



European Bank
for Reconstruction and Development



Sustainable Energy Financing Options: EBRD Turkey Offering 2009 – 2013

The background of the title slide features a grayscale image of a field with a large, circular, glowing orb in the center. Inside the orb, a small plant with three leaves is growing out of a mound of soil. The text is overlaid on this image in a bold, dark blue font.

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Outline

EBRD SEI in Turkey



The Turkish Energy Context



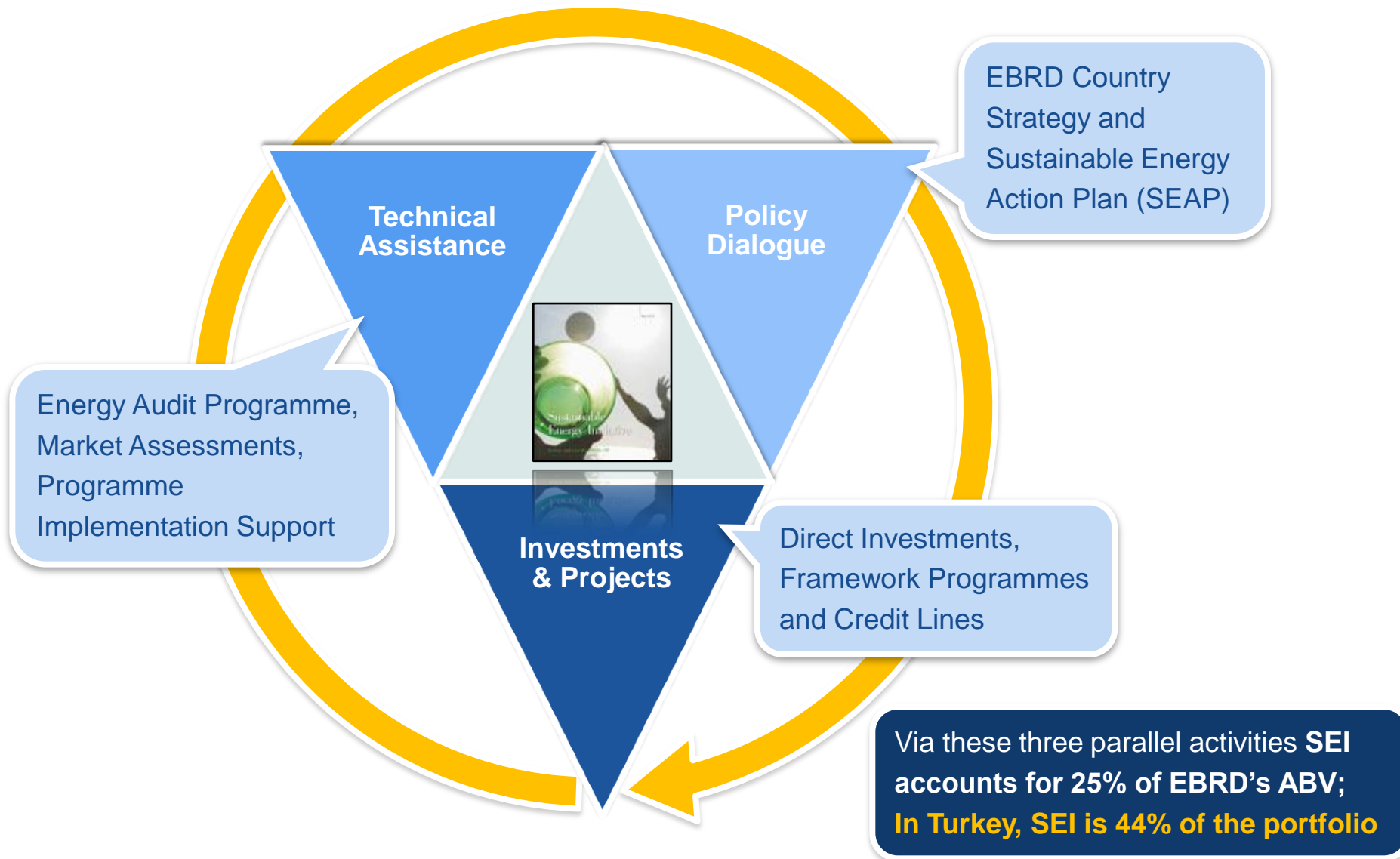
Results Up-to-date



Future Activities

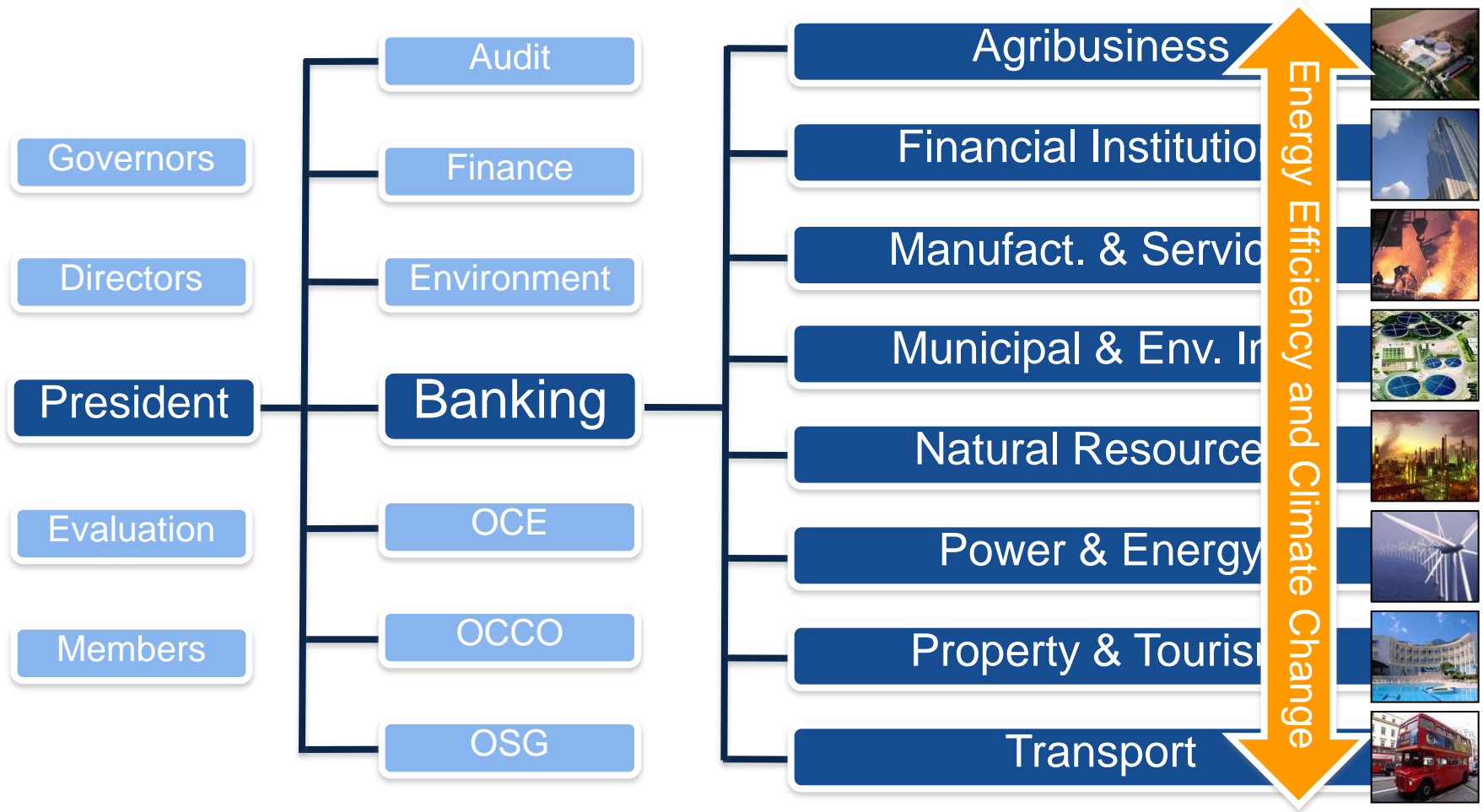
SEI Operational Strategy

A Successful Holistic Approach in Turkey



EBRD Organisational Structure:

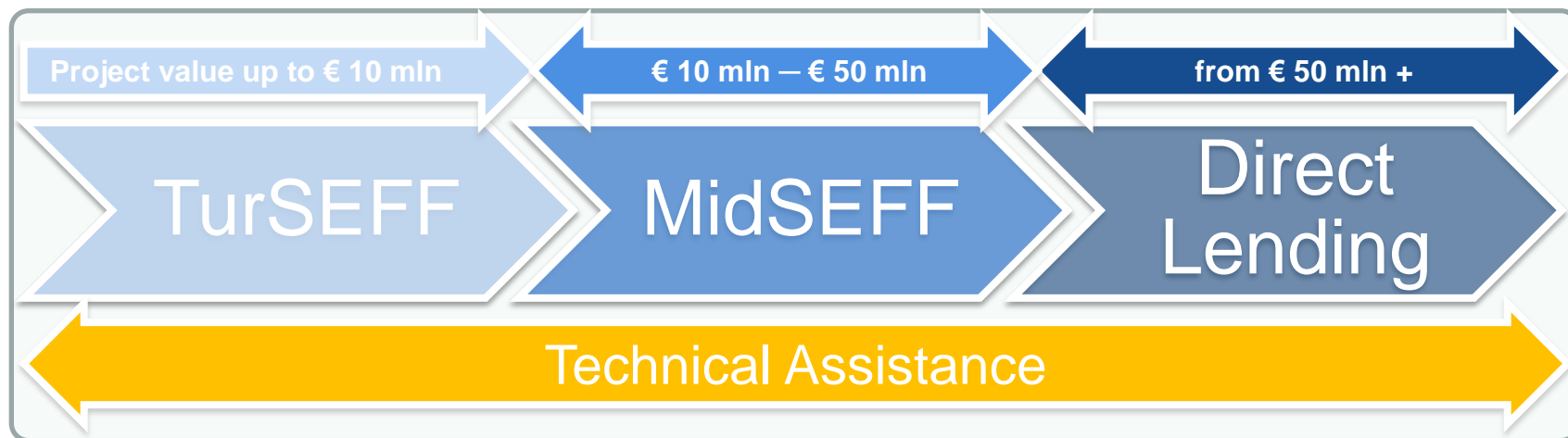
The Role of the Energy Efficiency and Climate Change team



* Non-exhaustive
EBRD organisational structure

EBRD in Turkey

Catalysing Private Sector Investment



- **EBRD in Turkey: € 2.6 billion since 2009**

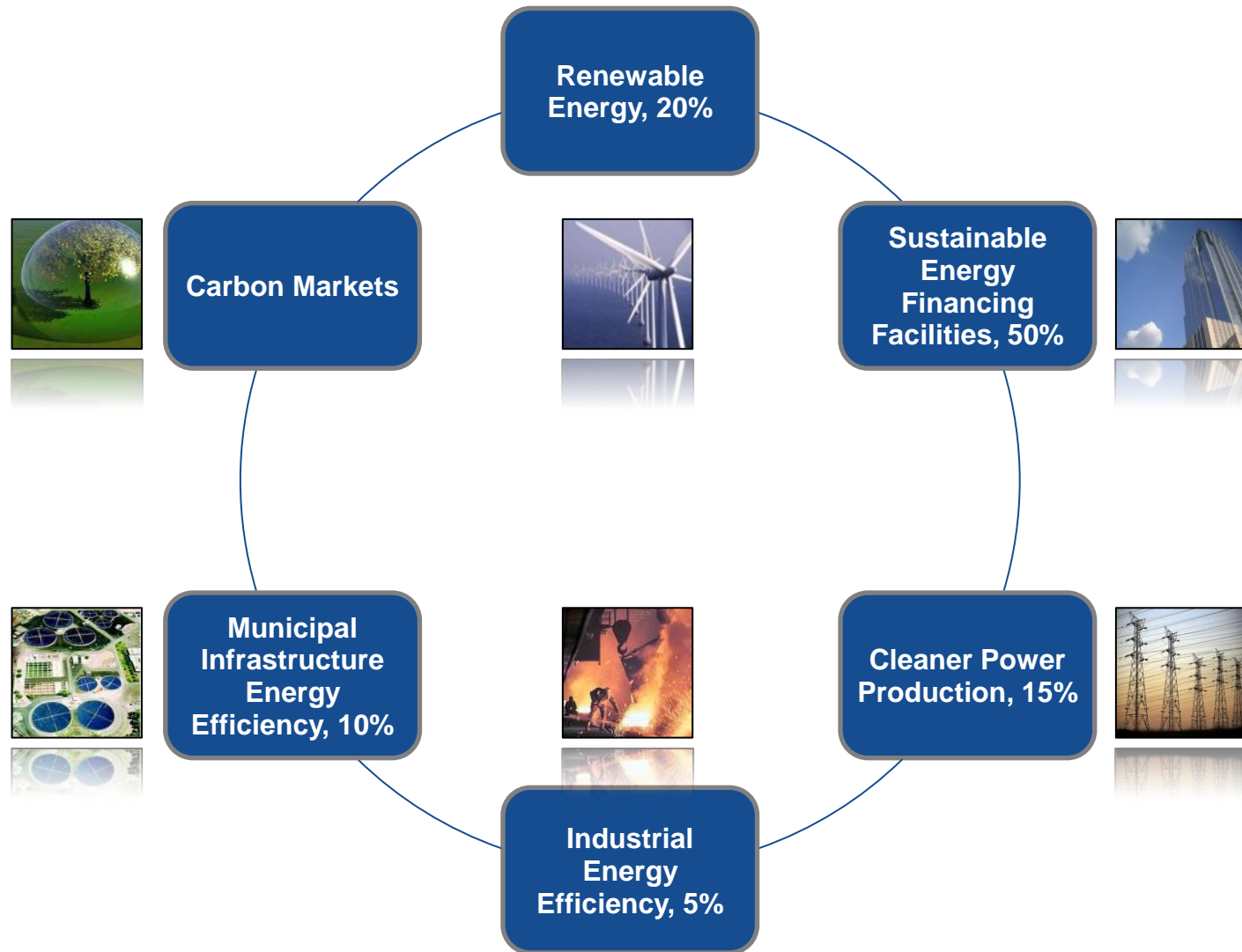
- **SEI in Turkey: € 1.2 billion in 4 years**

- GHG savings: 3.5 million tonnes of CO₂-eq/year or 1.3% of Turkey's emissions in 2009
- Primary energy savings: 1 million toe/year or 1% Turkey's annual primary energy supply

Turkey	2009	2010	2011	2012
EBRD ABV (mln €)	150	494	890	1,045
SEI ABV (mln €)	45	207	466	443
SEI ABV % of total	30%	42%	52%	42%
<i>Cumulative inv. (mln €)</i>	2,580			
<i>Cum. SEI inv. (mln €)</i>	1,161 (45%)			

EBRD's SEI Investments:

Sectoral breakdown and distribution in Turkey



EBRD Investments

LOANS

- Project finance loans
- Corporate loans with specified use of proceeds
- Tenor of 10-15 years
- Margin benchmarked to market
- Fixed rate and/or local currency possible
- EBRD can directly finance up to 35% of an enterprise's long term capital (or project costs for greenfield projects); additional funds mobilised through syndication

EQUITY

- EBRD equity stake typically below 20-25% (meaningful, but minority)
- Investment through capital increase
- Invest in Funds to address smaller projects or larger stakes
- Exit through IPO, trade sale or put/call agreement
- Political and regulatory risk mitigation

EBRD SEI in Turkey



The Turkish Energy Context



Results Up-to-date

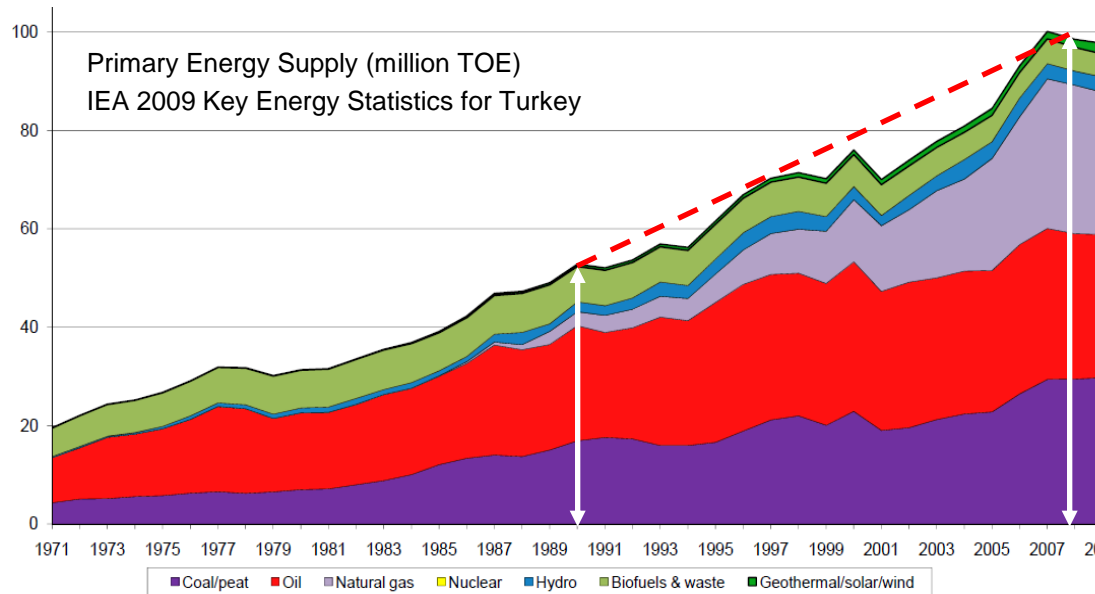


Future Activities

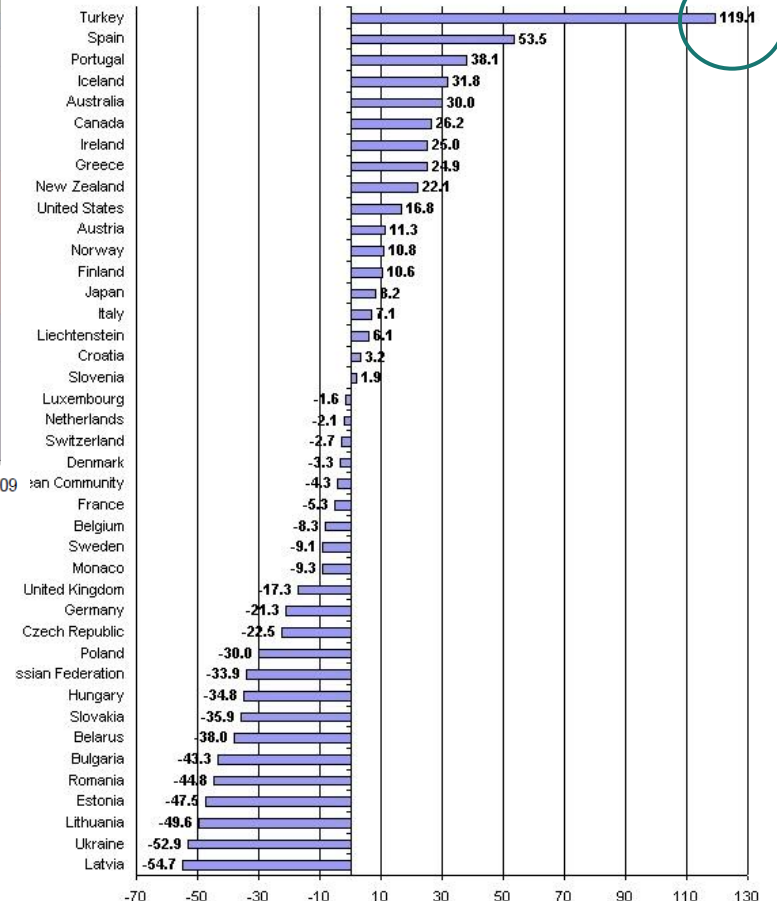
Turkish Energy Context

The Urgency to Move Away from Fossil Fuel Imports

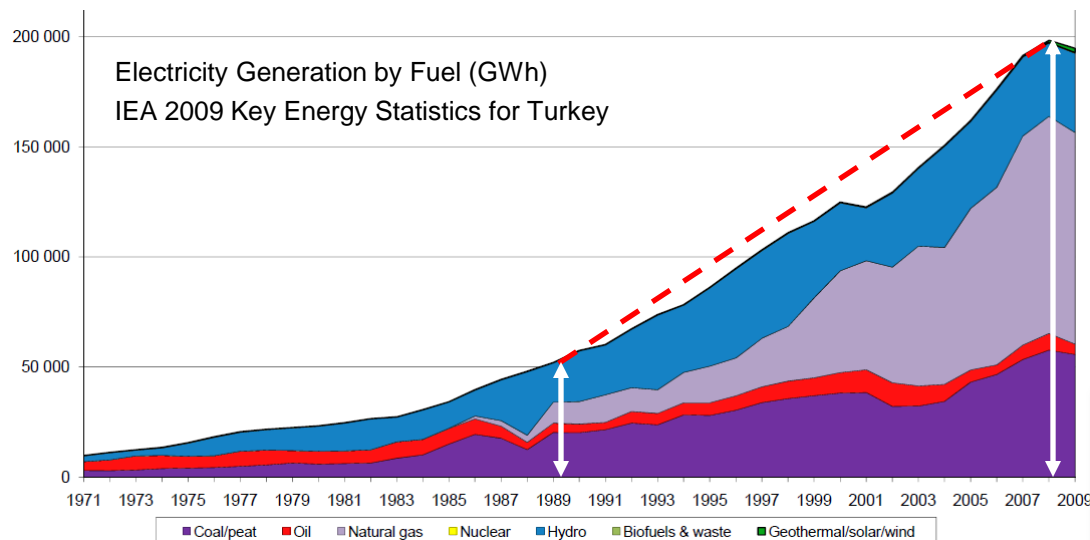
Primary Energy Supply (million TOE)
IEA 2009 Key Energy Statistics for Turkey



Changes in GHG emissions excluding LULUCF (%)



Electricity Generation by Fuel (GWh)
IEA 2009 Key Energy Statistics for Turkey



Electricity consumption expected to grow 6 – 7% p.a. over the next 10 years

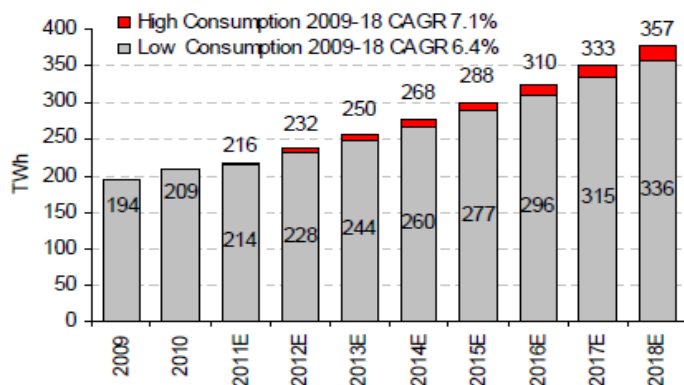
Current installed capacity dominated by thermal

Overview of the Turkish Energy Market: Strong Demand

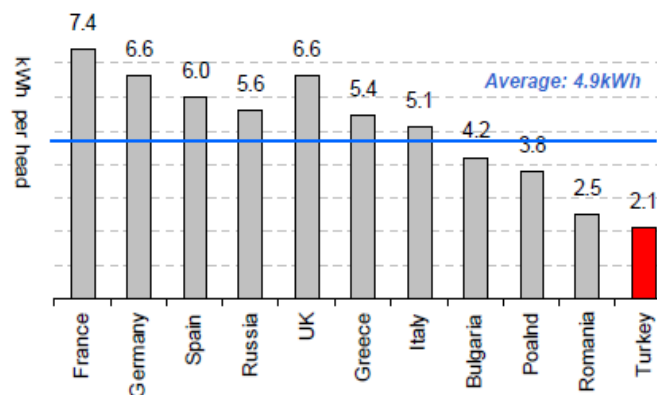
Electricity consumption is expected to grow at annual rates of around 6-7% over the next 10 years, exceeding long term estimates of 4-5% GDP growth.

Turkey's per capita consumption remains very low at 2.1 kWh, only a third of the EU average of 6.6 kWh

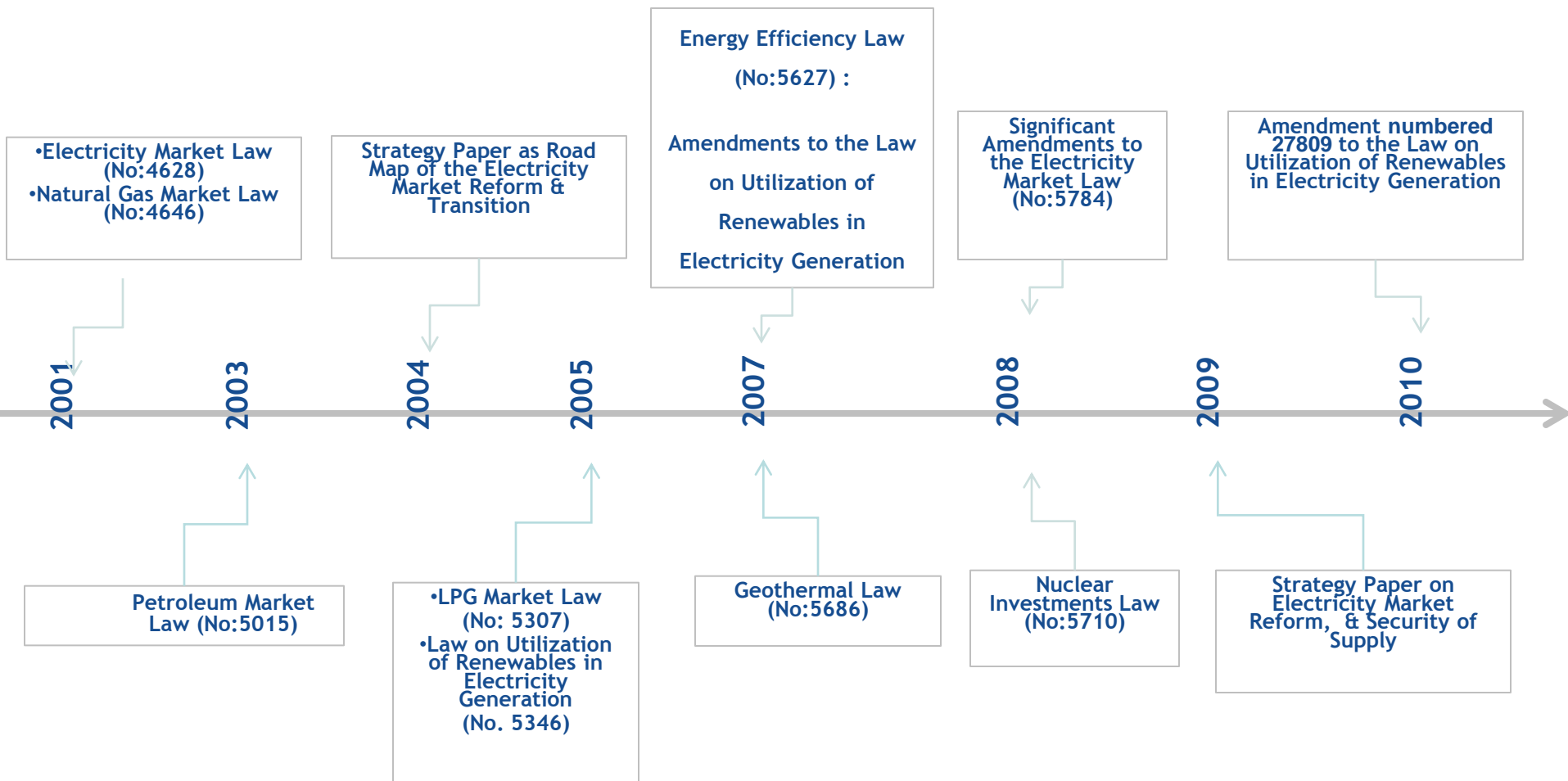
Consumption Scenarios



Annual per capita electricity consumption



Overview of the Turkish Energy Market: Steps to Unbundle and Privatize



EBRD SEI in Turkey



The Turkish Energy Context



Results Up-to-date



Future Activities

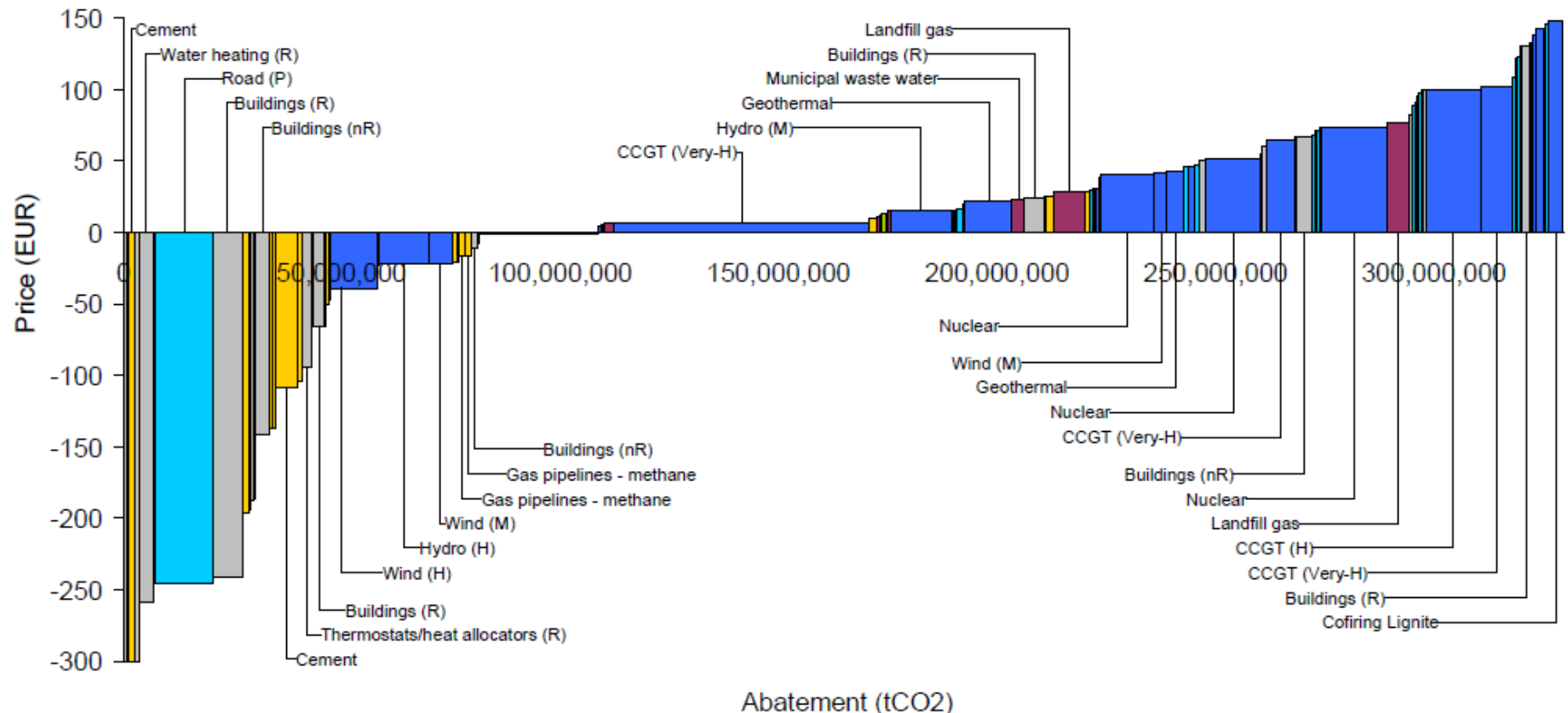
Mid-Term Opportunities and Challenges:

Pushing the envelop towards high Impact – less conventional sectors

Sector	Description	Ministries/ Institutions	Action
<i>Energy Efficiency</i>			
ESCO Market Potential	Preparatory work to assess the public and private sector ESCO market potential	MoENR, MoEnv	<i>Completed</i>
Glass recycling pilot project	Launch pilot project for glass recycling in 4 municipalities and develop a country-wide strategy for waste recycling	4 Municip., Private sect.	<i>Hiring consultants</i>
<i>Renewable Energy</i>			
Waste to Energy Scale-up	Market potential and financing approaches for waste to energy installations	MoENR, MoEnv, MoD	<i>Completed</i>
Renewable Energy Action Plan (REAP)	Develop a REAP along the lines of the EU REAPs	MoENR, MoEU	<i>To be launched</i>
<i>Climate Change</i>			
Carbon Emission Factor Modelling	Calculate, model and disseminate the grid emission factor of Turkey	MoENR, MoEnv	<i>To be launched</i>
National Appropriate Mitigation Actions (NAMA)	Develop sectoral NAMA plans and portfolio of potential projects for Turkey	MoEnv, MoENR	<i>To be launched</i>

Carbon Abatement Curves:

Clean and Profitable Investments in Energy Efficiency



Notes: Categories of Power generation are labelled L (Low), M (Medium), H (High) and Very-H (Very-high). Transport is divided between P (Passenger) and F (Freight). Buildings are R (Residential) or nR (non-Residential)

EBRD Direct Investments

Financing Wind Energy in Turkey

TurSEFF

MidSEFF

Direct Lending

Rotor WEPP – 135 MW 2009, Osmaniye

Borrower

Rotor Elektrik Uretim
A.S.

Sponsor

Zorlu Enerji

Lenders

- EBRD: €45 mln
- IFC: €55 mln
- EIB: €30 mln

Tenor

- IFC, EBRD: 12 yrs +
1yr grace
- EIB: 10 yrs + 1 yr grace

Structure

- Project finance
- EIB loan guarantees
from HSBC Bank plc
and DenizBank A.S.

Bares WEPP – 142 MW 2012, Balıkesir

Borrower

Enerjisa Enerji Uretim
A.S.

Sponsors

- Sabanci Holding A.S.
- Verbund International
GmbH

Lenders

- EBRD: €100 mln
- BAWAG PSK: €35 mln

Tenor

- EBRD: 12 yrs
- BAWAG PSK: 12 yrs

Sustainable Energy Financing Facilities:

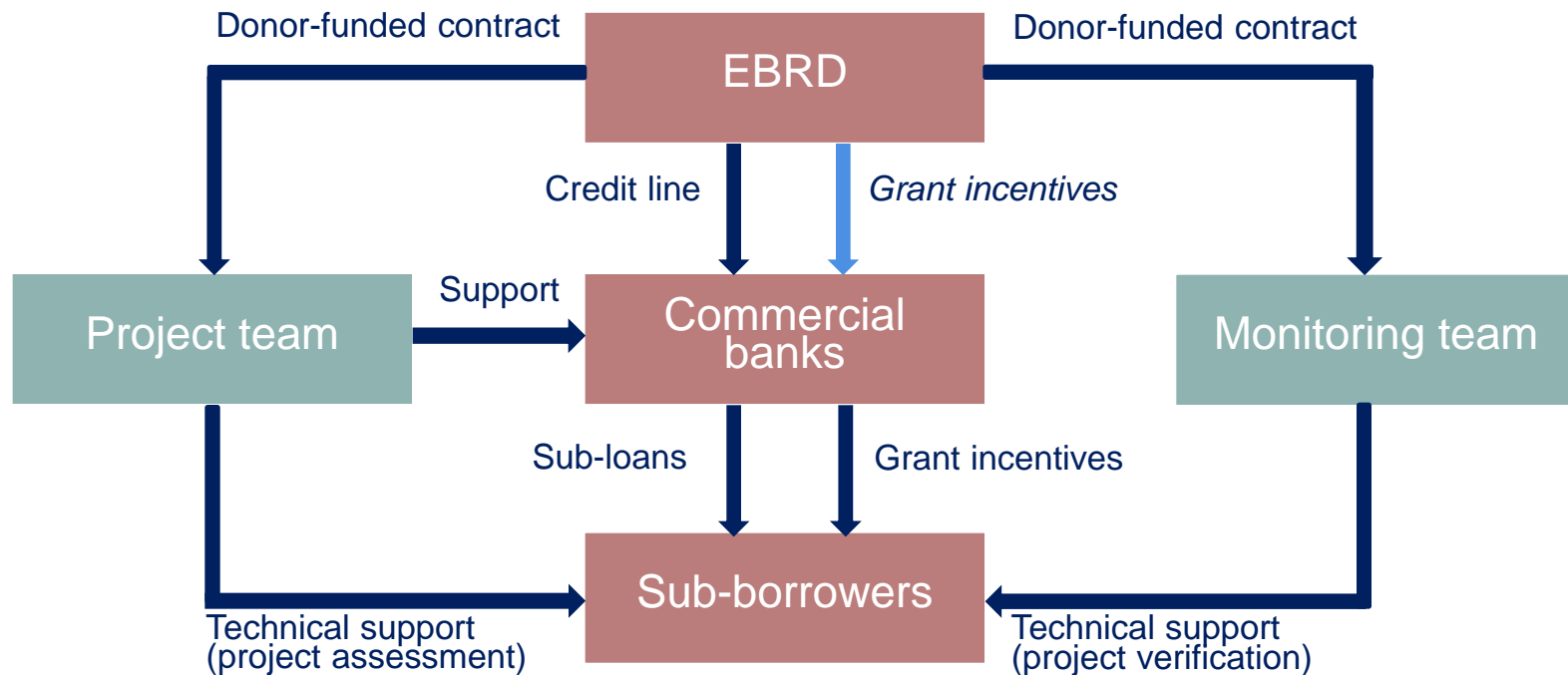
SEFFs - leveraging local banks

TurSEFF

MidSEFF

Direct Lending

SEFFs are effective in reaching a wide range of industrial and residential clients



Mid-Size SEFF

Scaling-up renewables

TurSEFF

MidSEFF

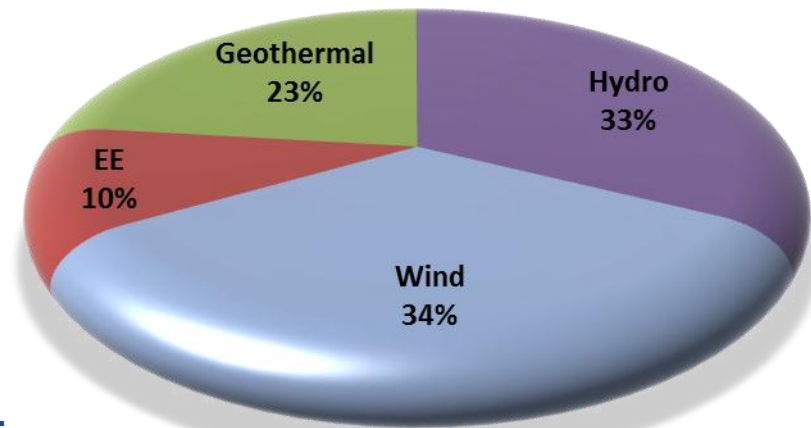
Direct Lending



EUR 1 billion facility, commercially structured through **DPR** (together with EIB), launched in 2011 for **EUR 10 – 50 million** sub-investments in:

- Renewable Energy
- Energy Efficiency
- Waste-to-Energy

+ EU environmental & social standards
+ Support in Carbon Market development



Loan Amount, (EUR mln)	Total Investment (EUR million)	Number of Sub-Projects	RE generated (TWh/year)	Annual GHG savings (tonnes CO2eq/year)	Avoided oil imports (EUR mln/year)
371	521	20	1.6	902,000	200

Turkey private sector SEFF

Small scale EE and RE investments

TurSEFF

MidSEFF

Direct Lending



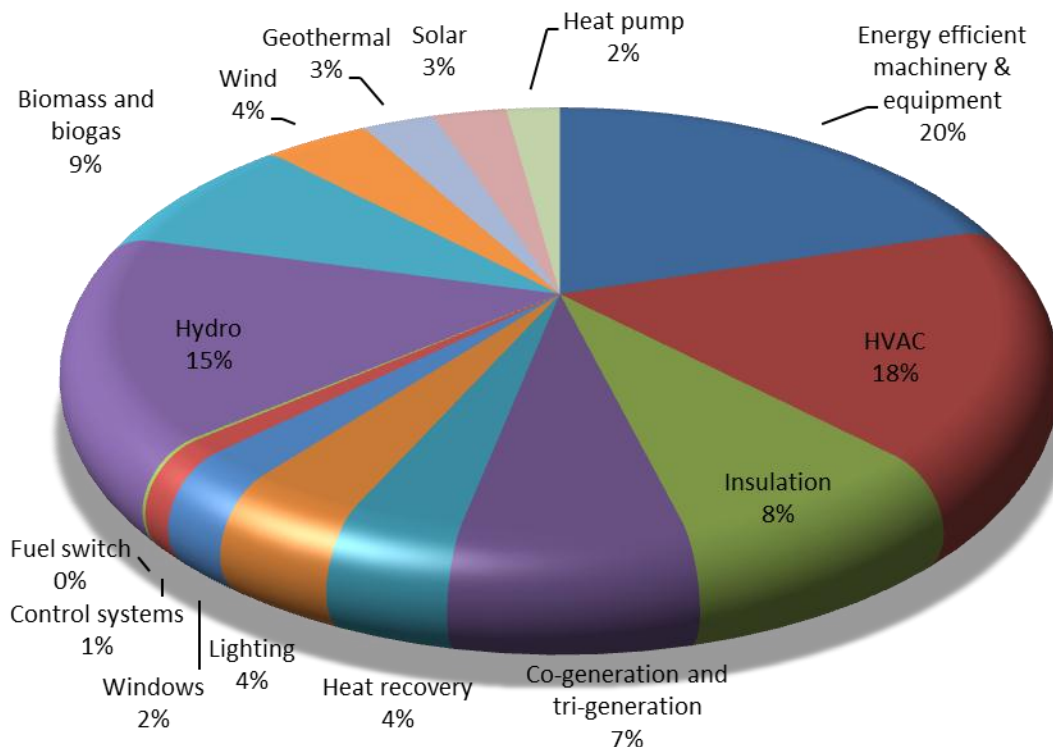
USD 285 million facility (USD 50 million from the Clean Technology Fund) launched in 2010 for small investments (below \$5 million) in:

- SME Energy Efficiency
- Commercial EE
- Residential EE
- Small Scale Renewables

Loan Breakdown by Technology:

54% Energy Efficiency

46% Renewable Energy



Loan Amount, (USD mln)	Total Investment (USD million)	Number of Sub-Projects	Primary energy savings (toe/year)	Annual GHG savings (tonnes CO2eq/year)	Avoided oil imports (USD mln/year)
241	463	347	285,000	813,000	179

EBRD SEI in Turkey



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Future Activities

Mid-Term Opportunities and Challenges:

Pushing the envelop towards high Impact – less conventional sectors

TurSEFF II (1Q2013)

- Similar to the first phase and driven by the local banks' experience
- No concessional funding; TC supported by EU IPA / CTF
- USD 150 million, possibly in collaboration with other development agencies

Residential SEFF (3Q2013)

- Driven by 1) the market need for buildings / residential EE; 2) The Turkish Government interest in the sector; 3) potential availability of CTF funds;
- Proposed within the Turkey CTF Stage II EBRD Investment Plan

Municipal SEFF (2Q2014, under consideration)

- *Driven by 1) need for off-balance sheet EE and rational waste management financing; 2) local banks' interest in the municipal market*
- *Proposed within the Turkey CTF Stage II EBRD Investment Plan*

Large Scale RE (wind, geothermal) and Industrial EE (glass, cement, food production)

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