway
- Portugal
- Slovakia
- Spain
- Sweden
- Switzerland
- Taipei China
- UK
- USA
- World Bank

PROJECT RELATED TECHNICAL COOPERATION
DISTRIBUTION BY SEI ACTIVITY AREA

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Technical cooperation is mainly used in connection with the SEFFs to build capacity in local partner banks, to support end-users in identifying sustainable energy investment opportunities, and to promote sustainable energy investments through public awareness raising

Project related TC by SEI activity area

	SEI I		SEI II	
Technical cooperation	**TC (€ in million)**	**%**	**TC (€ in million)**	**%**
TC related to industrial EE	0	2%	3	6%
of which private	*0*	*2%*	*2*	*6%*
TC related to SEFFs	17	67%	31	57%
of which private	*17*	*95%*	*31*	*85%*
TC related to cleaner energy production	1	4%	4	7%
of which private	*0*	*0%*	*1*	*2%*
TC related to renewable energy	0	0%	5	10%
of which private	*0*	*1%*	*2*	*5%*
TC related to municipal infrastructure EE	7	27%	11	21%
of which private	*0*	*2%*	*1*	*2%*
Total TC	**25**	**100%**	**55**	**100%**
of which private	***17***	***100%***	***36***	***100%***

LEVERAGE DEFINITION
TECHNICAL COOPERATION

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TC leverage is computed in three different ways:

1. TC leverage on EBRD SEI finance: ratio of EBRD SEI financing from TC supported projects divided by project-related TC value.

2. TC leverage on SEI project finance: ratio of SEI project value derived from TC supported projects divided by project-related TC value.

3. TC leverage on total project value: ratio of total project value from TC supported projects divided by project-related TC value.

TECHNICAL COOPERATION
TC-INVESTMENT LEVERAGE ANALYSIS

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TC leverage by SEI activity area **SEI (2006 – 2011)**

Business area	Total		TC impact leverage (SEI finance)	TC impact leverage (SEI project)	TC impact leverage (TPV)
	TC (€ in million)	%			
Industrial EE	4	5%	1:278	1:1077	1:2010
of which private	*2*	*5%*	1:340	1:1321	1:2762
SEFF	47	60%	1:45	1:83	1:83
of which private	*47*	*88%*	1:45	1:83	1:83
RE	5	6%	1:71.7	1:198	1:210
of which private	*1*	*1%*	1:60	1:132	1:172
Cleaner energy production	5	7%	1:189	1:458	1:638
of which private	*2*	*4%*	1:454	1:1330	1:2108
MEI	18	23%	1:29.4	1:92	1:103
of which private	*1*	*2%*	1:20	1:96	1:100
Total SEI	**79**	**100%**	1:80	1:232	1:341
of which private	***54***	***100%***	1:97	1:288	1:496

NON-TC CONCESSIONAL FINANCE RATIONALE

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The financing approach used by the SEI includes, where necessary, selective and smart use of non-TC to address specific barriers and market failures. In this context, non-TC can:

- mitigate perceived risks
- provide tenor extensions
- bridge capital gaps
- mitigate technology risks
- provide risk cushions
- reduce costs
- be used as payment performance fees to banks

NON-TC CONCESSIONAL FINANCE
PRINCIPLES

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While the vast majority of SEI projects are financed without non-TC (90%), this type of finance is expected to continue to play a significant role in supporting projects, especially in early transition countries and e.g. in adaptation projects. The use of non-TC is considered under the following principles:

- *Subsidiarity:* use of investment grants should be focused on transition objectives that cannot be achieved with market-conforming instruments alone.
- *Leverage:* the grant should be used to support a process of reform or behaviour change on the part of the client that promotes agreed transition objectives.
- *Sustainability:* the grant should address impediments to projects that are expected to become financially sustainable (without such support) over time.
- Consistency*:* the grant should encourage resource allocation consistent with longer term market forces.
- *Focus:* the grant should be targeted specifically at the underlying problem.
- *Economy:* the grant should be sufficient but not larger than necessary to achieve its objectives, established e.g., through cost-benefit analysis.

NON-TC CONCESSIONAL FINANCE
DISTRIBUTION BY SEI ACTIVITY AREA

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The SEFFs use the bulk of non-TC

Non-TC has doubled between SEI phase I and SEI phase II, reflecting the significant expansion of the SEFFs

Non-TC by SEI activity area

	SEI I		SEI II	
Non-TC per business area	**Non-TC (€ in million)**	**%**	**Non-TC (€ in million)**	**%**
Non-TC related to industrial EE	0	0%	1	1%
of which private	*0*	*0%*	*1*	*1%*
Non-TC related to SEFFs	45	94%	90	68%
of which private	*45*	*100%*	*90*	*92%*
Non-TC related to cleaner energy production	0	0%	0	0%
of which private	*0*	*0%*	*0*	*0%*
Non-TC related to RE	0	0%	4	3%
of which private	*0*	*0%*	*4*	*4%*
Non-TC related to municipal infrastructure EE	3	6%	37	28%
of which private	*0*	*0%*	*3*	*4%*
Total TC	**48**	**100%**	**131**	**100%**
of which private	45	100%	98	100%

TECHNICAL COOPERATION
NON-TC-INVESTMENT LEVERAGE ANALYSIS

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Non-TC leverage by SEI activity area **SEI (2006 - 2011)**

Business area	Total		Non-TC impact leverage (SEI finance)	Non-TC impact leverage (SEI project)	Non-TC impact leverage (TPV)
	Non-TC (€ in million)	%			
Industrial EE	1	1%	1:15.4	1:22	1:117.7
of which private	*1*	*1%*	1:15.4	1:22	1:118
SEFF	135	75%	1:3.7	1:6.3	1:6.3
of which private	*135*	*94%*	1:3.7	1:6.3	1:6.3
RE	0	0%	1:4.9	1:5.9	1:5.9
of which private	*0*	*0%*	1:4.9	1:5.9	1:5.9
Cleaner energy production	4	2%	0	0	0
of which private	*4*	*3%*	0	0	0
MEI	40	22%	1:0.7	1:1.8	1:4
of which private	*3*	*2%*	1:5.7	1:10	1:10
Total SEI	**180**	**100%**	1:3.2	1:5.5	1:6.5
of which private	143	100%	1:3.8	1:6.5	1:7

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PROJECT EXAMPLES

- INDUSTRIAL ENERGY EFFICIENCY
- RENEWABLE ENERGY
- SUSTAINABLE ENERGY FINANCE FACILITIES
- SUSTAINABLE TRANSPORT
- SUPPLY SIDE EFFICIENCY

INDUSTRIAL ENERGY EFFICIENCY
IRON AND STEEL: NLMK (RUSSIA)

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PROJECT

DESCRIPTION

150 MW combined heat and power plant using waste gas from blast furnaces at the plant in Novolipetsk

FINANCIAL STRUCTURE

EBRD	€ 100 million
of which SEI component	*€ 100 million*
Syndicated B loan UniCredit	€ 25 million
NLMK	€ 365 million
Total project value	€ 490 million

TECHNICAL ASSISTANCE

Energy assessment at NLMK's facility to compare energy performance against EU benchmarks, confirm achievable energy savings and develop project implementation schedule

IMPACT

ESTIMATED ENERGY SAVINGS

640 ktoe per year

ESTIMATED CO_2 REDUCTION

1,500 ktonnes CO_2 per year

FINANCIAL LEVERAGE

4.9 : 1 Total investment: EBRD finance

INDUSTRIAL ENERGY EFFICIENCY
ENERGY EFFICIENCY IN FOOD PROCESSING: ASTARTA (UKRAINE)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Modernisation of sugar production facilities through process upgrade and rehabilitation of energy assets

FINANCIAL STRUCTURE

EBRD (2008)	€ 14 million
of which SEI component	€ *11 million*
EBRD (2009)	€ 14 million
of which SEI component	€ *3 million*
Total project value	€ 28 million

TECHNICAL ASSISTANCE

Energy audits at Astarta's facilities to assess energy saving investment opportunities

CARBON FINANCE

JI transaction finalised between the company and EBRD/EIB Multilateral Carbon Credit Fund

IMPACT

ESTIMATED ENERGY SAVINGS

25 ktoe per year

ESTIMATED CO_2 REDUCTIONS

60 ktonnes CO_2 per year

FINANCIAL LEVERAGE

1 : 1 Total investment: EBRD finance

INDUSTRIAL ENERGY EFFICIENCY
BIOMASS USE IN FOOD PROCESSING: VICTORIA GROUP (SERBIA)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Working capital loan for financing soy and sunflower seed crushing activities and installation of biomass boilers to utilise agricultural residues

FINANCIAL STRUCTURE

EBRD € 45 million
of which SEI component € *5 million*
Unfunded risk participation € 15 million
Total project value € 60 million

IMPACT

ESTIMATED ENERGY SAVINGS

12.5 ktoe per year

ESTIMATED CO_2 REDUCTIONS

31 ktonnes CO_2 per year

FINANCIAL LEVERAGE

1.3: 1 Total investment: EBRD finance

RENEWABLE ENERGY
ROTOR WIND FARM (TURKEY)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Development and construction of 135 MW onshore independent wind power project located in Osmaniye

FINANCIAL STRUCTURE

EBRD	€ 45 million
of which SEI component	€ *45 million*
IFC loan	€ 55 million
EIB loan	€ 30 million
Rotor Electric Uretim	€ 84 million
Total project value	€ 214 million

IMPACT

ESTIMATED ENERGY SAVINGS

91.7 ktoe per year

ESTIMATED CO_2 REDUCTIONS

250 ktonnes CO_2 per year

FINANCIAL LEVERAGE

4.8 : 1 Total investment: EBRD finance

RENEWABLE ENERGY
POLSKA WIND (POLAND)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Capital increase for minority equity stake in IBR Polska, set up in 2001 to develop, construct and operate wind farm projects in Poland

FINANCIAL STRUCTURE

EBRD € 75 million
of which SEI component € *75 million*
Co-finance Iberdrola Renovables € 225 million
Total project value € 300 million

IMPACT

ESTIMATED ENERGY SAVINGS

509.2 ktoe per year

ESTIMATED CO_2 REDUCTIONS

765 ktonnes CO_2 per year

FINANCIAL LEVERAGE

4: 1 Total investment: EBRD finance

RENEWABLE ENERGY
BIOMASS USE IN INDUSTRY: SATURN (POLAND)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Modernisation of existing combined heat and power facility and conversion of existing coal boiler into biofuel boiler with 80 MWth capacity

FINANCIAL STRUCTURE

EBRD	€ 5 million
of which SEI component	€ *35 million*
BRE Bank loan	€ 39 million
Kasa Opieki loan	€ 33 million
Polish Energy Partners	€ 26 million
Total project value	€ 133 million

IMPACT

ESTIMATED ENERGY SAVINGS

49 ktoe per year

ESTIMATED CO_2 REDUCTION

142 ktonnes CO_2 per year

FINANCIAL LEVERAGE

3.8 : 1 Total investment: EBRD finance

SUSTAINABLE ENERGY FINANCE FACILITIES
MID-SIZED SUSTAINABLE ENERGY FINANCE (TURKEY)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Long-term financing facility for sustainable energy investments through EBRD financing to Denizbank who will on-lend funds to sub-borrowers to finance sustainable energy investments on market terms

FINANCIAL STRUCTURE

EBRD	€	75 million
of which SEI component	€	*75 million*
DEG	€	25 million
IFC	€	50 million
WestLB	€	75 million
EIB	€	75 million
Total project value		€ 300 million

TECHNICAL ASSISTANCE

Implementation support to partner banks and sub-borrowers. TC support for capacity building and raising standards of sub-project appraisal in commercial banks. In addition, TC support for development of voluntary carbon market by assisting sub-borrowers to structure and register their carbon transactions

IMPACT

ESTIMATED ENERGY SAVINGS

42 ktoe per year

ESTIMATED CO_2 REDUCTIONS

150 ktonnes CO_2 per year

FINANCIAL LEVERAGE

4 : 1 Total investment: EBRD finance

SUSTAINABLE TRANSPORT
RAILWAYS ENERGY EFFICIENCY: RZD (RUSSIA)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Finance part of RZD's Energy Efficiency and Railway Stations Modernisation Programmes to improve energy efficiency of railway facilities such as railway stations, depots, office buildings and operational areas

FINANCIAL STRUCTURE

EBRD	€ 150 million
of which SEI component	*€ 150 million*
Bond institutional investors	€ 700 million
Total project value	€ 850 million

TECHNICAL ASSISTANCE

€ 1.2 million to undertake energy audits and support RZD during project implementation including introduction of innovative procurement strategies and development of ESCO models

IMPACT

ESTIMATED ENERGY SAVINGS

229 ktoe per year

ESTIMATED CO_2 REDUCTIONS

500 ktonnes CO_2 per year

FINANCIAL LEVERAGE

5.7: 1 Total investment: EBRD finance

SUPPLY SIDE EFFICIENCY
AVOIDED GAS FLARING: IRKUTSK OIL AND GAS COMPANY (RUSSIA)

European Bank for Reconstruction and Development

PROJECT

DESCRIPTION

Financing of gas re-injection project at the Yarakta oil field

FINANCIAL STRUCTURE

EBRD € 158 million
of which equity € 68 million
of which SEI component € 68 million
of which debt € 90 million
of which SEI component € 45 million
Sberbank loan € 35 million
Total project value € 193 million

CARBON FINANCE

JI transaction finalised between the company and EBRD/EIB Multilateral Carbon Credit Fund

IMPACT

ESTIMATED ENERGY SAVINGS

130 ktoe per year

ESTIMATED CO_2 REDUCTIONS

300 ktonnes CO_2 per year

FINANCIAL LEVERAGE

1.2 : 1 Total investment: EBRD finance

SUPPLY SIDE EFFICIENCY
INA (CROATIA)

European Bank
for Reconstruction and Development

PROJECT

DESCRIPTION

Modernisation of refineries achieving compliance with EU environmental standards and producing EU quality products

FINANCIAL STRUCTURE

EBRD € 150 million
of which SEI component € *68 million*
Syndicated B loan Cordiant Capital € 10 million
Parallel loan Cordiant Capital € 50 million
Co-finance INA € 284 million
Total project value € 494 million

TECHNICAL ASSISTANCE

An energy audit was performed under the Energy Efficiency Programme for the corporate sector

IMPACT

ESTIMATED ENERGY SAVINGS

673 ktoe per year

ESTIMATED CO_2 REDUCTION

1,064 ktonnes CO_2 per year

FINANCIAL LEVERAGE

3.3 : 1 Total investment: EBRD finance

SUPPLY SIDE EFFICIENCY
ENERGY EFFICIENCY IN DISTRICT HEATING: CAEPCo (KAZAKHSTAN)

European Bank for Reconstruction and Development

PROJECT

DESCRIPTION

Equity investment in CAEPCo: Proceeds will be used for investment programme comprising upgrade and rehabilitation of generation and distribution assets to improve efficiency, reliability and performance

FINANCIAL STRUCTURE

EBRD € 43 million
of which SEI component € *43 million*
Co-finance CAEPCo € 228 million
Total project value € 271 million

TECHNICAL ASSISTANCE

Supporting Kazakh regulator on distribution tariffs benchmarking to improve existing tariff methodology in line with international practice

IMPACT

ESTIMATED ENERGY SAVINGS

263 ktoe per year

ESTIMATED CO_2 REDUCTIONS

1,200 ktonnes CO_2 per year

FINANCIAL LEVERAGE

6.3 : 1 Total investment: EBRD finance