Concepts & Achievements: Green Finance in Turkey

Sustainable Development Banking

Industrial Development Bank of Turkey
www.tskb.com.tr
WHY IS GREEN FINANCE IMPORTANT FOR TURKEY?
Current Account Deficit Problem

Current Account Deficit: Energy and Non-Energy (as % of GDP)
GDP and Electricity Consumption Growth

-6.0%  -4.0%  -2.0%  0.0%  2.0%  4.0%  6.0%  8.0%  10.0%  12.0%  14.0%


GDP
Electricity Consumption

-6.0%  -4.0%  -2.0%  0.0%  2.0%  4.0%  6.0%  8.0%  10.0%  12.0%  14.0%


GDP
Electricity Consumption
Electricity Generation by Type of Fuel

The chart above illustrates the percentage contribution of various fuels to electricity generation from 1980 to 2014. The fuels are categorized into Natural Gas, Imported Coal, Oil, Domestic Coal, and Hydro/Renewables. The data shows a significant shift over the years, with Natural Gas and Hydro/Renewables occupying a larger share of the market, while Imported Coal and Domestic Coal have a relatively smaller share. The chart provides a visual representation of the trends in energy production, highlighting the importance of renewable sources in recent years.
Turkey’s greenhouse gas emissions have gone up by 110% CO₂ equivalent between 1990-2013.

Energy production and consumption account for 70% of emissions.
EVOLUTION OF GREEN FINANCE IN TSKB
Green Finance Journey of TR & TSKB

**Turkey**
- Laws on PPP & privatisation
- Strategy Document
- Renewable Energy Law
- Energy Efficiency Law
- Guidelines for Energy Efficiency
- Ammendment of Renewable Energy Law

**TSKB**
- Start of studies by IBRD & stakeholders
  - IBRD (chair)
  - MoEnergy
  - Private Investors
  - TSKB
- IBRD's $300m Renewable Energy Loan (REL) to LFIs
- Introduction of EE concept by AFD
- Internal studies on EE concept within TSKB with the contribution of IBRD, KfW, EIB, AFD etc.
- Energy Efficiency Conference
- Resource Efficiency Loan
Evolution of Green Finance in TSKB

Renewable Energy

Internal capacity building in Engineering – Economic Research - Loan Allocation – Corporate Marketing Departments

• Capacity Building within the Engineering Department:
  • Studies on previous renewable energy projects
  • Development of techniques on evaluation of raw data (water, wind etc.)
  • Development of feasible models and cross checking methodologies
• Expectations on LT demand growth for energy ➔ estimation of short/mid/long term market price for energy by Economic Research Department (energy sector specialist)
• Introduction of flexible collateral techniques by Loans Department (Letter of Guarantee – Mortgage – Pledge)
• Cooperation between related departments; preparation of a checklist by Engineering Department for Corporate Marketing and Loans Departments
Evolution of Green Finance in TSKB

Internal capacity building in Engineering – Corporate Marketing Departments

• Capacity Building within the Engineering Department:
  • Identification of Energy Efficiency criteria (will be shown on the next slide)
  • Studies on successful projects
  • Prioritisation of industry (among other sectors) and energy-intensive sectors, such as steel, cement, paper and glass (among other sub sectors)
  • Development of potential projects and their cross-check with companies
• Forming a marketing team of two people: Relationship Manager + Engineer
• Training of the marketing team (Technical Assistance in form of site visits in Germany)
• Creation of checklist/booklet for Corporate Marketing staff
Criteria for Energy Efficiency

• Projects that fulfill the conditions of
  • at least 20% reduction in energy consumption
    or
  • at least 50% of incremental benefits of the project coming from cost savings in energy consumption
    or
  • at least 20% reduction in carbon emissions

• Projects that are not in form of green field investment (as there shall be a «before and after» comparison)

• Projects that meet all environmental laws and regulations
Lessons Learned in EE Financing

- Companies lack of knowledge of preparing bankable EE projects.
- Banks still lack knowledge of EE technology and EE project implementation,
- Banks are accustomed to financing income growth rather than cost savings,
- Investment costs may range from very small amounts to very large amounts per project necessitating development of special business models,
- Use of EE performance guarantees provided by third parties such as ESCOs is not common in Turkey,
- The ESCO model is a good start and EPC model should be strengthened,
- Customer relations are critical for loan development and follow-up,
- In Turkey, EE financing is still at early stage, we have a long way ahead. Each country should create its own model.
Suggestions for EE Improvement

**Stakeholder Engagement - Capacity Building**

- Citizen level involvement in EE projects, capacity building and increasing awareness of EE should be promoted. Responsible institutions from EE education are needed.
- Capacity building measures should be taken for all financing institutions.
- OIZs should take responsibility in EE & ResE investment by creating synergy between participating companies.
- Intl. Testing Institutions for Machinery & Equipment and structured EE database including works of stakeholders required (ESCOs, banks, firms, public sector etc).

**Policy Making and Legal Framework**

- Cost benefit analysis should be conducted for the planned measures and should be followed with numerical key performance indicators.
- Standards and methodology of measurement, verification and reporting should be integrated into the legal framework.

**Financing**

- Process for the grants and subsidies could be simplified (best practices of other countries).
- Supports for energy efficiency should be increased and diversified.
ResE beyond EE

Potential Resource Efficiency Projects:

Water Efficiency
- Reducing water use; alternative process technologies
- Recycling and re-use of process water and grey water

Material Efficiency
- Waste minimization, product design, packaging, recycling
- Goods that produce less waste during the operational or disposal phase
- Goods that lead to a reduction of raw material consumption

Sustainable Energy
- Using less energy for the same production level
- Waste-to-energy
- On-site renewable energy generation

Opportunities for Resource Efficiency
The efficient use of natural resources is critical for sustainable private sector development as companies reduce cost, prevent waste and abate greenhouse gas emissions.
# Projects Financed by TSKB

<table>
<thead>
<tr>
<th>Renewable Energy</th>
<th>Energy Efficiency</th>
<th>Resource Efficiency</th>
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<tbody>
<tr>
<td>107 renewable energy projects were financed. (2003 - 2014)</td>
<td>56 energy efficiency projects financed. (2009 – 2014)</td>
<td>7 resource efficiency projects were financed. (2013 – 2014)</td>
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- **Renewable Energy**
  - Total installed capacity: **3,885 MW**
  - TSKB evaluated more than **300 RE projects**
  - Total investment cost of RE projects reached to **USD 7.6 billion**. Funds committed to these projects by TSKB is **USD 2.3 billion**.

- **Energy Efficiency**
  - Total emission will be reduced by **1.2 million** ton CO₂ equivalent
  - **2 billion** mega calories of energy will be saved. This amount corresponds to approx. **212,000 households** heat energy consumption per annum
  - Share of energy efficiency finance in total outstanding loans is around **8.2%**

- **Resource Efficiency**
  - Financing “Resource Efficiency” since **November 2013**
  - Chemical, steel, salt and automotive sectors were financed
  - Total emission will be reduced by **77,350 tons CO₂**
Credit Lines dedicated to RE-EE-ResE

TSKB acts as an intermediary bank for the following financial institutions and disburse the energy efficiency dedicated credit lines for the eligible projects:

- Agence Française de Développement (AFD)
- Kreditanstalt für Wiederaufbau (KfW)
- European Investment Bank (EIB)
- International Bank for Reconstruction and Development (IBRD)
- International Finance Corporation (IFC)
- Council of Europe Development Bank (CEB)
- European Bank for Reconstruction and Development (EBRD)
- Österreichische Entwicklungsbank (OeEB)
- Japan Bank for International Cooperation (JBIC)
Diversified funding structure

2015/1Q

%63 Guaranteed LT Funding
%8 Unguaranteed LT Funding
%6 Syndication & P/N etc.
%6 FX Securities Issued
%17 Repo

Long Term Funding Base

Asset Size (NPL %0,5) x7

Domestic Bank Borrowings
Guaranteed LT Funding
%29

Other Borrowings
%72 Repo

%7 Domestic Bank Borrowings
%29 Guaranteed LT Funding

2002
Sustainability Journey of TSKB

1980
Consideration of Environmental Impact in Credit Evaluation Process

(EMS) Environmental Management System

ISO 14001 Certificate

2005
Carbon Neutral

2007

2008

2009

UNEP FI
GRI Corporate Stakeholder
Cevreciyiz.TV

Global Compact 1st COP Report

2010

2011

GRI Approved Sustainability Report
CDP
UN Global Compact Commitment

2012

First Turkish Bank with successful ISO 14064 Greenhouse Gas Emissions Audit
Global Compact 2nd COP Report
Sustainability Management System

2013

2014

GRI A+ Sustainability Report
Global Compact 3rd COP Report
Sustainability Committee
Awards

- Low Carbon Hero Award – Sustainable Production and Consumption Association, SPCA (2015)
- “Climate Change Leaders” awards – CDP Turkey (2013)

Sustainable Bank of the year: TSKB

We are awarded as “Sustainable Bank of the Year” for the East Europe by FT and IFC in 2008, 2009 and 2010.

In 2011 and 2013 we were in the short list (one of the final three) for the whole Europe.