PROJECT FINANCE @ TSKB

III. GGDP ROUNDTABLE
April 25 – 26, 2016
REYKJAVIK, ICELAND

Turkish Energy Sector

Maximizing exploitation of domestic primary energy resources and securing reliable and affordable energy to a growing economy in an environmentally sustainable manner has been Turkey's core energy policy priority.

Turkey is highly dependent on imported energy. New investments are needed and will continue. Energy efficiency investments, especially in industry and buildings, will impact future demand growth and may evolve into new business models.

Consolidation and integration in the energy sector will increase; M&A activity will intensify. Privatizations of existing state-owned assets and liberalization of the natural gas market will have a significant impact especially for consolidation and integration.

Liberalization in the electricity sector will advance, but full liberalization will likely be around 2020 (technical problems regarding meters; privatization of EUAS generation; end of BO, BOO contracts).

Further liberalization of the natural gas market, institutional development of national oil and natural gas companies (BOTAS & TPAO) are on the agenda.

Turkish Energy Sector @Renewable Energy

Despite the dominance of fossil fuels in the current generation mix (*74,000 MW*), Renewables are growing rapidly.

Current renewable capacity is 28,000 MW; 84% is hydro, but wind&geothermal is developing rapidly. About 42% of renewable capacity, all hydro, is state-owned. Independent private sector capacity has expanded rapidly.

Guaranteed feed-in tariff in USD for the first ten years in operation and priority in dispatch make renewables attractive for investment.

Guaranteed feed-in tariff varies between 7.3 – 13.3 UScents/KWh depending on plant type ,additional incentives for domestically manufactured components *(0.7-2.7 UScents for GPP).*

High contribution fees per KWh for both wind, hydro and solar projects lower project feasibilities.

Despite cost pressures stemming from natural gas tariffs, electricity market prices are steady due to ample reserve capacity.

Market prices tend to exceed standard feed-in tariffs for hydro and wind although recent devaluation of the TL has carried market prices on a level below the feed-in tariff.

Recent Developments…

The ***2005 Renewable Energy Law***, established purchase guarantee and Feed-in-Tariff mechanism for electricity produced from renewable energy sources.

The Electricity Sector Security of Supply Strategy (2009) and the ***National Renewable Energy Action Plan (2014)*** identified a target of increasing the share of electricity generated from renewable energy to 30% of the total 100 GW installed power generation by 2023 (including a target of developing 1,000 MW of geothermal)

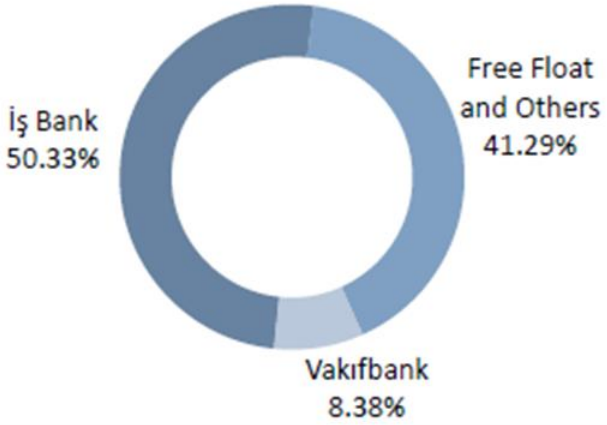
Geothermal Law of 2007;

- set out the rules and principles for effective exploration, development, production and protection of geothermal resources
- clarifies the right of economic use of subterranean resources and the applicable environmental regulation in project development, including proper land reclamation after use
- clarifies the licensing procedures four-years exploration licenses followed by thirty year exploitation licenses

Amendment to the Renewable Energy Law (2010) established a feed-in tariff of ***10.5 US$ cents*** per kWh for geothermal power, for a 10 year period from the commissioning date; with an ***additional 2.7 US$ cents*** per kWh to reward the use of locally produced equipment

TSKB...

Ownership Structure



- First and only Private Development Bank in Turkey
- **TRY 20.7 bn** asset size
- **332** employees, **2** branches
- **19th** bank in terms of Asset size
- **3.5%** market share in LTFC corporate loans
- **TRY 2.4 bn** MCAP
- **59%** of free float belongs to **foreign funds**

Main Subsidiaries

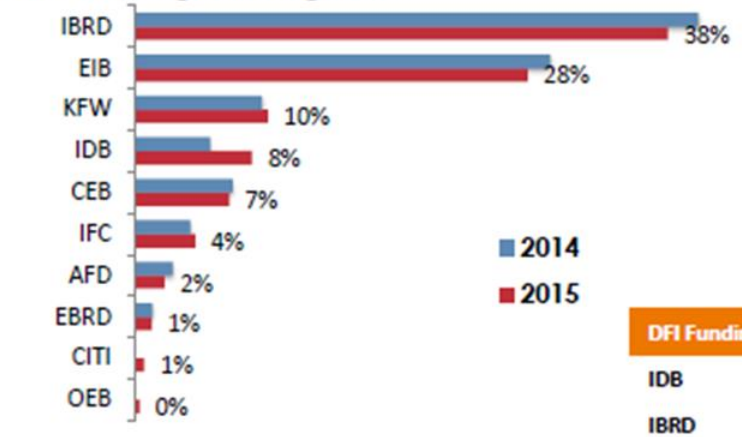
- Yatırım Finansman Securities
- TSKB REIT
- Iş Leasing
- TSKB Real Estate Appraisal
- Escarus
- EIF

Ratings

	TSKB	Turkey
Fitch LTFC	BBB-	BBB-
Moody's LTIR	Baa3	Baa3
Corporate Governance Rating		
SAHA	9.52/10	

Long Term DFI Funding

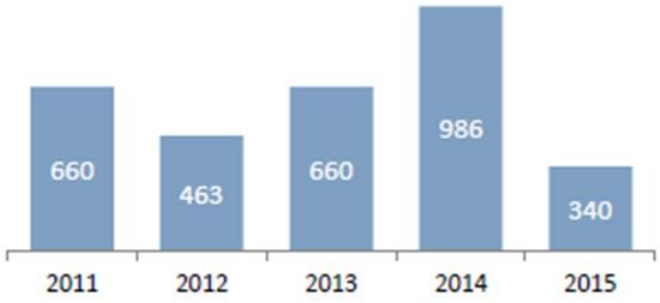
Outstanding Funding Base



89% of DFI Funding guaranteed by Turkish Treasury

Yearly Multilateral Funding Agreements

USD mn

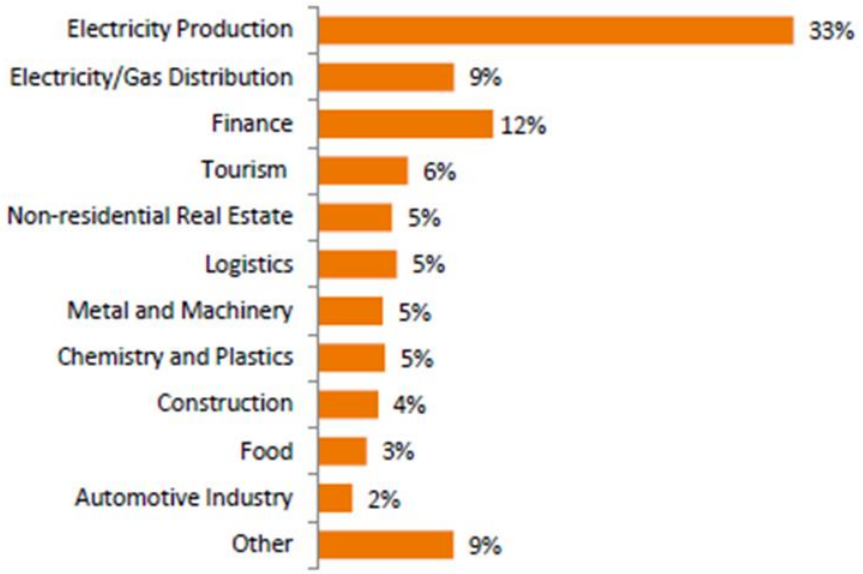


DFI Funding - 2014	Amount	Theme
IDB	220 mio USD	Renewable Energy and Energy Efficiency
IBRD	250 mio USD	APEX
Citibank – OPIC	40 mio USD	SME, Renewable Energy and Energy Efficiency
AFD	60 mio EUR	Sustainable Tourism and Innovative Energy Projects
EBRD	50 mio EUR	Resource Efficiency
KFW	150 mio EUR	Resource Efficiency
EIB	100 mio EUR	Environment/ Renewable Energy/ Resource Efficiency
OeEB	20 mio EUR	Renewable Energy & Energy Efficiency
TOTAL 2014	**986 mio USD**	
DFI Funding - 2015	**Amount**	**Theme**
JBIC	150 mio USD	Renewable Energy and Energy Efficiency
EIB	100 mio EUR	SME and Midcap
IFC	75 mio USD	Renewable Energy, Resource and Energy efficiency
TOTAL 2015	**340 mio USD**	

**DFI: Development Finance Institutions*

Loan Portfolio

Loans by Sector



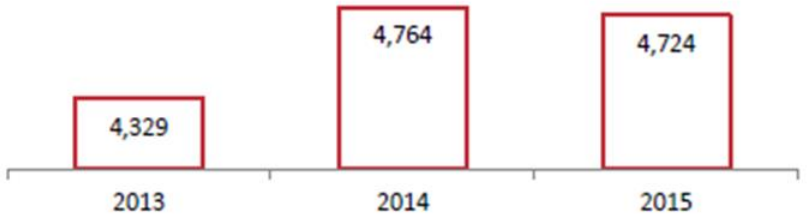
- 93% foreign currency denominated
- 36% in Euros, 57% in USD
- 5.3 years of average maturity

Loans by Type

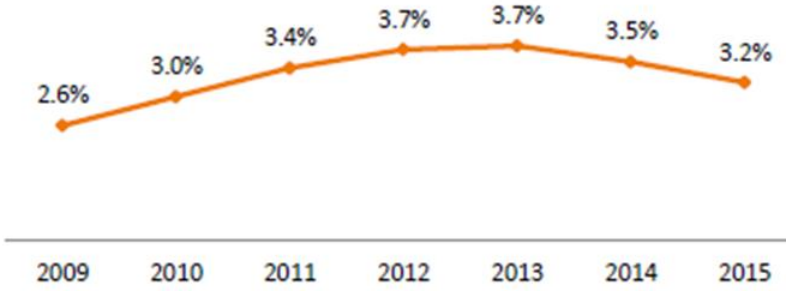
- 68% Investment Loans
- 25% Working Capital Loans
- 7% APEX

Loan Portfolio (mn USD)

FX adj growth of 5.1%



Net Loan Spread



Renewable Energy Projects

134 Projects

4,073 MW Installed Capacity

USD 3.5 bn

79 HEPPs	–	2,948 MW
20 WPPs	–	719 MW
5 GPPs	–	283 MW
6 Biomass	–	96 MW
23 Solar	–	27 MW

Breakdown of GPP Portfolio *(USD 350 mn)*

- Gürmat Efeler GPP 123 MW
- Zorlu Kızıldere III GPP 90 MW
- Gürmat Germencik GPP 48 MW
- Turcas BM GPP 16 MW
- Bereket GPP 7 MW

As of 2016/Q1 Turkey's Installed GPP Capacity is 648 MW with 22 Projects (0.9% share in Total Capacity)

Portfolio

Gürmat Germencik & Efeler GPP

- located in Germencik, Aydın
- 47.4 MW Dual Flash, since 2009
- 25 MW x 3 Binary, since 2014
- 47.4 MW Dual Flash, since 2015
- USD 720 mn Project Finance
- 15 years maturity
- together with Isbank, EBRD and BSTDB

Zorlu Kızıldere III GPP

- located in Buharkent, Aydın
- 70 MW Triple Flash, under construction
- 20 MW Binary, under construction
- USD 255 mn Project Finance
- 14 years maturity
- together with Isbank, Garanti and Akbank

Turcas BM GPP (Aydın)

- located in Kuyucak, Aydın
- 8 MW x 2 Binary, under construction
- USD 57 mn Project Finance
- 14 years maturity
- TSKB commitment

Key Issues & Challenges

MTA had a key role for the exploration and mapping of geothermal resources since 1935 but it currently has very limited additional geothermal exploration activities planned ***resulting*** the exploration risks in licensed areas to be taken on fully by the private license holders those have limited technical/geological expertise and financial capacity for taking on such risks.

Although retroactive finance for some of the capacity drilling is available, project financing is mostly preferred at power plant construction stage (after the capacity has been proven) ***leading*** project developers to inject much equity before having access to project financing.

The Menderes and Gediz grabens are currently the hot spots of geothermal development in Turkey but characterized by high CO_2 content and consequently high CO_2 emissions from geothermal power plants ***forcing*** investors and financial institutions to be more selective both from financial and enviromental concerns.

Investments with high CO_2 content have to justify their choice of energy conversion technology, (i.e. flashed binary or condensing technology vs. non-emitting closed circuit pumped binary technology) and to commit to exploring the economic and technical feasibility of CO_2 capture and treatment ***resulting*** the project developers to reconsider their equity IRR and feasibility of entire project.

Proposed IBRD Loan (Component II)

The Project Development Objective is to scale up private sector investment in geothermal energy development in Turkey at the capacity drilling phase and project construction. TSKB portion is planned to be ***USD 150 million***.

Capacity drilling is defined as the wells that are subsequently drilled to obtain the geothermal energy capacity necessary to meet the requirement of the beneficiary's business plan.

Retroactive Financing would be possible for the payments for eligible expenditures made following World Bank guidelines within 12 months before the expected date of loan signing.

Key ***Financial Eligibility Criterias*** of projects under Component II are being considered as follows;

- Borrowing company must be fully private sector owned
- Eligible companies should maintain a debt coverage ratio of at least 1.10
- Projects must show a min. IRR of 8%

Gap Analysis will be prepared between the existing expropriation procedures applied in Turkey and World Bank's Operation Policy on involuntary resettlement and the steps to bridge these gaps will be detailed.

Proposed IBRD Loan (Component II)

Resettlement Policy Framework will be prepared to outline the procedural and institutional responsibilities and relationships that will allow the client to comply World Bank's policies.

Developers receiving financing under Component II will have to commit to systematic measurements and reporting of CO_2 emissions from investments supported by the project.

Investments in areas with high CO_2 content, where net emissions are expected to be above the grid emission factor for 2014, i.e. 583 g/kWh, have to justify the their choice of energy conversion technology and to commit to exploring the economic and technical feasibility of CO_2 capture and treatment within 18 months of completion of plant commissioning.

TSKB shall provide co-financing to the Facility from its own resources, while ***a minimum equity contribution of 25%*** will be required from geothermal developers.

Sub-loans from IBRD will have a maturity of not less than ***8 years***.

THANK YOU