

Case Study From



Power Marketization in Turkey¹

In July 2000, 16 years after the adoption of the first Built-Operate-Transfer (BOT) model in the world to allow private participation in the traditionally state-controlled electric power sector, the Turkish government announced a national electricity conservation program. The program called for reduced consumption by city, municipal and national governments and businesses, and higher rates for consumption above a certain limit. The work schedule at government offices was changed to benefit more from the daylight. In addition, small-scale mobile power plants were rented or purchased to accommodate some of the peak demand where it occurred.

- *What went wrong in Turkey?*
- *How did one of the fastest growing emerging economies end up facing power outages in year 2000?*
- *What does the history of power marketization efforts in Turkey and the current situation imply for potential investors?*
- *What lessons does the Turkish experience offer for countries undergoing electricity sector reforms?*

Background

Since 1980, Turkey had the fastest growing economy in OECD at 5% a year. By 1980, Turkey was already transformed from a mostly agricultural economy to an industrialized one. The industrial sector continued to grow faster than the GDP after 1980. In 1999, industrial output accounted for 40% while the agricultural output accounted for 16% of the GDP. But, a significant portion of the country's 65 million people remained in rural areas. Although per capita GDP is about \$3,000 (\$6,000 based on purchasing power parity), the income distribution is fairly skewed in favor of the people in the industrialized West.

The period since late 1980 had also been the longest period without a military coup since the country adopted multiparty democracy in 1950. Turkey has seen 39 different governments since 1950. Most have been coalitions. All of the 11 governments formed in the 1990s were coalitions.

Energy Profile

Turkey lacks resources and has always been a major importer of fossil fuels, especially oil and increasingly natural gas. Domestically available coal (mostly lignite) fueled the economy until oil replaced coal as the major fuel after the 1960s. Oil imports more than doubled since 1980. The share of imported oil in total consumption increased from 52% in 1970 to 81% in 1980 and to 91% in 2001.

¹ This case study was prepared using publicly available information.

Fossil Fuel Reserves, Production and Consumption in Turkey (2001)

	Proved Reserves	Production	Consumption
Oil	40 million t. (296 million b.)	2.8 MT/yr (56,000 b/d)	30.1 MT/yr (617,000 b/d)
Natural Gas	9 bcm (310 bcf)	0.9 bcm/yr (30 bcf/yr)	15.5 bcm/yr (550 bcf/yr)
Coal	8.2 billion short tons	74.1 million short tons	90.8 million short tons

Sources: Energy Information Administration, BP World Energy and Turkey's Ministry of Energy and Natural Resources.

Turkey consumed about 550 billion cubic feet (bcf) of natural gas in 2001, 95% imports. Partly because of environmental concerns and partly because of the need for fuel diversification, Turkey chose natural gas as the fuel of the future. Currently, more than half of the total supply of natural gas is used in the electricity sector and about 25% is used for residential and commercial purposes. The rest is used as industrial fuel with the fertilizer industry accounting for one fourth of all industrial use.

Role of State in the Economy

Traditionally, the Turkish economy depended on State Economic Enterprises (SEEs) to run key industries such as energy (from production to distribution), petrochemicals, railroads, telecommunication, steel, airline, etc. A privatization program was started in the early 1980s. With increased international trade, privatization of SEEs was deemed necessary not only to relieve the state of its debts but also to become more competitive in the global marketplace. In 1984, a new legislation provided for the sale of SEE shares to individuals. In 1986, another law authorized the Council of Ministers to determine the SEEs to be privatized. The joint stock company was identified as the form of privatized SEEs when state ownership fell below 50%. In 1994, new laws regulating an appropriate legal procedure to speed up privatization and providing for the expansion of assets to be privatized were passed. The Privatization High Council and the Privatization Administration were also established in 1994.

However, because *nationalism* and *statism* had been two of the six major principles of Republic of Turkey since its establishment, privatization had not been an easy process. Resistance from SEE employees (through unions), some politicians and bureaucrats had been significant. As a result, revenues from the sale of SEEs totaled \$4.2 billion between 1986 and 1999 while the value of remaining SEEs was estimated to be around \$60 billion.

Meanwhile, the country's economic problems - large public sector deficits and high inflation - worsened. SEEs were responsible for a significant part of the government debt. Tax evasion worsened the deficit. 25% of total taxes in Turkey were not collected. In comparison to the OECD average of 39%, tax revenues of the Turkish government accounted for 22% of the GNP. As a result of these imbalances and the increasing current account deficit, Moody's downgraded Turkey's credit rating from BAA3 to BA1 in January 1994. This marked the beginning of a very serious economic crisis during 1994. Per capita income fell more than 6%; unemployment increased and real wages fell.

Privatization efforts picked up after the last coalition government of the 1990s took office in April 1999 and proved to be stable and well respected both domestically by the people and externally by the creditors. As a result of these factors and the government's adherence to strict IMF policies, \$3.1 billion were raised through privatization in first 10 months of 2000.

\$1.26 billion of this total came from the 51% block sale of POAŞ (petroleum distribution & marketing) in a public auction. POAŞ shares were first auctioned in July 1998. This was the first and, at the time, only major privatization in the energy sector (in April 2000, 31.5% of shares of the state refining company, TÜPRAŞ, were also sold to public). But, the decision of the Privatization High Council to pick the third runner-up in the auction as the winner raised questions about the fairness of the privatization method and caused the highest bidder to challenge the result in the court. Also, Petrol-İş (union of petroleum workers) and some POAŞ employees applied to Ankara Sixth Administrative Court for the cancellation of the sale. They claimed that the sale violated Law No. 4046 as well as Articles 162 and 172 of the Constitution. In turn, some partners withdrew from the winning consortium and the sale was cancelled.

In November 2000, Turkey experienced a financial crisis emanating from the overcrowded banking sector but reflecting the fundamental problems of the corrupt political influence on the economy. Just when the relief package provided by the IMF was believed to help Turkey recover, a more severe crisis in February 2001 led to free floating of the exchange rate and the Turkish Lira was devalued by more than 100% almost overnight. These crises and the global recession dampened the privatization activity as well.

Electricity Sector

The Constitutional Court has consistently interpreted a law from 1910 to imply that generation, transmission and distribution of electricity were public services that needed to be delivered by an SEE and that private entities could only participate under concession contracts. Until 1993, Turkish Electric Authority (TEK) was that SEE. In September 1993, TEK was divided into two public companies: TEAŞ (generation and transmission) and TEDAŞ (distribution). Although all shares of both companies were held by the state, these companies were not SEEs but joint stock companies. The two companies were created in order to speed up the privatization of electricity assets in Turkey. The activities of both TEAŞ and TEDAŞ were excluded from the scope of public services.

The share of TEAŞ generation in total fell to less than 80% in 1999 from more than 90% in 1995. Transmission and wholesale trade of electricity remained under TEAŞ control. TEAŞ was further divided into generation (EÜAŞ) and transmission (TETTAŞ) companies in 2001. Transmission remained state-owned while private sector continued to enter the generation business. The share of EÜAŞ generation in total was down to about 71% in 2001. TEDAŞ's monopoly on distribution was diminished by the privatization of several distribution systems around the country.

Consumption & Capacity

Electricity consumption increased more than five-fold since 1980 and more than 15-fold since 1970. The average annual growth rate between 1980 and 1999 was just below 9%. Yet, per capita consumption of electricity in Turkey was about 1,750 kWh in 1999 as compared to about 13,000 kWh in the U.S. The OECD average is about seven times and the world average is about twice as large.

Domestic capacity expansion in Turkey kept pace during the 1970s and 1980s; but, between 1990 and 1999, electricity consumption increased at 8.4% a year while capacity expansion lagged far behind at 5.4% a year.² In 1999, electricity consumption was expected to increase 8-9% a year for the next two decades. In order to keep up with

² The gap actually closed in the second half of the 1990s: consumption grew at 8.7% and capacity grew only at 4.4% a year on average in the 1990-96 period.

demand expansion, 2,000 to 2,500 MW of new generation capacity were said to be needed every year. This new capacity would require outlays of more than \$40 billion within the following 10 to 15 years (and up to \$100 billion by 2020).³ There were no public funds available for this expansion. It would also be very difficult for the country to use foreign credit for major projects as lending rules of the IMF impose strict foreign debt ceilings. Accordingly, several options were exercised, including imports from neighbors, and privatization and restructuring of state assets in order to improve efficiency. The BOT model that was developed in 1984 was also brought back to life.

Build-Operate-Transfer (BOT) Model

Law No. 3096 of 1984 was the first Turkish BOT law and covered three major types of private sector involvement in the power sector.

- *Assignment for the generation, transmission and distribution.* In this arrangement, private companies are allowed to carry all activities and sell electricity directly to consumers in certain "assignment regions." This assignment requires authorization of the Council of Ministers. An assigned company is obligated to meet the energy needs in its region. Investment plans of the company should be in line with the national energy policy of the State Planning Commission (SPC) and the Ministry of Energy and Natural Resources (MENR), which sets the rules of operation for all activities and supervises the compliance with those rules. At the end of the assignment period (usually 20 years), all facilities and immovable assets related to the subject of the assignment need to be handed over to the state at no cost.
- *Construction and operation of power plants, including cogeneration plants.* Companies operating under this option have to sell their power to TEAŞ or assigned companies with the right to transmission and distribution (T&D) operations. T&D companies will charge a fee for transportation of electricity. Cogeneration plants can sell the surplus electricity at a price determined by the MENR not to exceed 70% of net average sale price to end-users nationwide. At the end of the contract term, all facilities and immovable assets related to the subject of the assignment must be handed over to the state at no cost.
- *Transfer of operational rights of existing power plants, and T&D facilities of the state.* This option is limited to assignment regions and requires a decree by the Council of Ministers. Like the first two options, 99 years is the maximum term, but contracts are usually for 20 years with an option to extend a year prior to termination. Again, all facilities need to be given back to the state at no cost.

The MENR has the right to terminate contracts before their expiration if the private party becomes insolvent or violates terms and conditions of the contract. A governmental entity, the Electrical Energy Fund (EEF) was created to help with BOT projects. The EEF reports to the MENR, which is in charge of EEF's financial resources. The main responsibilities of the EEF include ensuring nationwide stability of electricity rates, paying the buyout price to the project company if such buyout becomes necessary, and extending cash or non-cash credit to companies on terms and conditions approved by MENR.

³ If operational inefficiencies and electricity theft could be improved, the need for new capacity would be lower. The World Bank estimates that Turkey loses 20% of its electricity because of T&D losses, theft and so on. Nevertheless, Turkish electricity demand is expected to grow at least at 5% a year. At this rate, total consumption will rise to 203 TWh by 2010 from about 118.5 TWh in 1999. To remain self-sufficient, Turkey would need 18 to 20,000 MW of new capacity.

Although the BOT Law was passed in 1984, it had not led to any investments until the mid-1990s. Since then, six hydroelectric power plants (HEPP) with 803 MW total capacity and four gas-fired plants (1,389 MW) were completed and commissioned under the BOT model. Total installed capacity of BOT plants accounted for about 8% of total installed capacity in Turkey. For the 2001-2004 period, the list of BOT projects of high priority included seven wind farms (203 MW), 10 HEPPs (337 MW), four natural gas plants (786 MW) and one 125-MW lignite plant. For the extended period to 2010, almost 10,000 MW of thermal (mostly gas), 6,000 MW of HEPPs and 100 MW of wind farms are planned.

Also in 1996, the MENR announced a major tender for operational rights to 12 existing thermal power plants and associated coalmines in the case of ten coal-fired plants. In October 1997, the MENR identified the winning bids for these ten plants (4,253 MW total capacity). However, in February 1998, Ankara First Administrative Court annulled this privatization effort after evaluating the complaint of Maden-İş (union of mine workers) and the Chamber of Electric Engineers (CEE). The court decided that MENR's announcement of the tender in 1996 was in "excess of its power" on an administrative basis and that it is actually up to the Council of Ministers and not the MENR to authorize and announce the tender.

There were also plans for transferring operational rights for 18 hydroelectric power plants. In early 1998, 10,700 MW of hydro capacity was tendered. The transfer of operational rights of distribution facilities also started in 1998. For this purpose, the MENR divided the country into 29 regions regarding the level of industrial activity, demand for electricity and the location and status of distribution facilities. Four local distribution networks were awarded. These regions currently operate as private concessions. Twenty more were awarded in 1999. But, all of these efforts faced legal challenges similar to those described above.

The progress had been slow and uneven because the BOT model drew considerable opposition even though it was not a form of privatization as assets were returned to state after a certain period. The Constitutional Court maintained that electricity generation, transmission and distribution were public services. As such, any private party involvement including power generation under the BOT model should be in the form of concession agreements. According to Article 155 of the Constitution, concession agreements had to be reviewed and approved by Danıştay (State Council). As a result, any dispute that might arise between parties of the contract needed to be resolved through the Turkish administrative court system and could not be settled through commercial arbitration.

In 1994, a new legislation attempted to extend the BOT framework by rendering it more appealing to private capital. In particular, the Law contained language that identified certain arrangements that would be non-concessionary and subject to private law. However, in March 1996, the Constitutional Court canceled these parts of the Law as unconstitutional. Cancelled articles were seen as administration's effort to avoid Danıştay process. The BOT Law remained applicable to private power projects, albeit without the benefits of being subject to private law instead of Turkish administrative law.

Danıştay did not interfere with the development of BOT projects that were already underway until the CEE filed a lawsuit against the MENR and TEAŞ for the cancellation of several projects claiming that they were concessions cloaked by the administration as projects governed by the private law. Due to "vested rights" doctrine, some projects were able to keep their private status because contracts had become effective before Official Gazette published Constitutional Court's cancellation decision. Other projects, however,

were ruled as concessions and subject to administrative courts in case of disputes, eliminating the option of commercial arbitration.

Build-Operate (BO) Model

In response to problems with BOT projects, the MENR introduced the BO model that promoted the licensing system as an alternative. The MENR expected that this model would not receive as much opposition from the high courts as BOT projects did and that it would encourage more private investment. In June 1996, the Council of Ministers issued a decree concerning power plant construction and operation according to the BO model, which differed from the BOT model in several important ways. Most significantly, developers retained ownership of the plant at the end of the contract period and, when selling their electricity, they were not restricted to TEAŞ or assigned companies and could sell directly to end-users. Without transfer of ownership, BO projects were not expected to be concessions and therefore Danıştay review was thought to be unnecessary.

At first stage, a list of 13 priority sites with designated generation capacity (10,700 MW total) and type of fuel (mostly gas) were identified. The total value of these projects was estimated at about \$10 billion. Companies were asked to negotiate with the state pipeline company (BOTAŞ) for natural gas procurement, and on LNG-related and other issues as part of their bid. The MENR originally offered tenders for the first six projects with a total capacity of 5,200 MW.

The response to the original tender was disappointing. In late 1996, the MENR announced revised terms and conditions for the six projects. New terms were more likely to receive international financing and reflected a fairer sharing of risk among the parties involved. One of the most important changes was the provision of dispute resolution under the UN Commission on International Trade Law (UNCITRAL) arbitration rules rather than Turkish administrative court rules. UNCITRAL would apply to both power purchase and natural gas supply agreements. Other significant changes included a 100% Treasury guarantee during the contract period for TEAŞ purchases instead of a gradually declining guarantee. Previously, new or prototype technologies were not acceptable, but new terms removed this restriction as long as the technology was proven sound from an engineering point of view.

However, before the result of these improved terms could be seen, Danıştay suspended the BO Decree claiming that the BOT Law was the main legislation regulating private sector involvement in the power sector and that any alternative model should be expressed in the form of a law rather than a decree by the Council of Ministers. In response, the Turkish legislature passed the BO Law in July 1997. This law regulated the licensing of private sector construction and operation of thermal power plants. The BO Law did not allow for T&D operations and excludes hydro, nuclear and geothermal plants. Other characteristics of the BO Law were similar to those of the BO Decree discussed above.

In late July 1998, the Constitutional Court rejected an application by Danıştay to cancel Article 3 of the BOT Law, which was the general provision that allowed BOT-type investment in the power industry. If the Court were to uphold the cancellation, not only current and future projects but also past BOT projects would be impacted. In August 1999, then four-month old coalition government (11th in the 1990s) passed the legislation that allowed for international arbitration. The new government also followed IMF's fiscal austerity measures that resulted in a better investment environment. As a result of all these positive developments first BO projects started construction in 2000. Five BO projects with 5,830 MWs of total capacity that were expected to come on line in the 2002-4 period. After long

legal battles, in July 2000, Daniştay also approved transfer of operational rights to thermal plants discussed earlier.

Autoproduction

While BOT and BO projects faced challenges in the 1990s, autoproduction proved the most successful method of private investment in the Turkish electricity sector. Large consumers such as textile, cement, steel, petrochemical and automotive industries among others are well developed in Turkey. According to *Energy Prices and Taxes*, an OECD report, the electricity prices for industrial and residential users are roughly equal at about ₺8/kWh. In comparison, the OECD averages is about ₺6.5/kWh (₺5/kWh in OECD Europe) for industrial users and ₺10-13/kWh for residential users. Furthermore, while most OECD countries do not tax electricity use by their industry, Turkey charges the second highest tax rate after Italy at about 14%. According to Municipal Revenues Act, municipalities collect a 1% tax from industrial users and a 5% tax from other consumers. There is also a 15% value-added tax on both industrial and non-industrial consumption. As a result, Turkish industry ends up with the most costly electricity in OECD. Therefore, autoproduction provides an excellent opportunity for the Turkish industry to establish a cheap and reliable source of electricity. In 2001, autoproducers had 3,374 MWs of installed capacity (12% of total) – more than BOT projects – and accounted for roughly 15% of domestic generation.

A New Electricity Law

In March 2001, the Turkish parliament passed a new electricity law that was intended to create a competitive market for electric power and to allow a better legal framework for private participation. The government had been feeling the pressure from the IMF to pass this legislation. However, even the IMF and the World Bank expressed some concerns regarding the working documents of the law. In particular, the law was said not to have gone far enough in establishing divestiture and unbundling rules to ensure competition. A new company spun off TEAŞ (EÜAŞ) maintained significant generation capacity and, although the companies were separated, another new state company controlled the electricity trade.

In addition, the proposed regulatory agency's independence was questioned. When the members of the regulatory agency were announced after several months of delay in late 2001, concerns about the independence and competence of the agency increased. The agency, mostly formed by bureaucrats with political connections but without business experience (one who opposed restructuring in the past), was not expected to smooth the transition to competition. After the passage of a new gas industry restructuring law, the agency (renamed the Energy Market Regulatory Authority) was authorized to regulate both gas and power industries. Since then, however, the members of EMRA were changed and new staff was added. The new group seems to be working diligently and productively in order to implement the market opening envisioned in the electricity and gas laws.

Also, the existing BOT and BO contracts with relatively high prices that were mostly guaranteed by TEAŞ (or, the Treasury) were not addressed properly in the law and expected to disrupt potential for competition. The law implicitly recognized only 29 BOT projects (1,379 MW, mostly small wind and hydro) that have been around since 1998-99 and protected their price guarantees based on the condition that they came on line before the end of 2002. The State Planning Agency had claimed that the MENR was committing Turkey to expensive electricity that was not needed in the short-run. Given the severe economic crisis in 2001 and the legal challenges against these projects, some of these projects (possibly all) may never be realized. Turkey's now apparent excess commitments

to natural gas imports also seems to be favoring the encouragement of gas-fired generation at the expense of other projects.

Sources:

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