AKENERJİ
ELEKTRİK ÜRETİM A.Ş.

2016
COMPANY OVERVIEW

- **Private Energy Company**
  1.211 MW active power capacity (Natural gas, Hydro and wind)
  198 MW hydro at development stage
  904 MW CCGT launched in 2014

- **Role in Market**
  - Established in 1989, one of the largest and most experienced players in the market.
  - Single-handedly produces 1% of energy generated in Turkey and is one of the market leaders among private generation companies. (2,5 % of private generators)

- **Ranking in the Major 500**
  - Ranked in the list of “500 Major Industrial Enterprises of Turkey Research” by Istanbul Chamber of Industry consequently in the last 8 years*

- **Ownership Structure**
  - IPO-ed June 2000
    - Akkök 37,36 %
    - CEZ 37,36 %
    - Public 25,28 %

* Except 2014
STRONG SHAREHOLDER SYNERGY

AKKÖK GROUP

➢ One of the biggest industrial groups in Turkey
➢ Active in several sectors with main focus on Chemicals, Energy, Real Estate, Port Operations, IT and Insurance
➢ The group with around 4,600 employees, consolidated revenues amounting to $3.1 billion in 2014.
➢ Sectoral Breakdown of Group’s Turnover in 2014:
  • Chemicals : 38%
  • Energy : 53%
  • Others : 9%

www.akkok.com.tr

CEZ GROUP

➢ CEZ is the largest Czech corporation, and the largest corporation among 10 new EU member states
➢ 8th largest Power Utility company in terms of market capitalization in Europe
➢ Vertically integrated in the Czech Republic – from mining through generation to distribution and supply
➢ Expertise in distribution and supply in Bulgaria and Romania
➢ Generation know-how in lignite, coal, hydro and nuclear energy
➢ CEZ announced app. 1 billion EUR net profit in 2014

www.cez.cz
AKENERJI HIGHLIGHTS

- Diversified and flexible portfolio mix
- Giant base load capacity increase through Egemer by 2014
- Experienced trading staff
- Profitability Margins are effected positively because of renewables in the portfolio
- The total capacity of 307 MW renewable portfolio enables Akenerji to avoid over 1 million tons of CO2 release. Akenerji completed its validation process for voluntary emission trading certificates for ALL of its renewable projects.
- All of Akenerji’s renewable projects are eligible to benefit from the Renewable Energy Law - i.e. a purchasing guarantee for 10 years at a price to be determined by EMRA on a yearly basis. (Currently 7,3 $ cent/kwh)
- All renewable projects are bank financed before 2008
- Akenerji applies 30% equity-70% debt structure to its investments.
Kemah HPP project, which has 198 MW capacity is in the development phase.

<table>
<thead>
<tr>
<th>Operational Power Plants</th>
<th>Capacity [MW]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egemer CCGT</td>
<td>904</td>
</tr>
<tr>
<td>Ayyıldız WPP</td>
<td>15</td>
</tr>
<tr>
<td>Bulam HPP</td>
<td>7</td>
</tr>
<tr>
<td>Uluabat HPP</td>
<td>100</td>
</tr>
<tr>
<td>Burç HPP</td>
<td>28</td>
</tr>
<tr>
<td>Feke I HPP</td>
<td>30</td>
</tr>
<tr>
<td>Feke II HPP</td>
<td>70</td>
</tr>
<tr>
<td>Himmetli HPP</td>
<td>27</td>
</tr>
<tr>
<td>Gökkaya HPP</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1.211</strong></td>
</tr>
</tbody>
</table>

**Capacity Diversification by 2015**

- Hydro: 75%
- Wind: 24%
- Natural Gas: 1%
SALES & PRICING ASSUMPTIONS

Akenerji has 3 main types of customers: eligibles, wholesale customers, and DUY system.

ELIGIBLE SALES
➢ Tariff for Eligible customers is set as a function of the government’s tariff. Akenerji applies a discount rate for eligible customers.

WHOLESALE CONTRACTS
➢ Akenerji is selling to the wholesale players in the market with the bilateral contracts with fixed prices.

DUY SALES
➢ In the DUY Market, since the price is set by the generation company according to the supply and demand dynamics, and is not limited by the official tariff. Approximately 80% of sales in Turkey are sold with bilateral contracts with regulated tariff and the remaining take place in the DUY Market.

2015 Sales Breakdown
- DUY: 46%
- Contracted Sales: 54%

2016 Sales Forecast
- DUY: 31%
- Contracted Sales: 69%
With the completion of Egemer project, Akenerji’s power generation capacity has increased to 1.292 MW.

In 2013 (an average year in terms of precipitation), average capacity utilisation rate calculated as 32% for hydro, 35% for wind power plants.

Egemer has started its operations in 2014 and full year capacity utilisation rate will depend on market conditions.

(1): Ayyıldız WPP (15MW) has become operative.
Yalova NG PP (70MW) has sold to Aksa (Akkök Group Company).
69MW installed in various locations of Turkey have sold

(2): Five HPPs commenced operations with a total capacity of 286MW

(3): 3 HPPs, total capacity of 87 MW, became operational

(4): Çerkezköy NG PP (98MW) decided to stop its operations

(5): 904MW Egemer NGPP project became online
Bozüyük NGPP (132 MW) and Kemalpaşa (127.6 MW) licences cancelled.

(6): We have sold Akocak HPP (81MW)
EGEMER HIGHLIGHTS

- Egemer is a 904 MW, natural gas Combined Cycle Power Plant
- The project is the largest investment of Akenerji
- One of the most efficient projects in Turkey with a desirable coastal location, located in Erzin/Hatay, in the south of the country
- The project has been operational in July 2014
- Designed to be as an eco-friendly and contemporary power plant and expected to generate an annual average of 6.7 billion kWh of electricity
- The power plant employs around 50 people during operation

- Turnkey EPC agreement, (Engineering/Procurement/Construction), was signed with GE&Gama
- The project employed more than 500 people during construction
- Budgeted total project cost will be 930 mio USD and consists of EPC contract price, financing interest during the construction, VAT and other reimbursable costs and a considerable amount of contingency, and financed with 70:30 debt:equity structure (significant saving is done from the total cost)
TRENDS & EXPECTATIONS IN ENERGY MARKET
DEMAND FOR ENERGY IS DRIVEN BY EMERGING MARKETS

- According to IEA World energy Outlook Report-2011, world primary energy demand will increase by one-third b/w 2010 and 2035.

- 90% of the projected growth comes from non-OECD economies;
  - China alone accounts for more than 30%.
  - Demand in India, Indonesia, Brazil and the Middle East are faster than in China.

- It is forecasted that the increased need in baseload capacity will be primarily met through coal, natural gas and renewable sources.

**Production Breakdown Forecast**

![World's Electricity Production by Fuel (Trillion kWh)](chart)

- Growth in primary energy demand in the New Policies Scenario

*New Policies Scenario: Long term rise in ave temp. in excess of 3.5°C*
*Source: IEA, World Energy Outlook Report, 2011*
DEMAND GROWTH & POTENTIAL

- Electricity consumption is mainly effected by GDP, population growth, urbanization, climate change and efficiency applications.

<table>
<thead>
<tr>
<th>GDP</th>
<th>2011</th>
<th>2012</th>
<th>2013 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>8.8%</td>
<td>2.2%</td>
<td>4.0%</td>
</tr>
<tr>
<td>EU</td>
<td>1.6%</td>
<td>-0.7%</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

Source: IMF, OECD, WB

- Increasing electricity demand and growth rates tends to be parallel to each other in emerging markets, like Turkey.

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Electric Power Growth (%)</td>
<td>6%</td>
<td>6%</td>
<td>3%</td>
<td>0%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>GDP growth (%)</td>
<td>7%</td>
<td>6%</td>
<td>4%</td>
<td>-1%</td>
<td>5%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: WB

- Turkey represents a significant potential in terms of consumption per capita while compared to the other countries with its increasing young population and economic growth potential.

Source: EUROSTAT
In the last 20 years, electricity consumption increased remarkably with 6% CAGR.

TEIAS forecasts average annual consumption growth of 5.5% per year for 2010 to 2019. The consumption growth may be shifted due to the global crises but the imbalance remains a problem.

In the previous years, GDP rates were below than the electricity demand. However in 2013 GDP and electricity demand was inline due to the structure of GDP. (Growth wasn’t from the industrial in 2013.)

GDP for the 2014 is announced as 2.9%

Electricity consumption proved to be resilient to the downturns in the economy. Increase in electricity demand has mostly been much higher than the increase in national income in growth years, while staying at the positive territory during recession years:

<table>
<thead>
<tr>
<th>Years : Financial Crises</th>
<th>2001</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP in Turkey</td>
<td>-5.7%</td>
<td>-4.7%</td>
</tr>
<tr>
<td>Elec. Consumption</td>
<td>-1.2%</td>
<td>-3.1%</td>
</tr>
</tbody>
</table>

Electricity Consumption Trend

Power Consumption Breakdown in Turkey
In 2015, consumption increased YoY by 3.3% and has been 264 TWh in Turkey.

Source: TEIAS
Today, half of the electricity produced in Turkey is generated through state-owned/operated power plants.

Import and Export of electricity depend on Governmental permits. Due to technical infrastructure, capacity for trade is very limited.

Currently the majority (90%) of natural gas is being imported by the government, there is no alternative and no price competition for natural gas in the market. As a result, that the electricity price is mainly sensitive to the NG price trend.
The official electricity tariff (for residential/commercial/industrial use) is set by the government every 3 months. Most of the consumption can be contracted outside of the official markets based on the DUY ** prices different from the tariffs.

NG tariffs are determined by the government and adjusted quarterly. The NG prices affect electricity prices because NG fueled plants are working as marginal producers.

The amount of imbalance in the market drives the price since the marginal producers are predominantly NG/fuel-oil plants → increasing electricity shortage forecasts indicate higher prices to come.

**DUY** : Clearing house system was initiated in Aug.2006, and provides an “open-market platform” for the power generation companies, since the price is set by the generation company according to the supply and demand dynamics, and is not limited by the official tariff. Sales to the DUY(Electricity Market Balancing and Settlement Regulation) system are exempt from TRT/Energy fund and transmission losses.

Private sector generation companies have the following sales platforms:

1) Contract the customer directly and provide them a discount rate from the official tariff

2) Selling to DUY system by quoting generation price/power plant and per the specific time-segment of the day (price, that the company itself announces per its own power plants)

3) Bilateral contracts with other players in the market with fixed prices
Turkish Energy Market deregulation is developed after the UK Model and has been proceeding as per below schedule. Privatization & Liberalization should be expected to start to help create a transparent & competitive market environment.

- **Eligibility Limit**
  - >7.7 mioKWh/yr
  - >6.0 mioKWh/yr
  - >3.0 mioKWh/yr
  - >1.2 mioKWh/yr
  - >0.48 mioKWh/yr
  - >0.1 mioKWh/yr
  - >0.03 mioKWh/yr

- **Further Reduction of Eligible Customer Limits and Fully Open Market. Current Limit: 3.600 kWh/yr**

- **Distribution Region Sales (DisCO) – completed**

- **Introduction of DUY mechanism**

- **Shift to hourly DUY system**

- **Generation Asset Sales (GenCo) ~ 16,000 MW**
  - Plants brought to market in stages

- Hamitabat (NGPP 1.156 MW) and lignite assets (~4.000 MW) were privatized. Other GenCo tenders remain unannounced.

- The delays in the liberalization result in prolonging of regulated period.
CURRENT PRIVATIZATION OVERVIEW

The aim of the GenCo privatizations is to increase the efficiency in the market and provide cheap electricity to the end-user.

**GenCO**
- 37% of Turkey’s capacity should be offered to the private sector.
- The Government is started to privatize 97 of its power plants with a total capacity of 16.358 MW. Hamitabat (NGPP 1.156 MW) and lignite assets (~4.000 MW) were privatized. Other GenCo tenders remain unannounced.
- Privatization of 52 small sized hydros (142 MW total capacity) were completed.

**DisCO**
- Privatization of 21 DisCos were completed.

Source: Republic of Turkey Privatization Administration
AKENERJI FINANCIAL INFORMATION
(*) As Kemalpasa plant has been shut down due to the market conditions, the provision for impairment is booked in 2013. TRY 35,5 mio is added to above calculations to better reveal operational performance.
In the last three years, Akenerji incurred min 2% and max 22% Ebitda Margin with its diversified portfolio. In 2014, Egemer started its operations and the drought in Turkey effected EBITDA margins negatively. Because of the wet year conditions in 2015 and contracted sales, company has incurred higher ebitda margins.

(4): As Kemalpasa plant has been shut down due to the market conditions, the provision for impairment is booked in 2013. TRY 35,5 mio is added to above calculations to better reveal operational performance.
## CONSOLIDATED BALANCE SHEET

### Debt Structure (mio USD)

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>45</td>
<td>97</td>
<td>114</td>
<td>35</td>
<td>164</td>
</tr>
<tr>
<td>Short-term Financial Debt</td>
<td>249</td>
<td>128</td>
<td>97</td>
<td>213</td>
<td>65</td>
</tr>
<tr>
<td>Long-term Financial Debt</td>
<td>496</td>
<td>691</td>
<td>865</td>
<td>854</td>
<td>1.003</td>
</tr>
<tr>
<td>Net Debt</td>
<td>(700)</td>
<td>(721)</td>
<td>(848)</td>
<td>(1.032)</td>
<td>(904)</td>
</tr>
</tbody>
</table>

### Key Ratios

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Ratio</td>
<td>0,3</td>
<td>1,1</td>
<td>1,0</td>
<td>0,5</td>
<td>2,5</td>
</tr>
<tr>
<td>Leverage</td>
<td>3,3</td>
<td>2,0</td>
<td>2,9</td>
<td>5,4</td>
<td>2,3</td>
</tr>
<tr>
<td>Total Liabilities/Total Assets</td>
<td>0,8</td>
<td>0,7</td>
<td>0,7</td>
<td>0,8</td>
<td>0,7</td>
</tr>
</tbody>
</table>

Leverage = Total Liabilities / Shareholders's Equity
STOCK PERFORMANCE

- Partnership with CEZ
- Egemer and SEDAŞ acquisition

DUY market introduction
STOCK PERFORMANCE vs DUY PRICES

- Partnership with CEZ
- Egemer and SEDA$ acquisition

DUY market introduction

Stock Performance
DUY

0%
100%
200%
300%
400%
500%
600%
700%

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW</td>
<td>Megawatt</td>
</tr>
<tr>
<td>TWh</td>
<td>Terawatt hours</td>
</tr>
<tr>
<td>NG</td>
<td>Natural Gas</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>CAGR</td>
<td>Compound Annual Growth Rate</td>
</tr>
<tr>
<td>DUY</td>
<td>Electricity Market Balancing and Settlement Regulation System</td>
</tr>
<tr>
<td>DISCO</td>
<td>Distribution Companies</td>
</tr>
<tr>
<td>TRT</td>
<td>Turkish Radio - Television Corporation</td>
</tr>
<tr>
<td>HPP</td>
<td>Hydroelectric Power Plant</td>
</tr>
<tr>
<td>WPP</td>
<td>Wind Power Plant</td>
</tr>
<tr>
<td>CCGT</td>
<td>Combine Cycle Power Plant</td>
</tr>
<tr>
<td>USD</td>
<td>US Dollars</td>
</tr>
<tr>
<td>mio $</td>
<td>Million Dollars</td>
</tr>
<tr>
<td>PP</td>
<td>Power Plant</td>
</tr>
<tr>
<td>EMRA</td>
<td>Electricity Market Regulatory Authority</td>
</tr>
<tr>
<td>EBITDA</td>
<td>Earnings Before Interest, Tax, Depreciation &amp; Amortisation</td>
</tr>
<tr>
<td>TRY</td>
<td>Turkish Lira</td>
</tr>
</tbody>
</table>
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