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EUROPEAN UNION PUBLIC LAW AND THE INTEGRATION PROCESS OF TURKEY

ELECTRICITY MARKET IN TURKEY AND ITS INTEGRATION POLICY INTO THE EUROPEAN UNION

Yüksek Lisans Tezi

Esen CAM
Marmara Üniversitesi Hukuk Fakültesi

PROF.DR. GEORGIOS DELLIS
Research Assistant Emin Köksal

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ABSTRACT

ELECTRICITY MARKET IN TURKEY AND ITS
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Cam, Esen

European Union Public Law and The Integration Process of Turkey

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This thesis evaluates the electricity sector in Turkey by examining its historical development and the directives of European Union on energy sector and by giving reference to statistical tables and the views of specialists and academic authorities. Globalization of economy, developments and changes in technology and various economical and political movements have affected the energy sector and therefore, regulation alterations have initiated about it. In this dissertation, the reform process in the energy sector and the possible complexities and difficulties that might occur in that period are evaluated and discussed. Turkey has been through many changes in the procedures and regulations of its energy sector following the studies for integration to European Union in that period. Turkey, as a country who has applied for membership in European Union, is supposed to put the *acquis communitaire* into practice and a strategy is necessary to implement the harmonization with the procedure in the energy sector. In this dissertation, various aspects of the change Turkey has been through in its legal procedure during its researches and studies for strategy in the energy sector have been evaluated by handling the directives of European Union.

The aim of this dissertation is to put emphasis on the possible and prospective improvements and changes in the legal procedure of the energy sector in Turkey as a candidate member, in the next period, through the observation of the reformatory steps Turkey has taken in this sector by far.

Key words: EU Directives, Electricity Energy Strategy Document, Privatization, The Act no. 4628 and Act no.3096.

ÖZET

TÜRKİYE ELEKTRİK ENERJİSİ PİYASASI VE AVRUPA BİRLİĞİ'NE ENTEGRASYON SÜRECİ

Cam, Esen

Avrupa Birliği Kamu Hukuku ve Türkiye'nin Entegrasyon Süreci

Prof.Dr. Georgios Dellis
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Bu tez, Türkiye Elektrik Enerjisi sektörünü; tarihi gelişim, Avrupa Birliği'nin enerji alanındaki yönergeleri, uzman ve akademisyenlerin görüşleri ile istatistiki tablolar kullanılarak değerlendirmektedir. Ekonominin küreselleşmesi, teknoloji alanındaki yenilikler ve değişimlerle dünyada oluşan farklı ekonomik ve siyasal hareketlenmeler elektrik sektörünü de etkilemiş ve sektörde reform hareketleri başlatmıştır. Bu çalışmada enerji sektöründeki reform süreci ve bu süreçte ne gibi engel ve güçlükler ile karşılaşılacağı tartışılmaktadır. Türkiye bu reform sürecinde, Avrupa Birliği ile entegrasyon çalışmalarının getirdiği bir ivme ile elektrik sektöründeki mevzuatlarında birçok değişiklikler yapmıştır. Türkiye Avrupa Birliği'ne başvuran bir ülke olarak Avrupa Birliği müktesebatını uygulamak zorundadır ve bu alandaki mevzuat uyumunun gerçekleşebilmesi için bir stratejiye ihtiyaç duyulmuştur. Bu çalışmada; Türkiye enerji sektörü için strateji arayışında Avrupa Birliği direktifleri ele alınarak, Türk hukuk mevzuatının hangi yönlerde değişikliğe uğratıldığı incelenmiştir.

Bu çalışmanın amacı, Avrupa Birliği'ne girmek isteyen aday ülke Türkiye için elektrik enerjisi mevzuatında bu güne kadar yapılmış yeniliklerin ve değişikliklerin ortaya konması ile önümüzdeki dönem içerisinde ne gibi değişikliklerin yapılacağına dikkat çekmektir.

Anahtar Kelimeler: AB Yönergeleri, Elektrik Enerji Strateji Belgesi, Özelleştirme, 4628 ve 3096 sayılı Kanunlar.

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LIST OF ABBREVIATIONS

Balancing and Settlement Center	:	PUMP
Build-Own-Operate *(Yap-İşlet)*	:	BOO
Build-Own-Transfer *(Yap-İşlet-Devret)*	:	BOT
Electric Power Reources Survey and Development Administration *(Elektrik İşleri Etüt İdaresi)*	:	EİEİ
Electricity Generation Co.Inc. *(Elektrik Üretim Anonim Şirketi)*	:	EÜAŞ
Energy Market RegulatoryAuthority *(Enerji Piyasası Denetleme Kurumu)*	:	EPDK
European Union *(Avrupa Birliği)*	:	EU
Liquefied Petroleum Gas *(Likit Petrol Gazı)*	:	LPG
Member States of EU *(AB' üye ülkeler)*	:	MS
Mineral Exploration and Research Directorate *(Maden Tetkik Arama)*	:	MTA
National Load Dispect Center *(Ekonomik Yük Dağıtım Merkezi)*	:	CDEC
Organization for Economic Cooperation and Development	:	OECD
Privatization Administration *(Özelleştirme İdaresi Başkanlığı)*	:	ÖİB
Radio and Television Supreme Council (*Radyo Televizyon Üst Kurulu*)	:	RTÜK
Supreme Planning Council *(Yüksek Planlama Kurulu)*	:	YPK
State Owned Enterprises *(Devlet İktisadi Teşebbüsü)*	:	SOE
The Scientific and Technological Research Council of Turkey *(Türkiye Bilimsel ve Teknolojik Araştırma Kurumu)*	:	TÜBİTAK
Transfer of Operational Rights *(İşletme Hakkı Devri)*	:	TOR
Turkish Atomic Energy Authority *(Türkiye Atom Enerjisi Kurumu)*	:	TAEK
Turkish Electricity Distribution Corporation *(Türkiye Elektrik Dağıtım Anonim Şirketi)*	:	TEDAŞ
Turkish Electricity Enterprise *(Türkiye Elektrik Kurumu)*	:	TEK
Turkish Electricity Trading and Contracting Co.Inc. *(Türkiye Elektrik Ticaret ve Taahhüt A.Ş)*	:	TETAŞ
Turkish Electricity Transmission Co.Inc. *(Türkiye Elektrik İletim Anonim Şirketi)*	:	TEİAŞ
Turkish State Held Transmission and Generation Company *(Türkiye Elektrik Üretim-İletim A.Ş.)*	:	TEAŞ
Turkish State Planning Organization *(Devlet Planlama Teşkilatı)*	:	DPT
Union for The Co-ordination of Transmission of Energy	:	UCTE

1. INTRODUCTION

Development of electricity energy sector is a basic criterion to determine the levels of social and economical development of countries. Electricity energy sector, as a body of social service and as an indispensable factor in industrial production creates an impulsive force for all countries to reach their goals of development. An unreliable electricity energy sector can hamper and disrupt all enterprises of development of a country. A shortcoming in that sector can give rise to a diminution in production and national income and affect directly all the other sectors in a country.

The relation between the formations and development in the electricity energy sector and the economy of the country shows the necessity to determine strategies and policies in the sector, according to the goals of economy of the state.

Politics is the distinct expression of views, ideas, purposes and attitudes of a person or association and their implementation of an action program within that frame. National politics for a country is the action plan based upon its goals related to the political view and vision of that country. National politics is a primary matter that should exist with continuously without interruption by incoming governments.

Many sectors which were accepted as a natural monopoly and had distinct legal regulations and which were mostly public properties before have had potentially a competitive quality partially or completely as a result of globalization. Because of the difficulty of capital flow in investments and the liberalization movements in the other sectors, electricity sector began to be leaded according to the market dynamics. As a result of those changes, actions on privatization and direction of the electricity energy sector policies have become so important recently.

Turkey's goal of integration to the EU, which dates back to Ankara Treaty 1963, has become of a state policy for all the recent governments in our country. Integration to the EU is dependent upon harmonization with the Union through regulations and

improvements. Harmonization with the political and economical criteria requires the issue and enforcement of legal regulations on sectoral basis.

The aim of this work is to determine a national electricity energy policy for the candidate state Turkey, in accordance with the EU energy policies and EU electricity directives. Within that frame, this subject is handled in various aspects.

Initially, the improvement in the sector is emphasized on by bringing out the historical process of the electricity sector in structural aspect. Afterwards, EU electricity energy policies and their interaction with Turkey are undertaken. After introducing the conception of regulatory administrative authorities which is associated with EU electricity policies and liberalization, Privatization Strategy Document on the electricity energy is examined together with many other reports of public bodies. Finally, advantages and disadvantages of the changing electricity legislation are summarized by taking into account the competition rules. The literature material used in the academic libraries and databases, however the thesis includes some exclusive work that is gathered from some of the experts in the Turkish energy sector, which were obtained through a series of conferences. Some of the materials are obtained from the European Union databases and International Energy Agency. For an understanding of the subject matter the 'European Commission Directives' on 'Energy' has been examined. 'Turkish State Planning Organization's (DPT) Special Expert Report on Electrical Energy' is a source for Turkish energy foresight.

This dissertation includes specific issues declared in the Europa Bridges of Knowledge Programme (Akcollu , Atiyas, Hornfeld 2003). The papers of Turkish scholars (Akkaya 2000) (Demir 1998) (Ergün 2007) (Güneş, 1999, 2003) in the field give an overview of the Turkish energy sector. Finally, some important discussions and views from the conferences of the 'World Energy Council Turkish National Committee' take place in this work.

As to the methodology, the thesis work here is a result of discussion of the experts' views about the future of the electricity market in Europe and Turkey.

With this dissertation, the extent of harmonization of the electricity sector of Turkey with the EU electricity energy policies is examined by regarding the accession partnership, national development plans and strategy documents.

The work will not include energy in a broad sense, instead as explained above it is mostly concentrated on electricity in the energy sector.

The importance of this work lies in the fact that Turkey is an applicant country to the European Union and will need to reform its power sector for compliance to the European Union. Even if Turkey does not become a member of the EU, it will still need to obey some rules for complying with the European Union organizations and networks such as the European International Energy Transmission Networks and the single energy market. The single energy market, which the EU is trying to develop, has caused the members of the EU to privatize, deregulate and liberalize the energy market.

Thereinafter, I emphasize the history of Turkey and EU Relations briefly;

Turkey's EU membership process dates back to 1959, when she made the first application to join. After long negotiations, Turkey and the EU signed an Association Agreement in 1963, which aimed at Turkey's full membership in the EEC (European Economic Community), through establishing three phases of a Customs Union. *"Ankara Agreement"* still continues to be the legal basis of EU Turkey relations.

In 1987, Turkey applied for full membership on the basis of the EEC Treaty, Article 237, providing that any European country would do so[1]. Turkey's eligibility for membership was confirmed yet the full membership required more favorable conditions. In 1995, the Customs Union between EU and Turkey was completed in industrial and agricultural processed goods. The Customs Union revived EU-Turkey relations.

In 1997, the EU by reconfirming Turkey's eligibility for membership, decided to deepen the existing relations, while conditioning the membership to issues of democracy, human rights and the Cyprus case. In the *Agenda 2000* report of the Commission, Turkey was excluded from the enlargement process and Turkey–EU

relations entered into a serious bottleneck following the Luxembourg Summit. In Helsinki European Council of 1999, the EU recognized Turkey as a candidate country, without any pre-condition and on equal footing with other applicant countries. This initiated a new era in bilateral relations. Turkey began to participate in Community programs within the context of a Pre-accession Strategy to be encouraged in the reform process. Turkey adopted the National Program for harmonization with EU legislation in 2001.

The opening of the accession negotiations depends on Turkey's fulfillment of the *Copenhagen Criteria*, especially the political conditions. Turkey has passed many legislative packages and does firmly continue with political, economic and administrative reforms towards complying with the obligations of EU full membership.

In 2002, the EU opened negotiations with Turkey without delay, on recommendation from the Commission, if the European Council in 2004 decides that Turkey fulfils the Copenhagen political criteria. December 2004; in the summit meeting made by the European Council in Brussels, the resolution was saying that Turkey had made impressive progress in respecting the political criteria, enough for negotiations on EU membership to start on the 3rd of October 2005[2].

Economically, enlargement has helped to increase prosperity and competitiveness, enabling the enlarged Union to respond better to the challenges of globalization. This has brought direct benefits for Europe as a whole. Enlargement has increased the EU' s weight in the world and made it a stronger international player.

The accession of Bulgaria and Romania on 1 January 2007 was completed the fifth enlargement, following the accession of ten Member States in May 2004. The present enlargement agenda covers the countries of the Western Balkans and Turkey. These countries have been given the perspective of becoming EU members once they fulfill the necessary conditions. The countries are at various stages on their road towards the EU[3].

2. ELECTRIC ENERGY FIELD IN TURKEY

Turkey is a located in between the energy producers of the Caspian Basin, the Middle East, and the European Union consumers. Turkey is a land bridge between Central Asia and Southern Europe therefore Turkey is an important candidate to become the "Energy Corridor", for the transmission of the Central Asian Countries' oil and natural gas resources to Europe. It also controls the sea passage through the Bosphorus strait between Black Sea and the Mediterranean.

In the middle of these features, in this section, I will explain the history of the electric energy sector in Turkey and try to represent market outlook.

2.1 GENERAL OUTLOOK ON THE ENERGY SECTOR OF TURKEY

Energy policy of Turkey has been determined to meet the energy demand of the country, to the extend possible by local resources economically, timely, adequately, reliably and environmentally friendly, in a way to achieve the economic growth and to support and orient efforts for social development. In this endeavour, the government focused its efforts to encourage the public and private sector, as well as foreign capital involvement in investments of the energy sector[4].

The main principles of Turkish energy policy are to:

a. To liberalize the energy sector by creating competitive energy market with a view to improve efficiency in the sector as well as to provide transparency;
b. To meet the energy demand, mainly by the limited indigenous energy resources of the country to the extend possible, in a rational way and by minimizing the adverse impacts on the environment and human health;
c. To diversify the energy services by alternative energy resources and new Technologies;
d. To undertake the role of "Energy Corridor" to transit the rich energy resources of the East into the Western Energy Markets;
e. To give priority to the activities related to energy supply security of the country with growing concerns in meeting rapidly increasing energy demand;

f. To take into account adverse impact of energy on the environment, both in the assessment and use of energy, in the context of Sustainable Development;
g. To encourage Research and Development in energy Technologies.

Energy policy of Turkey have been set out by the State and maintained largely unchanged by the governments, over the years. Since the 1980, the restructuring of electricity sector has been on the agenda in many countries of the World. Turkey also had discussed the opening up of energy markets as of 1985 (Tüsiad, 1998). Accordingly, in 1990s, various necessary actions were taken for the constitutional and legislative regulations as well as for private sector involvement in energy sector investments through several financing models providing 100 percent guarantee of power purchase[5]. However, high electricity pricing and long-term agreements were important obstacles encountered in the establishment of a competitive energy market.

In this process to develop the electricity market, Electricity Market Law, which was in compliance with the EU Directive on the Internal Electricity Market, was enacted by the Turkish Parliament and published on 3 March 2001. The purpose of the Law is to ensure the development of a financially sound and transparent electricity market operating in a competitive, transparent environment under provisions of civil law and to ensure the autonomous regulation and supervision of the market. At the end of the transition period, as provisioned in the Law, New Electricity Market was opened up on 3 September 2002[6].

2.2 HISTORICAL DEVELOPMENT OF THE GENERATION OF ELECTRICITY IN TURKEY

The scope of the electric energy usage which is one of the basic income of all sorts of economical activity is enlarging fast with the technology changing continuously. Therefore generally energy, especially the electric energy has become an indispensable need of life. With the developing technology, electric is entering into the daily life with an increasing speed and the electrical goods have become indispensable parts of our lives.

The first electric production in Anatolia was carried out in the town called Tarsus by using a spindle of water mill through a dynamo of 2 kilowatts in 1902. In 1923 Istanbul Silahtarağa Power Plant was opened in order to distribute electricity to a wide amount[7].

The management of the power plants that started to be established from the first years of Turkish Republic by foreigners was carried out by local and foreign privileged companies, municipalities, private associations (Demir, 1998).

1930-1950 Period

The economical depression that started in the USA in 1929 and that affected the whole World after a while, brought in more emphasis on the view of statism that flourished in the western World. The practice of "Statism" started because of the inadequate provision of the private capital accumulation and in 1933 industry development plan was prepared and to put into practice in Turkey (Demir, 1998). In that plan it was mentioned that industrialization was possible through the provision of cheap energy and that hydraulic and thermic resources were needed to be researched.

The government of the period realized that the electrification affairs needed to be gathered in one central hand and in 1935 the *General Directorate of the Electrical Power Resources Survey and Development Administration* (EİEİ) and *Etibank* were founded.

EİEİ is a public institution founded in 24.06.1925 with the act under no. 2819 that researches the facilities of generation of electricity, especially hydro electricity EİEİ is in the charge of the fields mentioned as follows;

a. To determine the water resources and the other energy resources adequate for electricity generation by making a study of them.
b. To make hydrologic studies and geotechnical researches.
c. To make a pre-study and dissertation of the facilities of the dams and Hydro Electric Power Plants.
d. To manage the engineering services that include the phases of master plan, feasibility and absolute project.

e. To make study, research and demonstration about renewable energy resources (sun, wind and geothermic etc…)
f. To give awareness-raising education and make study about energy disposal in the sectors of industry, housing and transportation.
g. To make studies about the national usage of energy resources.
h. EİEİ is continuing its studies in the field of electric energy.

Etibank was founded to run and evaluate the underground resources of Turkey in 1935. Etibank has many charges like founding and running the electricity generation facilities based on coal and lignite and also to provide the capital stock needed for them.

In that way, the research of the primary resources needed for electricity generation, the operation of them and the management and establishment of the power installations were initiated by public institutions (EİEİ-Etibank).

The thermal power plants founded till the years of 1940s used valuable coal or diesel fuel oil as fuel. That situation gave rise to the expensiveness of electricity and the cease of some power plants having insufficient fuel because of the difficulties in the import of petrol[8]. Because of that, the need for the establishment of power plants based on low-quality coal, lignite and water power was realised and the constructions of thermal power plants based on lignite and hydro electric power plants were expedited.

Table 2.1 : Primary Energy Resources Used in Electric Energy Generation (by 1938) [9]

Energy Resources	Kilowatt-hour	Percentage
Coal	232x106 kWh	%82,3
Lignite	2x106 kWh	%0,7
Fuel	28x106 kWh	%10
Other	2x106 kWh	%0,8
Hydraulic	17,5x106 kWh	%6,2

Reference: EİE 33. Year, Electical Power Reources Survey and Development Administration, Ankara 1967

It is interesting that, the usage of water and lignite that are the most convenient for the electric energy generation among the resources of Turkey, has a very low ratio in the total generation. While France provided 40 percent of its total electric energy generation

from hydraulic resources in 1925, that ratio rose to 70 percent in 1937; in Austria that ratio rose to 71 percent from 54 percent in five years according to the researches. Those conclusions indicate that Turkey being the third in Europe with its hydraulic potential could not make use of its resources to establish hydraulic power plants in that period (Demir, 1998).

2.2.2 1950-1960 Period

The economical policy of that period was based on the idea of emphasizing on the private sector and attracting the foreign capital to the country in the scope of mixed economy. Energy policy was shaped with that principle. While the private sector was tried to be developed the public institutions in a paradoxical way .One of the most important events of the period was that "Turkish National Committee of the Word Energy Conference" which was founded in 1949 gathered the First Advisory Energy Congress in 1953. In that congress the energy need of the country and the studies to meet that need, electricity generation and consumption development, coal, hydraulic resources and the possibilities of benefiting from other resources in the electricity generation were discussed and reports were prepared.

Another important feature of that period was that partnerships of privacy sector excluding foreign capital were formed in the electricity management field. In the years between 1952-1956 four joint-stock companies having private capital stock were formed and they were provided with regional privileges. In the 1950s 96.2 percent of the produced energy in Turkey was generated on thermal resources and the rest of it was generated on hydraulic resources.

Table 2.2 : The distribution of the primary energy resources used in the thermal power plants is

Primary Energy Resources	Percentage
Coal	%68,48
Lignite	%10,37
Fuel Derivatives	%10,33

Reference: EİE 33 Year, Ankara Electric Power Resource Survey and Development Adminisration, 1967

When compared with 1940s lignite and fuel derivatives usage had an increase in that period. However, the use of the hydraulic resources was still in a very low level.

Table 2.3 : That table below shows an example for the usage of hydraulic resources in various countries in the World, in 1950:

Countries	The Percentage Of The Usage Of Hydraulic Resources
Norway	% 99,8
Switzerland	% 99
Italy	% 88
Sweden	% 96
Austria	% 79
France	% 49
Yugoslavia	% 48,5
Germany	% 21
Greece	% 2
Turkey	% 3,3

Reference: The 50th Year of The Social Progress in Turkey, pg.398

In 1950 it was observed that the electric energy generation for each person reached to 38 kilowatt. In 1938 that amount was 8 kW. Electric energy generation per person is indicated in the table below;

Table 2.4 : Electric Energy Generation Per Person in some Countries, in 1950;

Countries	**Electric Energy Generation kWh**	**Generation According to Average %**	**Divergence from Average**	
			kWh	**%**
Norway	4940	361,11	3572	261,11
Canada	3450	252,19	2082	152,19
USA	2600	190,06	1232	90,06
Sweden	2540	185,67	1172	85,67
England	1080	78,95	-288	-21,05
France	770	56,29	-598	-43,71
Italy	520	38,01	-848	-61,99
Yugoslavia	150	10,96	-1218	-89,04
Romania	134	9,80	-1234	-90,20
Bulgaria	110	8,04	-1258	-91,96
Greece	85	6,21	-1283	-93,79
Turkey	38	2,78	-1330	-97,22
Average	**1368**	**100,0**	**0**	**0,00**

Reference: The 50th Year of The Social Progress in Turkey, pg.400

As its seen in the table; Turkey produced and consumed 38 kWh electric energy per person in 1950 (That amount was 17 kWh in 1938). The electric energy produced and consumed was percent 2.78 according to average of the countries, the divergence was 1.330 kWh and percent 19.22.

2.2.3 1960-1980 Period

According to the constitution in that period; a planned progress was initiated and developed, in the energy field statism which was the mixed economy on the emphasis was followed. Three development plans for five years were completed and the fourth was launched. In the plans development was focused on and the investments of electric energy being the primary requirement were of great importance[10].

2.2.3.1 The First Five-year Development Plan

It is known that 31 percent of the country population used electricity in the period when the five-year plan was being prepared. In the plan period the determined basic principles were as follows:

a. To use more hydraulic energy resource,
b. To use more electric energy,
c. To run the power plants more economically,
d. The basic precautions determined within the frame of these principles in that five-year development plan were as follows;
e. To run electricity affairs from one hand (Established TEK and to connect all of the power plants to that association)
f. To hasten the affairs of projects,
g. To simplify the taxes for electricity,
h. To transfer all the out of order power plants in the places connected to the systems to the control of TEK, to operate the suitable ones, to translocate the ones that can not be operated in the system,
i. To standardize all the tools used in the power plants11.

According to the analysis of the results of the first five-year development plan, the development carried out in the first five-year period is not superior to the natural rise without a plan. The investment goals in the first plan period became successful in the ratio of 39 percent; however that success did not comply with the balances predicted in the plan[12]. Although public investments were emphasized on in order to rise the development speed the success in that scope was in a lower level. The public investments expected to be 59 percent according to the predictions, were 53 percent finally; also the private investments that were aimed to be 41 percent were in the ratio of 47 percent finally[13].

2.2.3.2 The Second Five-Year Development Plan(1968-1972)

In the second plan period the basic principles about the electric energy were shortly to develop the generation, transaction and distribution possibilities above the current demand level and the interconnected system (the complete network of the electric transaction system) and to give priority to the water resources to meet the energy need (Demir, 1998).

In the plan the primary precautions for the electricity cut were as follows;

a. To regulate various taxes, compulsory levies and interests of various associations on the electricity cut,
b. To research the possibilities of the use of nuclear energy resources and to work for establishing nuclear power plants,
c. To apply special charges in the industrial zones and in the specific industrial fields,

According to some researchers, those precautions predicted in the second plan about the electric energy sector lack the basic problems of the sector and have a narrow scope[14]. It is thought that while the usage of the water resources is very low and the the lignite resources are sufficient for electric generation, it is irrational to mention the issue of the nuclear power plant.

Table 2.5 : Electric Energy Generation In Some European Countries in 1970 is Indicated in the Table Below[15]

Countries	Population (million)	Total Generation		Generation Per Person kWh	The Difference in the Generation Per Person According to the Average	
		GWh	%		kWh	%
Sweden	7,54	60.645	3,13	8.042	4.814	149,13
Finland	4,58	22.502	1,16	4.915	1.687	52,26
Switzerland	7,36	33.173	1,71	4.509	1.281	39,68
England	55,69	248.588	12,82	4.464	1.236	38,29
Federal Germany	51,95	242.612	12,51	4.670	1.442	44,67
Democratic Rep.of	17,16	67.650	3,49	3.943	715	22,15
Germany	13,24	45.163	2,33	3.412	184	5,70
Czechoslovakia	224,46	740.708	38,20	3.300	72	2,23
USSR	51,00	140.708	7,26	2.759	-469	-14,53
France	8,51	19.573	1,01	2.301	-927	-28,72
Bulgaria	5,91	117.423	6,06	2.262	-966	-29,93
Italy	32,67	64.531	3,33	1.975	-1.253	-38,82
Poland	34,72	56.490	2,91	1.627	-1.601	-49,60
Spain	21,23	35.088	1,81	1.615	-1.613	-49,97
Romania	20,20	26.024	1,34	1.288	-1.940	-60,10
Yugoslavia	8,88	9.399	0,48	1.059	-2.169	-67,19
Greece						
Turkey	**35,60**	**8.623**	**0,44**	**242**	**-2.986**	**-92,50**
Total	**600,70**	**1.938.900**	**100,00**	**3.228**	**0**	**0,00**

Reference: The Energy Sector Datas of the State Institute of Statistics, Ankara: DİE Publications, pg: 110

As we analyse the table above, the electric generation of Turkey was 8.623 Gwh and the average generation and consumption were 242 kWh. According to those statistics, the average electricity generation and consumption of the countries mentioned above were 3.228 kWh and the average generation and consumption of electricity of Turkey were 92,50 percent less than those countries' average. And that in sufficient condition needed to be regulated in a way.

The name of the multi-corporate association that bought generated, transacted and distributed electricity in a wide region including West, Northwest, Middle and South-East Anatolian, was changed as "Etibank Electricity Administration Association" in 1960. The hydraulic power plants operated by the Public Waterwork Administration (DSİ) General Directorate were endorsed over Etibank at the end of 1967 and the

generation activities were run by Etibank General Directorate until TEK was founded in 1970.

In 1970, TEK was established with the act no.1312. With that act the control of the power plants of Etibank, DSİ, İller Bankası and of the municipalities were given to TEK. However, the electricity transmission and distribution networks of the municipalities stayed under the control of the municipalities[16].

The basic charges and determined aims of TEK mentioned in the act can be summarized as follows;

a. To meet the need of electric energy in a safe, high quality and efficient way,
b. To transmit the interconnected system all over the country within the shortest possible time,
c. To run the electrification of the villages in the way the act requires and with rational principles,

The activity scope of TEK was defined in a detailed way in the third article of the act;

a. To prepare the plan and programs of the general electrification in Turkey,
b. To make studies and projects, to build power plants and collect statistics data required for electricity generation, transmission and trade ,
c. To run power plants and provide all the required equipment to found and run them,
d. To keep only the centrals and machinery needed for their own foundation, reparation and maintenance and to evaluate the remnant capacities of the machinery,
e. To found a special organization for the village electrification and to administrate the electrification fund,
f. To make study and research about the required electricity, machinery, tools and materials in order to found the power plants and run them,
g. To dispose of all the real claims and properties for its own needs,
h. To make co-operations about these activities mentioned above17.

In the practice of the act some disagreement occurred between TEK and municipalities especially about important customers, some municipalities took over the industrial customers' by applying the Council of State. Also some other disagreements occurred between those parties when the villages whose power plants were founded by TEK became municipalities and about the technical and legislative position of the distribution plants belonging to TEK before.

If TEK had worked as it had been mentioned in its original act today's Turkey Electric Energy Sector would be in a very different point however the way it worked when the act came to force it was obviously seen that the association was distance from the goal of carrying out the activities of energy sector by monopoly. When we research the state archives we can see that the relationships between the municipalities and the other authorities and the issue of coordination are not defined clearly and completely. Additionally the subject of privileged companies is not depicted sufficiently and obviously and TEK' s not being in charge of building and operating the dams gave rise to shortcomings and problems in practice. It is obvious that the establishment of TEK was problematic.

The establishment of generation, transmission and distribution power plants to gather the energy trade in one hand has to be within the frame of the original act of TEK. However, endorsing over the authority of the trade of energy to the municipalities created one of the most important problems. That enforcement increased the outcome although it provided income and so the possibility of transforming the funds gained into investment through TEK[18].

2.2.3.3 The Third Five-Year Development Plan (1973-1977)

The Third Five-year Development Plan was put into force together with the "new strategy" changing the last section of the fifteen-year strategy prepared with the first plan. One of the most crucial points when we look at the fundamental differences between the two strategies is to emphasize on "the requirements" in order to reach the goal of industrialization in the new strategy and not to slow down the process of industrialization while carrying out the policies for employment social security and income distribution.

The new strategy was regulated taking into account the responsibilities which EEC (European Economic Community) would bring after a period of 22 years and that means the emphasis of the Third-Five Year Development Plan was on EEC. In the Third Plan private investments had an important place as mentioned in its principles. It was also explained that the public would focused on "on the fields having social profit but a little or no cash profit without an attraction for private sector". Some legal provisions like tax reduction investments reduction put into enforcement in order to encourage the private sector for their investment fields.

In the scope of the new strategy in the Third Plan the electric energy sector was handled in a perspective leading to 1995. A basic plan was formed in order to benefit from the country's own resources, to regulate the thermic, hydraulic balance and to provide the energy in a continuous safe and cheap way. According to this plan;

a. To make energy connections with the border countries and to buy energy from foreign resources.
b. To work for the entrance of TEK into nuclear technology,
c. To bring about precautions to prevent the delays in the investments.
d. To speed up the development of the water resources and thermic potential.
e. To development the production of heavy electrotechnic equipment with the leadership of public.
f. To make regulations in order to lead the production capacity to export19.

The electricity machines, conductors and cables, measurement and control devices, lightening and interior equipment materials, batteries and accumulators, electrical consumer durables that were planned to be produced within the five-year period in the Third Plan do not seem to be the goods of a developed industry.

Although the goals determined were not reached, in 1977 electricity generation show the rise of around 13.9 percent. The gross electricity generation per person reached 496,6 kWh. In the Third Plan Period the financial result of the electricity energy investments were 90 percent, however the implementation in the physical level was much lower than that ratio like the previous years and the power plants in the plan were not established in the due time[20].

2.2.3.4 Fourth Five-Years Development Plan (1978-1982)

The Fourth Plan Period was positive partially when evaluated about its principles and policy and for every sector in a detailed way. Although it includes dilemmatic various principles in itself, it is the continuation all the previous plans with its content and subjects.

The Fourth Five-Year Development Plan's basic principles and policies about the electricity energy as follows;

a. To meet the energy need with the own resources; to reduce the import dependence of energy consumption and not to buy energy from foreign resources except obligatory conditions,
b. To operate the lignite mines having a strategical importance for electricity generation and heating under the public control,
c. To give priority to the production of the investment goods used in electricity generation, transmission and distribution and to establishing the industry in a beneficial way in that field,
d. To focus on working for entrance to the nuclear technology,
e. To make required regulations in the act of TEK and EİE,
f. To implement the electricity energy and transmission all over the country in order to give electricity to whole population as mentioned in the TEK act as a public service,
g. To make solution for the problems of the power plants within the investment programs as soon as possible[21].

Operating the lignite resources by public institutions was a feature not seen in previous years in the sense of principles and policies enforced. To give a statistical data according to the distribution of energy resources of Turkeys' installed capacity in that time;

Table 2.6 : Turkeys' installed capacity distribution according to energy resources

Years	Coal	Lignite	Fuel-oil	Oil	Other	Thermic	Hydraulic	Total
1978	350,3	1069,1	1047,3	535,8	12,4	2987,9	1880,8	4868,7
1979	323,3	1069,1	1047,3	535,8	12,4	2987,9	2130,8	5118,7
1980	323,3	1069,1	1047,3	535,8	12,4	2987,9	2130,8	5115,7

Reference: Abidin Lütfi Demir TEDAŞ Auditor, The Glorious History and the End of a Giant, pg.50

As seen in the table above the progress did not comply with the principles determined in the government programs about the countries electricity generation system because the investments planned to be made were not implemented and the power plants planned to be built were not established or established with a delay.

In 1980s and 1990s the developments in TEK were so vivid and hope giving. TEK operating as amenable to the decree law under no.233 and with the date of 1984 has a structure of "State Economic Enterprise" association with its legal structure issues of goal and activities, bodies and organizations structure and its partnerships and enterprises.

The required basic provisions under the management of State Economic Enterprises with the mentioned decree law's article 1-2/c enforcement were determined as to administrate the public charges and services according to economical and social requirements.

In the sub clause of the 2nd article of the mentioned decree law the State Economic Enterprises were defined as "…State Economic Enterprises focusing on public services...". Within that frame it is a structure of organization and administration that carries out the services within an economical and social context, following economical profit and efficiency principles, while focusing on public service in practice.

It is obvious in the data given until the year 1990, TEK could not reach its goal because of the lack of investment, wrong policies enforced, the delay of the establishment of the power plants and not reaching the plant goals and it is dependence on import and so privatization was inevitable. I will focus on that issue under the heading of privatization in a more detailed way and I will analyse the point Turkey has come in electricity generation, transmission and distribution policies with its procedure and privatization efforts.

2.2.4 After 1980

Turgut Özal who was in charge of many important state authorities and became the prime minister and then later Republic President of Turkey in that period explained the basic points of the energy policy put into enforcement at that time as;

> *"The petrol policy has been a policy of slogans till now, the foreigner enterprenuers have been excluded and private enterprise has been prevented, natural fuel import has not been accepted, however energy is the cheapest thing to import and we should change the act of mining concern and the issue of fuel up side down and also break off the monopoly of TEK in the electricity field and some other countries should be established in that field"*

Those words were the basic principles of the policy tried to be put into enforcement after 1980. In 1984, the act no.3096 that ceased the monopoly of TEK put into enforcement. Although that act did not contain the saying of Built-Operate-Transfer (BOT), it was known as the act of BOT. Although it was explained in that act; "...the building of the thermal power plants based on important coal will be started...", unpredictable bureaucratic procedures were run into and the start of the building of the first large-scale projects and their approval could be implemented 12 years after the act was enacted.

In 1993 TEK was divided into two with the decision of the Council of Ministers and to new public administrations called Turkish Electricity Distribution Corporation (TEDAŞ) and Turkish Electricity Transmission Co.Inc. (TEİAŞ) were founded. Also seven new distribution companies under the control of TEDAŞ were founded that would be privatized later.

2.3 RENEWABLE ENERGY RESOURCES IN TURKEY

Turkey has a major demand for small hydro power plants, wind power, solar energy, geothermal power generation and waste to energy type of technologies. A new Renewable Energy Law No. 5346, entered into force on May 18, 2005, requires the retail electricity licensees to purchase at least 8 percent of its annual electricity sales volume from renewable energy resources.

2.3.1 Wind Energy

The practice of electricity generation out of wind started in1998 in Turkey and 2.5-3 millions kWh of electricity is generated. Turkey has a wide region where wind turbine can be used. Because the wind potential is high in those regions with rich public domains, it is obligatory to make feasibility studies for wind power plants.

The researches show that; the natural electricity potential that can be generated out of wind in those regions is predicted to be 550 billions kWh. However, it is accepted that the calculated economical generation maybe around 50 kWh within the frame of the known date of the electricity potential[22].

2.3.2 Geothermal Energy

Since1962 in the researches by Mineral Exploration and Research Directorate (MTA) 140 regions containing geothermal liquid with the temperature over 40 degree have been stated and seven of them are high temperature regions and suitable for electricity generation. It is estimated that within the frame of the known data the economical potential value can be 2 billions kWh yearly[23].

2.3.3 Nuclear Energy

Turkey is the first country to sign "The Act of Cooperation about Using Nuclear Energy for Peaceful Means" with the USA in 1955 following the first Geneva Conference. However, Turkey has not met that technology yet, despite the fact that activities have been going on about the nuclear energy for 50 years[24].

The basic reasons for our country's being distant to the source of nuclear energy are the bad effects of the two accidents in Russia and Japan, the power plants' becoming out of order after being used for 32 years and still not being able to find a solution for the problem of nuclear waste.

2.3.4 Solar Energy

Because of Turkeys' geographical position, its natural potential of solar energy is so high. The technical calculations show that the technical potential of solar energy in Turkey is 6 trillions kWh. However, the value of 305 billions kWh that is the 5 percent of that technical potential value can be explained as economical electricity generation

potential. Electricity generation out of solar energy has a high cost and not economical[25].

2.4 TODAY'S WORLD POLICY AND TURKEY IN THE FIELD OF ENERGY

90 percent of the need of energy of the world is met with fossil resources. According to various international associations that will be in effect at least in the period 20 years in the future, unless basic changes happen, the fossil resources will save their total ratio of 90 percent. Therefore, as today although the works for researching alternative energy resources will go on in the following 20 years, the conflicts to gain the fossil resources containing especially gas and petrol will be the leading important factors determining the international relationships. However it is accepted that coal, having a longer existence with a more homogeneous distribution in the world is a resource that should be used more (260 years) and a resource that is expected to be more stable compared with the two other resources. That feature of coal brings a strategical advantage especially on supply safety[26].

On the basis of the wars and the cold wars in the world, having energy resources, trying to keep the transmission ways and especially lately the energy trade under control are important factors. As parallel to those incidents, besides all the positive concepts that globalization fact brings about, a new process has been experienced that the great energy companies and the large international capital stock give rise to, by trying to lead the market only for their advantage[27].

The energy policies in the world today have begun to be leaded by the big private companies. However, the states are evaluated as a power that plays an important role by "regulating-leading" at the times of problems and conflicts in the energy sector.

The states that govern the countries in the World have to provide the energy through uninterruptable, clean and cheap ways and absolutely have to verify those resources. It was determined in the "Green Paper" which was prepared by European Commission that since the Arabian world used the petrol as a gun and big energy deductions occurred; for the first time there had been a problem of security in the energy resources. Today all the powers in the world politics have realized that energy is a fundamental

factor for political power and they have been competing with each other in order to have the energy resources. By the way it should not be forgotten that underdeveloped countries have 60 percent of the energy resources in the world and they can not benefit from their own energy resources as much as the developed countries.

3. EU ELECTRICAL ENERGY POLICY AND ITS INTERACTION TO TURKEY

The European Commission took the first step for the process of the liberalization of the European Union Member States in the energy markets "White Book" about the internal energy market in1998. In 1992 "The Directive Draft of The Common Rules" about the "Internal Market of Energy" and that draft gave rise to disagreements on the level of the EU and the MS for a long time. At the result of those disagreements two directives for the electric and gas markets brought in. "European Energy Provision" was signed by the European Union MS and the industrialized OECD states in the conference in Lahey in December 1996 and the "Green Paper" was issued in 2000.

In this section, the whole process of policy formation initiated with those directives mentioned below is evaluated in detail.

3.1 ELECTRIC ENERGY POLICY OF THE EUROPEAN UNION

In European Energy Provision, the basic goal of the EU policy formed since the beginning of 1990's, is to contribute to the sustainable development[28]. The "Green Paper" is emphasized on what should be done and how to go further besides being a criticism of the previous five-year process. In order to provide the EU energy supply safety, the points that should be emphasized on can be summarized as follows;

a. To complete the internal market of electric energy to harmonize the national procedures for standardization, and to provide transparency in pricing and the process for investments.

b. To provide the complete integration of the energy goals with the instruments of the regional policy (Trans European Organization) and so to provide the interconnection of the electricity network in the underdeveloped regions with the main networks and to connect their networks with the member countries' with each other.
c. To constitute a common interests union with the exporting countries, to have preferential economical relationships with the mentioned countries and to cooperate with the third countries.
d. The cooperation of the developing countries in the EU with each other to rationalize their increasing energy consumption and to increase their productivity.

Since the establishment of the European Union, the issue of the authority of the Member States over the regulations in the energy sector has been questioned. The 90th article of the Treaty of Rome brought about binding regulations about the restructuring of the electric sector for the MS[29].

It has become a common idea of the EU that the enforcement of the Union competition rules in the energy sector in a more effective way is of great importance to provide the interconnection between the member states by the harmonization of their systems and to form a common market in that field and has become a necessity to reach the goal of economical complete integration.

The Directive 96/92/EC of the "Common Rules about the Electricity Internal Market" was approved by the Council of Ministers in 19.12.1996 and it was put into force in 17.02.1997. The MS were granted a term of 2 years for their harmonization to the required regulations and the administrative preparations in the mentioned directive despite some exceptions[30].

With that Directive, the electric market is aimed to be liberalized and to enter the competition and also it is emphasized that they could set various tasks to the companies operating in the electric sector about the supply safety pricing, electricity quality and environmental protection, however those tasks should be depicted and regulated in the aspect of transparency and equality[31].

The Directive was put into force after 2 months it was issued and until 1999 and it was put into practice by 12 of the 15 MS (Belgium, Ireland, Greece 2000 or 2001). Creation of a new generation capacity, the usage of the resources, improving project and the practices of support are preferential for the member states.

The aims of the Directive are to create common rules for the electric generation, transmission and distribution;

a. To constitute an electricity market open to competition and to complete the internal energy market,
b. To increase the productivity in generation, transmission and distribution,
c. To strengthen the supply reliability and the competitiveness of the European Economy
d. To give importance to environment protection,
e. To provide the security, reliability and productivity of the system for the benefit of the generators and consumers,
f. To be assured that the operators of transmission system will work in an objective transparent and identical way.
g. To provide the transparency and compatibility of the technical rules with each other,
h. Identification of a probable abuse that can come out in the system and threaten the process is also within the goals[32.]

The Electric Directive 96/92/EC consists of 29 articles. In those articles, the re-organizing of the sector is emphasized on; the operation of the sectors of generation, transmission and distribution and their division from each other and creating the competition for generation and provision are presented. Besides that the entrance and tariff conditions about the access to the system and the transparent structure expected to become in the market are explained for the member states. Also the public service obligations on the issues of the supply safety and the usage of renewable and local resources are explained to (96/92/EC).

In the year 2003 new proposals were brought about for that enterprise that would speed up the process of liberalization. Within the frame of the co-decision policy of the EU the

common position about the formation of the electric internal market and the cross-border electric trade was issued in the Official Journal of the EU in 03.02.2003.

3.2 LEGAL BASIS OF ENERGY POLICY IN THE EU

It is important to understand point in realizing the European market of energy is a result of European energy policy. The policy is shaped regarding the fact that Europe is dependent on conventional energy resources.

European Coal and Steel Community Treaty and the Euratom Treaty are two of the founding treaties of the EC, which are both related to the energy field. However the MS of the European Community had chosen not to decide on an common energy policy for that time[33]. Later in Maastricht and Amsterdam treaties European Union had failed to initiate a common policy for energy. Today, directives concerning common rules for the internal market in natural gas, and on the promotion of electricity produced from renewable energy sources in the internal electricity market have been put into use. In the following headings, I will try to explain the legal basis of the regulations and the legal base of the European Union energy market structure.

3.2.1 Regulations About Energy In The Establishment Treaties

European Politicians considered energy sector as a common field that needed to be developed fast and as a basis of the common policies in restructuring Europe after World War II. As a result of that, two of the three establishment treaties of the European Communities (European Coal and Steel Community Treaty in 1951* called as ECSC and The European Atom Energy Community Treaty in 1950 called as Euratom Treaty) are especially about energy.

The aim of the ECSC Treaty is to enable European Countries to be dominant in their own armament industries and to prevent new wars by handing over the control of the

* Originally proposed by French Foreign Minister Robert Schuman on 9th May 1950 - since then known as Europe day. Established by the Treaty of Paris 1951 and existing since July 1952. It ended in July 2002. http://en.euabc.com/word/404

national coal and steel industries from the national associations to a supranational association.

The ECSC Treaty contains some provisions about restructuring coal and steel markets. Meanwhile, it foresaw new regulations about the prohibition of discriminating and limiting activities in those sectors[34] . The ECSC Treaty was formed to be valid for 50 years as of the date it was enforced and so it dissolved in 23.07.2002[1].

European Economic Community (EEC) and the Euratom Treaty do not contain separate energy sections[35] because the Member States did not want to give up their authorities in the energy field then.

Through The Single European Act, dated 1987[36] (SEA), it was determined to regenerate the Community and to form the inland market until the year 1992[37]. On the contrary, it does not contain any provision on the common energy policy. However, it does not mean that the issue of energy was unimportant or was not in the scope of the inland market program then.

The Maastricht Treaty[38] illustrates the measures in the energy field within the scope of the activity of the Community also the Maastricht Treaty contains provisions about energy in its articles about the operation of the inland market, the competition rules, economical and social unity, international cooperation, environmental policy, research policy and the protection of the consumer[39] . There is no separate energy section in the final text of the Maastricht Treaty.

Neither the Amsterdam Treaty[40] nor the Nice Treaty[41] contains a separate energy sector. None of the Treaties Establishing the European Community includes a separate energy section. On the other, each of those Treaties contains many provisions determining the energy policy. That the energy policy of the EU does not take place all together in the Establishment Treaties but in the various sections of various documents separately is not an issue only about form. It reflects also its basis through that separate form and scattered form because all those legal texts show many differences between each other in the aspect of method and effect[42].

[1] European Coal and Steel Community Article 97.

European Union energy policy could be effective in only some sectors like coal and nuclear energy until the 1990s. In that period the energy policy of the EU was limited with the aims like using the energy in an effective way and decreasing the dependence on the foreign resources of energy, in addition to those mentioned sectors[43].

The rules about competition in the Rome Treaty are effective for real and legal persons showing activities in the energy sector. Therefore the 81, 82 and 86 (85, 86 and 90 Articles before) Articles of the Establishing Treaties are enforced in the energy sector, too. Meanwhile, the provisions of Establishment Treaty about the right to establish company, the right of free movement of service and capital stock, the harmonization of territorial legal concepts and about state aid are also put in force in energy sector.

3.2.2 Secondary Regulations About In European Union Policy

There are secondary regulations like rules, notifications, directives, decisions and proposals about the energy sector in the EU policy and EU Energy Policy are mainly formed through those secondary regulations because there are not sufficient regulations about energy in the Establishment Treaties.

3.2.3 Legal Frame In The Electricity Sector

The current legal frame in the electricity sector was formed through some important directives and methods as a result of many studies carried out by European Union and those studies and discussions continue in order to develop those methods and to bring out better regulations in legislation. Those directives and methods and the proposals given to improve and regulate the legislation are mentioned below.

3.2.3.1 The First Electricity Directive (96/92 EC of 19 December 1996)

Studies on establishing the Inland Energy Market in the EU have let to two frames of directives since the middle of the 1990s. Those two frames that are very crucial for the goal of inland energy market, are electricity and natural gas Directives. Those two Directives are accepted as the most important legal regulations of the inland energy market program[44]. The basic aim of the electric and natural gas Directives are to form a unified EU Energy Market and so to provide competition and supply safety in the EU Energy Market[45].

The Electric Directive[46] under no 96/92 which was accepted 19.12.1996 and put into force in 19.02.1997, foresaw blueprints about the activities of electricity market, the entrance to the market, the rules and conditions of bids, licences and the operation of the system.

The provisions about generation of the previous Electricity Directive foresaw the new generation capacity to be completely incompliance with the competition rules. Accordingly, the Member States could choose the licence procedure or the tending procedure or a compound procedure of both while forming a new generation capacity. Whatever procedure the MS chose they had to comply with the conditions that are objective, transparent and non-discriminative[*].

The previous Electric Directive gave the MS the right to make a chose about the method of access to transmission and distribution networks. According to that, the MS could chose the "third party access" or "the single buyer" method:

3.2.3.1.1 The Third Party Access

The Previous Electricity Directive claimed that the third party access could be in two ways. The first way can be explained as Negotiated Third Party Access (NTPA). In that method, the electricity generator and consumer can make mutual contract directly with each other. However, they need to make an additional contract with the transmission and distribution system operators through negotiation for the access to the transmission and distribution networks.

The Second type of the Third Party Access is Regulated Third Party Access (RTPA). In that method generators and free consumers can sign electricity agreements freely, too. However, the use charge of the transmission and the distribution systems can not be negotiated. Those charges are determined according to previously declared tariffs.

The MS have to determine an authority for the resolution of a possible conflict, in the regulated third party access method.

[*] The First Electricity Directive (96/92 EC) Article : 4

3.2.3.1.2 Single Buyer Method

The previous electricity Directive described the single buyer as the legal entity responsible for the administration of the transmission system through a central authority or/and for purchase and sail of electricity. Therefore, the single buyer is generally the transmission system operator at the same time. The basic features of the single buyer system are as follows:

a. A specific tariff is declared for transmission and distribution systems.
b. Free consumers are allowed to sign electricity purchase agreements with the persons from the region the single buyer is dominant or with persons out of that region, in order to meet their own electricity need.
c. A member state can determine that the single buyer is obliged to buy the electricity within the scope of the agreement signed between the free consumer and generator, by paying the amount excluding the network cost from the price for the single buyer. In that case, the single buyer does not know the price in the agreement between the generator and free consumer. On account of that, the profit of the free consumer is the difference between the price of the electricity they purchase from the generator and the sale price to the single buyer. In consequence, the single buyer system and the regulated third party access system resemble each other in the aspect of their economical results.

It is probable to enforce the single buyer system without bringing the obligation of purchase electricity to the single buyer. In that case, the regulated third party access or negotiated third party access is implemented for the access of the free consumer to the network[*].

The previous Electricity Directive foresaw a market liberalization process of three phases. According to that process, it was foreseen that the consumers who consumed electricity over 40 GWh annually were evaluated as free consumers in the first phase that was until 19.02.1999; in the second phase which was until 19.02.2000, the consumers who consumed electricity over 20 GWh annually were evaluated as free consumers and finally in the third phase which was until 1902.2003, the consumers who

[*] The First Electricity Directive (96/92 EC) Article 18.

consumed electricity over 9 GWh annually were evaluated as free consumers. The ratio of the consumers, using electricity over 9 GWh annually is equal to the ratio of nearly 33 percent of liberalization. However, the MS have no enclosure to liberate their electricity markets more than those ratios.

The Commission issued report on the liberalization of electricity markets in 07.04.1998 for the first time in order to follow the enforcements of the Previous Electricity Directive in the MS[47]. In that report the Commission analysed the electricity system and the ratio of liberalization in every MS. The Commission evaluated the enforcement of the Previous Electricity Directive and the liberalization in the electricity market by preparing a second report in 04.05.1999[48]. The results of both reports show that the ratio of liberalization has increased compared to the results of the Previous Electricity Directive.

3.2.3.2 The Second Electricity Directive

The Commission proposed to change the Previous Electricity Directive in 13.03.2001. It was aimed to hasten the process of forming a completely free and unified European Union Energy Market through that change. In 26.06.2003 the Electricity Directive /80) under no 2003/54 was accepted and the Previous Electricity Directive was dissolved. In the initial part of the Current Electricity Directive it is notified that many shortcomings occured during the enforcement of the Previous Electricity Directive that retarded the development of the functions of the market and also that it is necessary to effectuate the Current Electricity Directive in order to protect the rights of the small and vulnerable customers. Also it is notified that the biggest barriers before the formation of a competitive inland market with a unified functionality during the enforcement of the Previous Electricity Directive were because of the problems about the access to the market network, the tariff problems and the different levels of openness to the market between the MS. It is also asserted in the Current Electricity Directive that the access to the network should be priced in a transparent, objective and impartial way in order to provide a successful competition.

The aim of the Electricity Directive enforced is to bring about the common rules, which determine the issues about the electricity generation, transmission, distribution and provision. Those rules are mainly associated with the criteria and methods of the

organization and function of the electricity sector, the access to the market, proposals, licences and the operation of the systems (Ergün 2007, 20).

According to the 3rd Article of the Current Electricity Directive, the MS will guarantee non-discrimination between the associations in the aspects of rights and responsibilities in order to create a sustainable electricity market that is competitive and reliable. According to the same article, the MS can transfer duties of social service about the assurances within the scope of the issues on supply, regularity, quality and price guarantee and environmental protection as well as energy effectiveness and climate protection upon the associations working in the electricity sector, following an economic interest, in compliance with the provisions of the Establishment Treaty and especially with its 86th Article. However, those duties should be clearly defined, transparent and impartial.

The Current Electricity Directive states that the MS should take measures in order to protect the final consumers. With that goal, the MS are responsible with explaining the final consumers of the electricity providers about specific issues or with notifying them in the receipts and promotional materials*.

Additionally, the MS are responsible with the inspection of the supply safety, according to the 4th Article. That duty of inspection can be transferred to regulatory associations. They are also obliged to inspect and evaluate the supply/demand balance especially in their national markets, the level of energy demand and additional capacity aimed the levels of quality and maintenance, the measures taken to meet the demand during busy periods and defaulting provider(s).

It is notified in the Current Electricity Directive that the MS have to accept a method of licencing that will be practiced in compliance with objective, transparent and impartial conditions in order to construct the new generation capacity. In that aspect, there are many differences between the Previous Electricity Directive and the Current Electricity Directive. Because while the MS could prefer either of the method of licencing or the method of tender in order to construct the new generation capacity according to the

* The Second (Current) Electricity Directive Article 3(6).

Previous Electricity Directive, they can only practice only the method of licencing according to the Current Electricity Directive.

The MS, determine the conditions about licencing for the construction of the generation capacity in their own countries. However, the content of those conditions are regulated in the Directive as indicated below.

a. Safety and reliability of the electricity system, plants and secondary equipments;
b. Protection of; public health and safety,
c. Protection of; environment,
d. Land use and settlement,
e. Energy effectiveness,
f. Type of primary resources,
g. Features of the applicant in technical and financial aspect,
h. Compliance with the provisions about public service liabilities and protection of consumer declared in the 3rd Article of the Directive.

The Current Electricity Directive states that the MS can only use the method of licencing but not the method of tender to construct the new generation capacity. However, it is accepted that the method of tender can be practiced in some exceptional conditions. According to the 7th Article of the Directive, the MS can provide new capacity for supply safety through a method of tender based on the criteria issued or any other method with the same basis. On the other hand, the method of tender can be practiced only when the method of licencing is ineffective to provide the supply safety. Meanwhile, the method of tender can also be used with the aim of environmental protection and encouraging new developing technologies for capacity provision. However, this can be offered only when the method of licencing is ineffective like the previously mentioned condition.

According to the Current Electricity Directive MS nominate transmission system operators or make the organization owning the transmission systems to provide that nomination just like in the Previous Electricity Directive. The tasks of the transmission

system operator are notified in the 9th Article of the Current Electricity Directive. Some important tasks of the transmission system operator are as follows;

a. To meet the reasonable demands of the system for electricity transmission for a long- term.
b. To provide an express transmission capacity, system reliability and supply safety.
c. To conduct the energy flow in the system.
d. To have an impartial manner towards the system users in favor of the associations they belong to.

The most important change enforced about the transmission system operators in the Current Electricity Directive is on liberalization. According to the 10th Article of the Directive, which is called *"Liberalization of the Operators of the Transmission System"*, the transmission system operators should be independent from the other activities, which are not about transmission, in their legal and organizational structure and in their authority to decide, when they are a part of an organization that is vertically integrated.

However, those rules do not mean that assets of the transmission system have to detach from the ownership of the organization to which it is integrated vertically. In the Previous Electricity Directive, the system operator is independent only in administration.

In the Current Electricity Directive, some criteria are stated in order to clarify this new regulation about the liberalization of the transmission system operator. According to the 10th Article of the Directive, the requirements during the liberalization of the transmission system operator are:

a. The administrative bodies of the transmission system operators can not join the companies of the integrated electricity association, responsible for the daily operation of electricity generation, distribution and provision directly or indirectly.
b. To take measures to protect the rights of the administrative bodies of the transmission system operator by taking into account of their professional interests and their independent aspect.

c. The transmission system operator has the authority to take effective decisions independently from the integrated electricity organization, over the properties necessary for the operation of the network and continuation and development of the operation.
d. The transmission system operator regulates a harmonization program to determine the measures to prevent discriminative activities and inspects with that program.

According to the Current Electricity Directive, the MS nominate distribution system operators or make the association owning the distribution systems to nominate them, just like in the Previous Electricity Directive[*]. According to the Current Electricity Directive, the tasks of the distribution system operators are mainly as follows:

a. To operate a safe, reliable and effective electricity distribution system by taking environmental protection into account.
b. To have an impartial manner towards the system users in favor of the associations they belong to.
c. To provide the system users with the necessary information for the access to the system.
d. To supply the energy loss in their own systems and the reserve capacity in compliance with transparent and objective methods and the market conditions.

According to the 15th Article of the Current Electricity Directive, under the heading of the "Liberalization of the Distribution System Operators", the distribution system operators should be independent from any other activity which is not about distribution, in the aspect of their legal and organizational structures and their authority to take decisions, provided that they are a part of a vertically integrated association.

The requirements for the liberalization of the distribution system operators are mainly as follows:

a. The administrative bodies of the distribution system operators can not join the companies responsible for the daily operation of electricity generation, transmission and supply, directly or indirectly.

[*] The Second (Current) Electricity Directive Article 13.

b. To take measures to protect the rights of the administrative bodies of the distribution system operator by taking into account of their professional interests and their independent aspect.
c. The distribution system operator has the authority to take effective decisions independently from the integrated electricity organization, over the properties necessary for the operation of the network and continuation and development of the operation.
d. The distribution system operator regulates a harmonization program to determine the measures to prevent discriminative activities and inspects with that program.

When the Current Electricity Directive is compared to the Previous Electricity Directive, one of the most important innovations is the statement of provisions about the classification of the accounts of the companies in the electricity market.

The Previous Electricity Directive and the Current Electricity Directive are different from each other in their provisions about the access to the transmission and distribution networks (Ergün 2007, 27). In the Previous Electricity Directive, the MS have the right to choose their method of access to the transmission and distribution networks. According to that, the MS can choose either the third party access or the single buyer method. On the other hand, according to the Current Electricity Directive, the MS have to enable the third parties to access to the transmission and distribution systems according to the tariffs issued in an objective way[*].

Therefore, as to the Current Electricity Directive, it is impossible to practice the system of negotiated network access in the MS.

In the 21st Article of the Current Electricity Directive, it was determined that all the customers would be accepted as free consumers as of 01.07.2007.

There are provisions about the Regulatory Authorities in the electricity sector in the Current Electricity Directive. Accordingly, the MS have to nominate authorized organization(s) for regulatory duties. Those authorities have to be completely

[*] The Second (Current) Electricity Directive Article 20.

independent from the interest of the electricity market. Also, they are required to prevent discrimination and to sustain an effective competition and functional market.

As mentioned before, the regulatory authorities in the electricity sector has to be independent. However, that independence is explained as being completely independent from the interests of the electricity market. In other words, it is to be independent from the interests of the market participators. On the other hand, although it is not notified clearly in the Directive, those authorities should absolutely be independent politically and financially enough in order to carry out their duties of inspection and regulation independently.

The regulatory authorities are obliged to determine and approve the methodologies used in the connection or access to the national networks, in the services of balancing and in the tariffs on transmission and distribution. Also they can demand from the transmission and distribution system operators to modify their tariffs, rules, mechanisms and methodologies in a reasonable and impartial way.

The MS have to create effective and express mechanisms providing control and transparency, in order to prevent any misuse of the dominant position in the market and any destructive activity. As of 31 July 2007, the related authorities of the MS have to present a report to the Commission about market dominance and the destructive manners hindering competition, in compliance with the competition law every year until 2010. After 2010, those reports will be presented by the related authorities, once in two years. It s also foreseen in the Directive that the National Regulatory Offices/Associations are required to contribute to the development of the inland market by cooperating with each other and the Commission in a transparent way.

3.2.3.3 Proposals for Change in the Electricity Legislation

The EU Commission declared some proposals about to change the European Union Energy Policy, through a press statement in 10 January 2007[49]. The primary issue about that changes is about the goal of establishing a single liberated European Union Energy Market. The Commission claims the benefits of liberalization in the energy markets and assert that some innovations are necessary in the electricity and natural gas directives in order to reach that goal. The Commission also proposes to clarify the differences

between the electricity generation and distribution, to strengthen the independent administrative authorities and to raise the level of interconnection between the MS to a ratio of 10 percent, at least. The Commission also aims at a complete liberalization in the electricity and gas markets until 2009. Another issue among those plans is about the decrease of carbon dioxide emission. In parallel with that decrease, a resolution to sustain the competitive power of European Union in the global markets and to decrease the energy supply safety of EU, is suggested. Through those changes, the Commission plans to decrease the ratio of carbon dioxide emission of EU to the level of 20 percent until 2020 and so to limit the global climate change with 2 ° C. Also, it is stated that a decrease of emission in the ratio of 30 percent can be seen until 2020 with the support of international treaties.

The Commission proposes to prepare and enforce a European Energy Technology Plan for the decrease of carbon dioxide emission. With in that scope, EU is suggested to provide a financial resource that is 50 percent more than before.

The Commission advances some proposals about also nuclear energy. The MS are free whether to prefer nuclear energy or not, on the other hand if a state wants to decrease their electricity generation based on nuclear energy that country is obliged to replace that nuclear energy with an energy resource with low carbon dioxide emission.
The Commission also touches upon the energy disposal issue in its proposals. The Commission repeats its goal in the ratio of 20 percent of energy disposal that is equal to 100 billion Euro financial disposal until 2020. The Commission also advanced a proposal to sign an international treaty about energy productivity.

The Commission emphasized on international cooperation, too and states that European Union can not achieve its goals of energy in its own. It is also asserted by the Commission that EU should clarify its own reviews and ideas primarily in itself, in order to achieve that international cooperation.

3.3 THE FORMATION OF THE EUROPEAN REGIONAL ELECTRIC MARKET

European Union that is an economical and social union consisting of 27 Member States with the participation of Bulgaria and Romania lately is still in the process of enlargement. EU containing 27 nations and 500 millions of population is the biggest trade block in the World. However, that enlargement process has not brought a solution to the problem of dependence on the external resources of energy yet. Therefore, the idea of provision of supply safety and resource variation for Europe that is expected to come across an energy deficit of 13 percent in 2010 and 28 percent in 2020 has brought the Union to a critical point[50].

The regional cooperation in the field of energy has always been one of the important goals that the countries have wanted to reach and especially because of the process we have been into and the improvements lately the regional cooperation process has become inevitable.

Improvement of the connections of energy cooperation with the border countries is of great importance in the European Union enlargement process. With the decision 2003/54/EC of EU Parliament and Council, the "New Electric Directive" and the Regulation on Cross-Border Trade in Electricity" were accepted. The formation an electric market open to competition depicted in 96/92/EC, the Directive 2003/54/EC and the "Regulation on Cross-Border Trade in Electricity" contribute to the improvement of the common interconnections[51].

The formation of the regional electric markets explained in various studies prepared by the European Union Commission and in the report of July 2003 and also discussed in the 8th Florance Forum is the result of the basic energy policy goals.

An important point that should be touched on in that aspect is that, the liberalization process in the EU was primarily enforced in the national markets. From the beginning of 2000 with the effect of the developing technologies, the national markets became regional markets by unifying and in that way a new integration process initiated.

It is aimed that the regional markets forming as a result of re-structuring of the energy sectors, their opening to competition by liberalization and the studies on cooperation over the market management will later form the internal market of energy of the EU. As

a result of that, the regional electricity markets formed with the participation of the Member States and the candidates and with the contribution of the border states will strengthen the idea of an internal electric market of the Union mentioned in the basis[52].

While the decision processes on the supply safety on the national level provide the MS with more flexibility, when it is evaluated through the perspective of the regional market, it seems obligatory for the MS to constitute more brought and delicate policies. In the current position, the "Normic" regional electric market formed in the Northern Europe is carried out with the participation of Norway, Sweden, Finland and Denmark. In the mean time; England& Ireland, Iberia, West Europe, East Europe, Baltic, Italy and South-East and South-East Europe regional electric markets are being formed. In that case, Turkey is a member of the South-East European Regional Energy Market and started its studies for integration to that regional market in 2005. As a result; on the basis of the EU Directives the transition from the national markets to the regional markets are aimed. However, that does not mean to estrange from the idea of the internal electric market of the EU.

3.4 TURKEY'S ELECTRICITY ENERGY SECTOR AFTER EUROPEAN UNION EFFECT

In 1963 beginning with the "Ankara Agreement", Turkey's goal of becoming a Member State of the European Union, gained dynamism with its application for full membership in 1989 but its acceptance as a candidate country was in the Helsinki Summit in 1999. Turkey's becoming a member state has required the related regulations about the harmonization with the Union since then. In that aspect Progress Reports have been prepared ever year for the country by the Council and the political, economical and sectoral steps that have been taken and that should be taken by Turkey about the harmonization have been explained in them (Oral 2004, 162). The first "Accession Partnership" of Turkey was accepted in March 2001[53]. With the progression of the recent years the Negotiation Period started for the accession of Turkey for the EU as of the end of the year 2005 however it is uncertain how long this period will continue.

The national program of Turkey includes many headings on the political, economical and sectoral basis. Under the heading of energy the issues about electricity natural gas and fuel were focused on.

About the electricity, the required legal procedure subject to the European Parliament and Council Directive no 96/92/EC which is about to common rules related with the electricity internal market, was put into force in accordance with the Act of the Electricity Market no. 4628 in 2001[54]. Under the heading of priorities the issues emphasized on are as follows;

a. On the subject of the complete harmonization with the internal energy market the liberty and the effectiveness of the regulatory authority in the sector are underlined, also it is notified that the studies to provide the establishment of a competitive internal energy market in accordance with the directive, by bringing about the removal of the restrictions in the cross-border energy trade.
b. The necessity to form a program in order to adopt the European Union Energy Procedure which is out of the internal energy market and in that aspect to provide the procedure accordance about the energy productivity and also to prepare a program to increase the energy generation out of the renewable energy resources is emphasized on. Also it is mentioned that the Union needs to harmonize with the EU procedure about the nuclear energy.
c. It is of great importance for EU to develop the Trans European Energy Networks in order to provide the EU supply safety. Within that scope, the necessity to encourage the enforcement of the projects serving the common interests about the development of the Trans European Networks in Turkey is emphasized.

The points that can be derived from the National Program are as follows;

a. The issue on the prevision of the liberty and effectiveness of the regulatory authority in the electricity sector took place in the short term goals of the Accession Partnership in the year 200355. The concept of Liberal Administrative Authority entered into the electricity sector and the state mechanism with the establishment of EPDK. The liberty of EPDK was provided in the financial and administrative aspect and it has its own budget and income. In the mean time, studies for the operation of the market were made and regulations were prepared, so developments on the provision of the liberty and effectiveness of the authority were implemented.

b. The issue on the removal of the restrictions in the cross border energy trade took place among the medium-term goals of the Accession Partnership in the year 2003. The required steps that must be taken in the cross-border energy trade are to provide the parallelism between our national transmission systems with the European Transmission System in the aspect of the EU internal energy market and to supply the deficiency of the inter-connectional capacity physically in the country. Within that scope, "European International Energy Transmission Networks" (UCTE) stands in the core of the European electricity System. Turkey, with the interconnection the UCTE II will provide through Greece, can connect to the network of UCTE[56].
c. The establishment of a competitive internal energy market in accordance with the electricity directive taking place in the short-term goals of the Accession Partnership of the year 2003 tried to be provided within a legal frame through the Act of the Electricity Market No. 4628. Within that scope vertical unbundling was implemented and some institutions were formed although they were under public authority. On the other hand some issues about the privatization of the public companies and the payment of the costs rising from the previous enforcements take place within scope of the formation of a competitive electricity market. Although the privatization of the distribution and generation companies is of great importance in the formation of a competitive market mechanism working in the factual aspect, also the increase of the market players are important as well. In the mean time, the formation of the required secondary procedure is necessary too. Some regulations about that were issued. To provide the operation of this system completely will take a specific time as it does all around the World.

Also some necessary procedures about the direct or indirect electricity energy take place except the ones mentioned in those 3 clauses and the ones generally about the internal electricity market. Those are diverse directives accepted on different dates and they are procedures that have to be enforced like the directive 96/92/EC.

a. The provision of the procedure accordance is explained about the energy productivity and took its place among the short-term goals in the Accession Partnership. So it also took place in the primary clauses of the national program.

Also the related regulations on the evaluation of the national energy disposal potential and on the contribution to the issue of energy productivity by fulfilling the liabilities rising from the international environment agreements are emphasized in the VIII. 5-year development plan.

b. The directive 2001/77/EC about the renewable energy resources which was issued by the Council in September 2001 in order to increase the supply safety and the usage of the renewable energy in the supply balance, take place in the Accession Partnership. Also there are provisions about supporting the usage of the renewable energy resources in EPDK procedure.
c. The harmonization with the European Procedure on the issue of nuclear energy is notified in the Accession Partnership and the National Program. The regulatory association authorized in giving licence to the nuclear power plants and the radiation resources and their inspection is Turkish Atomic Energy Authority (TAEK). Within that scope TAEK issued a regulation on the count and control of the nuclear materials. That is in complete harmonization with the Commission Regulation.
d. Except the heading of energy in the National Program, "Free Movement of Capital" on the issue of the requirements for the removal of the all restrictions regarding the foreign investments (primarily the ones from EU) in all the sectors takes place.

In the year 2003 the Directive no 2003/54/EC of great importance in the Accuis Communitaire on Energy was issued. The Electricity Market Act issued within the harmonization process of the procedures in Turkey with EU was put into force in 2001 in order to unbundle the accounts in the activities of generation, transmission, distribution and to provide the liberal electricity market on equal, transparent and fair market conditions[57].

In 2004, the Electricity Sector Strategy Document approved by the Supreme Planning Council (YPK) was issued and the route and the schedule about the privatization of the electricity generation and distribution properties and entrance in to the market were determined. In that aspect it is predicted that opening up the current market of 29 percent will be frozen until the year 2009 and after the year 2009 the market will open

up to competition gradually until the year 2011. In the year 2011, the market is aimed to open up to the competition completely. In the negotiation process:

a. The unpaid receipts and the problems about the high lost in distribution,
b. Opening up the market in the predicted time limit,
c. The privatization of the generation and distribution properties, are of great importance.

In the Accession Partnership of the year 2003, the removal of the restrictions in the cross-border electricity trade is one of the medium term goals. For the integration to the internal energy market of the EU, our national transmission systems need to work in parallel with the European Integral Transmission System, UCTE and it is necessary to supply the interconnectional capacity deficit physically.

4. REGULATORY AUTHORITIES

A Regulatory Authority or Regulator is a government agency that regulates an area of human activity by codifying and enforcing rules and regulations, supervision or oversight for the benefit of the public at large. It is usually a part of the executive arm of the government or has statutory authority to perform its functions. Regulatory authorities are commonly set up to enforce standards and safety, to oversee use of public goods and regulate commercial activities[58].

4.1 THE HISTORY OF REGULATORY AUTHORITIES IN TURKEY

The Electricity Market Regulatory Authority had been established as per Law no. 4628 and it was later renamed as Energy Market Regulatory Authority as per the provisions of Natural Gas Market Law no. 4646. With the enactment of the Petroleum Market Law no. 5015 and Liquefied Petroleum Gas (LPG) Market Law no. 5307, the Authority has been commissioned to regulate and supervise the petroleum and LPG markets. Members of the Energy Market Regulatory Board assumed duty on November 19, 2001[59].

The Authority is entitled to establish regulatory process and to take exceptional decisions pertaining to the implementation of the electricity, natural gas, petroleum and liquefied petroleum gases market laws.

The objective of the aforementioned Laws is to establish a financially viable, stable and transparent energy market, which will function as per the provisions of private law and within a competitive environment to ensure the independent regulation and supervision of the market in order to provide sufficient electricity, natural gas, petroleum and LPG of good quality to consumers, at low cost, in a reliable and environment friendly manner[60].

4.2 THE FUNCTION OF THE REGULATORY AUTHORITIES

As a result of the globalization and the new technological developments, many sectors which used to be accepted as natural monopoly before and subject to legal regulations or under public property have obtained a competitive quality completely or partially in the aspect of their potential.

This new structuring model began to be practiced in the Anglo – Saxon Countries primarily England before the Continental Europe and those countries began to re-structure their sectors and to make their legal regulations[61]. The sectors which were structured according to the free market economy in the countries like the USA long time ago became the leading examples for this change in the world. The establishment of the Liberal Regulatory Authorities was a result of the privatization of the public services and the process of liberalization in the European Union.

It is difficult to say that the whole associations labeled with the concept of Regulatory Authority have the same qualities. It is possible to group those associations in two parts. The first group functions in the regulation and inspection of the fields called as the sensitive sectors of the public life. This group includes associations like the Radio and Television Supreme Council (RTÜK), the Capital Markets Board (SPK) and the Competition Authority. The second group contains the Regulatory Authorities formed in order to regulate the fields where public and private operators display activities together after the public services which used to be under public monopoly before open up to competition and the public enterprises enter those fields[62].

European Union accepts and requires from the member states that if public and private operators display activity in the same field the function of regulation should be carried out by liberal regulatory authorities but not the public administrations directly.

We can see that those associations' original qualities can be evaluated in two parts as structural and functional. We describe them as "liberal" about their structural qualities and also as "administrative" in order to notify that they are administrative associations.

Secondly, the factors that reveal the original qualities of those associations are their functions. The functional qualities of those associations can be evaluated in three

aspects. Primarily, they have a “regulatory” function and secondly a “controlling” function giving rise to the third function that is “the authority to apply sanctions”. There is another quality that is not mentioned in the whole, however included in most of them and that is the authority to solve the disagreements (Tan 2002). Some of the important duties and authorities of EPDK are as follows;

a. To enforce the provisions of that Act,
b. To determine the deductions in the limits about the description of the free consumer till the end of January every year and to issue the new limits,
c. To make regulations to give electricity energy service to the consumers in a safe, high quality, continuous and cheap,
d. In accordance with the accounting methods accepted for the licence owners, to determine the financial reporting standards and management information systems and to provide the enforcements of them,
e. To determine the safety standards and conditions for the generation, transmission and distribution companies, auto-producers and the power plants and to provide the enforcement of them,
f. To develop the infra-structure in order to use new commercial method and trade channels in parallel with the development of the market and to provide the enforcement of those requirements,
g. To develop model agreements in accordance with the aims of this Act, when required,
h. To determine the basis and methods that will prevent the exposition of every kind of information sensitive in the commercial aspect including the commercial secrets and secret competition information.
i. To inspect the activities and enforcement of the legal entities displaying activity in the market about their compliance with the standards of equality and transparency and also to control if those legal entities comply with the provisions and conditions of the related licence.
j. To form and enforced standards and rules about the relationships between the participators in order to provide competition and to determine the restricitons of those standards on the issues of mutual participation, operation and account in the market activities when required.

k. To prepare the annual report and the other reports about the development of the market and to present them to the Ministry,
l. To determine on the issues of the purchase, sales and the rent of the movable and immovable goods or services for the Association,
m. By observing the procedures and enforcements of the international organizations about the market, to make required regulations and to prepare a legal regulation and presented to the ministry when necessary,
n. To determine on the whole process about the receivables, claims and debts of the Association to the third parties,
o. Taking into account of the environmental effects of the electricity energy generation, to take required measures in order to promote the usage of the renewable energy resources and the local energy resources and to make required enterprises for the encouraging enforcements on that issue through the related associations and institutions.
p. To approve the directions and official statements network regulation, distriubution regulation, customer services regulation and the stabilization and mediation regulation which are required for the enforcement of this Act and the duties given to the Association in accordance with this Act and which the real persons and legal entities have to obey with to develop the competition in the market.
q. To confirm the demand estimations prepared by the distribution companies and concluded by TEİAŞ and to revise them when required,
r. To confirm the generation capacity projection and transmission investment plans prepared by TEİAŞ and the distribution investment plans, prepared by the distribution companies operating the distribution power plants under public property by depending upon the demand estimations with the Council approval and also to revise them when required and to inspect the enforcements of the investment plans they confirm in accordance with those plans,
s. In accordance with the related licence provisions; to evaluate the wholesale and the distribution and retail sale pricing of TETAŞ and to approve them,
t. To determine the basis of the pricing for the transmission, distribution, wholesales and retail sales and to revise them in accordance with the related licence provisions when required,

u. To issue the percentage on the electricity energy amount the autoproducers and their groups offer out of their need and to revise them when required,
v. To determine the additional cost ratio of transmission and to make regulations about the payment of the additional cost of transmission by TETAŞ
w. To determine the costs to be paid to the Association by legal entities for the related transactions about the licences and the other transactions,
x. To evaluate the inspected financial reports of the legal entities displaying activity in the market or to make another authority to evaluate them,
y. To determine the scope of the reports that the legal entities will present to the Council regularly, about the service reliability and the other performance measurements, in the instance of the violation of the provisions of this Act, the regulation provisions issued, the tariff and regulations approved by the Council, the licence provisions and conditions and the Council decisions, to impose and administrative fine and to cancel the licences,
z. To examine the instances threatening the public utility and safety or having the possibility to do that by cooperating with the other public institutions in order to protect generally the public utility, the hydrolic resources, eco-system and the property rights during the building and operation of the generation, transmission and distribution power plants and also to take the necessary measures in those power plants to remove those threatening factors, provided that the information is given beforehand.

4.3 THE RESTRUCTURING MODELS

The basic models seen in the table can be summaried as;

a. In the first model, monopoly takes place in every level. In that model vertical integrated monopoly structure is seen, there is no competition in generation and the retail seller is not free to choose the provider. Generation, transmission, distribution and sale are carried out from one hand and this is generally an association dependent on State,
b. In the second model, there is only one purchaser / seller, although there is competition in generation this is only within the internal market and the third

parties do not have the right to enter the network and to make sale to the final consumers.

c. The third model is the competition model in the whole sales. There is competition in generation and the distribution companies can purchase energy from any provider, anybody can use the network freely and there is no retail competition.
d. The fourth model is the competition model in the retail sales. The transmission and distribution lines can be used freely. The sale activities of distribution and retail are separated from each other. The retail sellers can choose their providers.

Table 4.1 : The basic restructuring models in the World

Model 1

GENERATION
TRANSIMISSION
DISTRIBUTION
RETAIL

Model 2

GENERATION	GENERATION	GENERATION
TRANSMISSION		
DISTRIBUTION		
RETAIL		

Model 3

GENERATION	GENERATION	GENERATION
DISTRIBUTION		
TRANSMISSION RETAIL	TRANSMISSION RETAIL	TRANSMISSION RETATIL

Model 4

GENERATION	GENERATION	GENERATION
DISTRIBUTION		
TRANSMIS SION	TRANSMIS SION	TRANSMIS SION
RETAIL	RETAIL	RETATIL

Reference: Bayraktar, B.N., 2003. Düzenleyici İdari Otoriteler (Regulatory Authorities). *Dünya Enerji Konseyi Türk Milli Komitesi Türkiye 9. Enerji Kongresi Cilt I.,* 24-27 Eylül, İstanbul: Poyraz Ofset.

There is a parallelism between the formation and development of the liberal administrative authorities with the start of the privatization practices and the flourishment of the "the economy of regulated market" superseding the "statism" policies in economy (Tan, 2000).

With restructuring, opening up the sector to competition is aimed and it is possible with fundamental changes like the resolution of the vertical integration, the privatization of the public associations and properties, and opening the transmission and distribution networks to anyone who wants to participate in, on equal conditions[63]. The concepts of

the “formation” and the “maintanence” of competition include different measures from each other. The opening up of the market to the competition requires the formation and enforcement of the rules peculiar to the sector. The preparation of the required procedure by the regulatory council means the existance of “ex-ante” authority in the market and that reflects the important function of the regulatory councils for the formation of competition. In the maintanence of the market and the intervention in violations phase, it is of great importance for the competition associations to utilize from the “ex-post” regulatory associations by obtaining document, information and experience.

Another point that should be underlined is that especially the electricity generation and distribution take place as “public service” in the Turkish legislation, however in the EU legislation the concept of “public service” taking place in the French legislation is not used, instead the concept of “universal service” is used and that means the activity that should be presented to everyone with a specific quality and on a specific price continuously and regularly and the activities that provide the minimum necessities indispensable for a modern person. The establishment of EPDK is based on this principle.

The basic reason of the necessity for the liberal regulatory associations is to provide the entrance of the generation, retail sales and wholesales into the competition[64]. According to the general acceptance, it is obligatory to regulate the activities with the quality of natural monopoly. Those activities are transmission and distribution networks. In some fields re-regulation and de-regulation are seen together. The re-regulation is to enforce regulation again after the occurance of some unpredicted regulations (public healt, environmental safety, the protection of the consumer…etc) in some sectors where de-regulation is enforced in the course of time.

So how a structure should be formed? One of the basic requirements of regulation is to provide the liberal market conditions. With that aim, privatization and liberalization should be enforced together, required measures should be taken and the number of the participations in the markets should be increase. That is only possible through structural changes and reforms. Experts of that subject touch on the “requirement for narrowing

the activities of public investment and operation in the markets of goods and service as soon as possible, the requirement for the adjustment of the public property and some rights that do not comply with the market economy concept through sale and transfer and the requirement for the re-determination of the necessity role that public should play in the economical markets[65].

Some important goals of regulation are as follows;

a. To provide the distribution of the service between the consumer effeciently, to keep the dominant position from creating and inefficiency, that is allocative efficiency.
b. To provide the conditions for the firms producing service to produce that service with the lowest cost, that is cost efficiency.

Some goals about the distribution of income and with social quality are added to those two basic goals;

c. To provide universal service that is to reach the service even to the regions or income groups who may not be able to effort the cost,
d. To provide affordable prices for the consumers,

There are also some goals for the investors from the private sector in that field;

e. To provide the investors with the conditions to obtain a competitive profit,
f. To help the investors to follow the technological developments closely and make investments,
g. To put the regulatory commitment mechanism into the system, to provide the associational commitment saying that the rules of that mechanism will be stable and that they will not be changed unfairly and antagonized,

It is obvious that those goals are discordant with each other in some points, because of that it is required to design the regulations taking into account some balances.

5. THE REFORM OF THE ELECTRIC ENERGY SECTOR AND THE PRIVATIZATION STRATEGY DOCUMENT

The State of the Republic of Turkey clarified its view and posture with "The Reform of The Electric Energy Sector and The Privatization Strategy Document" which was issued as a decision of Supreme Planning Council in 17.03.2004[66]. The document mentioned was the legal document of Turkey would lead a way in the following ten years in the electric energy sector[67]. Some of the goals determined in the strategy document have failed to be effectuated in due time as it was planned, however they are still in process of enforcement. The structure, fundamental motives and goals of that document are summarized below.

5.1 AIMS AND BASIS AND THE BASIC PRINCIPLES OF PRIVATIZATION

The basic aim is to present the electric energy which is an indispensible part of our economical and social life to the consumers in sufficient, high quality, continuous and cheap way. The liberalization of the electric energy sector will go on towards that aim within the frame of the aim of the harmonization with the "Acquis Communautaire". With the required reforms the privatization of the electric energy generation and distribution associations will continue by restructuring the electric administrations belonging to the public. The privatization of the electric energy generation and distribution associations on time and in a successful way plays a crucial role in liberalization. The basic benefits expected from electric energy sector reform and privatizations;

a. To decrease the costs by managing the electric generation and distribution associations in an effective and productive way.
b. To provide the safely of supply of the electric energy and to increase the supply quality.
c. To decrease the level of the technical loss to the average of the OECD countries and to prevent the leak.
d. Without bringing an obligation to the Public Corporations, to provide the right of required renewal and widening investments for the private sector.

e. To reflect the benefit provided by competition in the activities of electric energy generation and trade and by regulating the quality to the consumers. In the process of the liberalization of the electric energy sector; to emphasize on resulting the integration to the free market system with lowest cost for the public corporations while taking crucial steps in order to give the guarantee to the local and foreigner inventors.

In the process of integration to the free market system, temporary precautions would be determined to provide an additional capacity in a sufficient amount and to prevent a supply deficit,. Some other enforcements like import and the rehabilitation of the current power plants would play a complementary role in parallel with those precautions. The basic goal was to put into force a pricing system reflecting the costs in the activity zones which were subject to the regulation in the electric energy sector, however the enforcement of the national tariff was aimed to continue throughout the first tariff enforcement period by providing an equalization mechanism in order not to expose the consumers that weren't independent to vast pricing differences.

The principles below were determined as the basis of the process of privatization:

a. Privatizations would be made within the frame of the Act no.4046 by the Privatization Administration.
b. An approach only emphasized on income in the privatization enforcements would be abstained from.
c. Permanent rises in the electric energy prices after the privatizations would be abstained from.
d. The companies which could reach their aims and goals of a liberal electricity market and which were financially strong would be encouraged.
e. Obligatory management and maintanence activities and obligatory investments would be carried on independently from the process of privatization without an interruption.
f. Within the frame of this document required legal regulations would be carried out in order to help and hasten the privatization of the generation and distribution associations when necessary through the approval of the Privatization Administration.

g. Because the distribution companies having retail sales licence in a free market needed to be in a structure reliable for investors in the generation field or the ones who would do that, the privatizations would begin from the distribution sector.
h. In order to form a competitive structure in the electric energy generation, the generation associations were decided to be privatized by being classified in a convenient way.
i. In the privatization enforcements, a system would be formed, in which current public charges would be taken into account and the state guarantees wouldn't be obligatory.

5.2 PRIVATIZATION METHODS

The necessity of privatization is based on human nature, which can be described in one sentence; "What you own, you take care of; what nobody or everybody owns falls into disrepair"[68].

Privatization is an indispensable factor in decentralization of a national economy. Rejection of the administrative function of government in state economy creates an impulsive force in the market mechanism of privatization and that condition gives rise to market economy and contributes to the development of a free market. A successful private sector warrants more providers and gives the private persons the opportunity to own business. Private persons are closer to financial affairs and make much more profit than governments and naturally create competition for better, faster and cheaper service and customer satisfaction and competition is the best administrator of a market. Electricity is distributed according to a plan under the control of a centralized economy in the countries where markets are not free and therefore those states hold all the power and authority and are in charge of electricity generation and distribution and that unnatural function is a heavy burden for a state.

When we examine the privatization methods of Turkey, the Act no. 4046 is the "Act About the Privatization Implementations" and according to the 18/A Article of that legislation, the organizations within the scope of privatization can be privatized in compliance with the methods of "the transfer of the right to sale, hire and operate, the

establishment of incorporeal rights on property, the income partnership model and the other legal acts in compliance with the requirements of the business".

Tablo 5.1 : Privatization Methods

<table>
<tr><th colspan="3">Sale</th><th>Lease</th><th>Transfer of Management Rights</th><th>Establishment of Rights</th><th>Income Sharing Model</th></tr>
<tr><td>Asset Sale</td><td colspan="2">Sale of Shares</td><td rowspan="4">Transfer of the benefiting rights of the assets for a specific period and in return for a price.</td><td rowspan="4">Transfer of management rights of the enterprises as a whole or in parts and of mines for a temporary period, in return for a price and exclusive of property rights.</td><td rowspan="4">Establishment of utilisation rights like usufruct, servitude, etc. on the assets of enterprises. (Within the framework of other related legislation)</td><td rowspan="4">Other methods which can be devised according to specific structure of enterprises. (e.g. Karabük Iron and Steel Factory transaction)</td></tr>
<tr><td rowspan="3">Transfer of production and service units and other assets of enterprises in return for a price</td><td colspan="2">Transfer of shares through domestic or international block sale, public offering, sale to employees, through ordinary sale or private placement in stock exchanges, sale to investment funds.</td></tr>
<tr><td>Block Sale</td><td>Sale to Employee</td></tr>
<tr><td>Forming valuation and tender commissions /preparation of information memoranda /sale announcements / negotiations /approval of tender results /closing the deal and contract</td><td>Information memoranda /application to İstanbul Stock Exchange for registration /issuing offering circulars, prospectuses, announcements /public offering transactions /trading at ISE</td></tr>
</table>

Reference: http://www.oib.gov.tr/program/uygulamalar/ozellestirme_yontemleri.htm

The main philosophy of privatization is to confine the role of the state in the economy in the areas like health, basic education, social security, national defence, large scale infrastructure investments; provide legal and structural environment for free enterprise to operate and thus to increase the productivity and the value added to the economy by ensuring more efficient organization and management in the enterprises that should be commercialized to be competitive in the market.

The major targets of the privatization program are:

a. To minimize state involvement in the industrial and commercial activities in the economy,
b. To provide legal and structural environment for free enterprise to operate,
c. To decrease the financial burden of State Economic Enterprises on the national budget,
d. To transfer privatization revenues to the major infrastructure projects,
e. To expand and deepen the existing capital market by promoting wider share ownership,
f. To provide efficient allocation of resources.

5.3 PRIVATIZATION-PREPERATION WORKING PROGRAM AND THE PRIVATIZATION OF THE DISTRIBUTION ZONES

Before the contract awards of the privatization of the distribution field;

a. The tariffs on the administration of network and on the retail sales of the distribution companies;
   1. The contracts of the period of transition between the distribution companies and generation groups,
   2. The contracts of the period of transition between the distribution companies and Turkish Electricity Trading and Contracting Co.Inc.(TETAŞ),
   3. The contracts of the period of transition between Turkish Electricity Trading and Contracting Co.Inc. (EÜAŞ) hydro-electric power plants and TETAŞ were determined to be completed.
b. In order not to hinder the development of the retail sales market, a mechanism of balancing and compromising would be put into force. Privatization of the generation associations would be implemented after the market management system made by TEİAŞ, was put into force. It was aimed to come to that point by the middle of 2006, and then commercial regulations would be made in order to help the privatized generation companies for the sale of their generation.

5.3.1 The number of the distribution zones

Necessary regulations were determined to be enforced, by taking into acount of the current legal process, the geographical structure conditions of administration, the

balance sheet of energy and technical and financial features of our country; in order to form 21 distribution zones at the most all over Turkey.

5.3.2 The Privatization Method in Electricity Sector

The basic rules in privatization in the document were as follows;

a. The license period would be 49 years at the most.
b. Tariff enforcement periods longer than one year would be followed and the first tariff enforcement period would be carried out for five years.
c. The tariffs on the first tariff enforcement period and the issues on the service quality aims would be determined before the privatization.
d. Contracts would be arranged with the providers for buying electric energy in the amount equal to at least 85 percent of the predicted load supply (electric energy) for the consumers not independent in the distribution zones.
e. The contract documents would contain the need of income that was determined in the first tariff inforcement period and also the minimum conditions mentioned below, about the regulation within the scope of the approved tariff and the evaluation would be made on the cost that would be proposed;
    1. The detailed service quality provisions including the goals and punishments,
    2. A pre-determined reduction program againts lost-leak,
    3. The details about the required investments,
    4. The methodology that will be carried out while evaluating the pricing.
    5. Only the distribution companies will effect sales to the consumers that are not independent.
    6. The independent consumer limit will be stable as 7.8 gWh until the beginning of the year 2009. According to a calendar that will be determined, by taking into account the safety of supply from the beginning of the year 2009, the independent consumer limits will be decreased until the year 2011, following the aim to reach the ratio of market openness to the rate of 100 percent.

5.3.3 Action Plan of Distribution Privatization

In the Action plan of Distribution Privatization, it was determined that;

a. Until 01.04.2004, TEDAŞ and its dependent corporations would be taken into the privatization program,

b. Until 30.04.2004, the required legal regulations about the planning of the distributions zones would be made.. Studies would begin on taking consultation service for the privatization procedures by the Privatization Administration,
c. Until 30.09.2004, performance standards and the target rates of loss-leak would be declared for every distribution zone. Account classifications on the activities of the distribution zones would be completed.
d. Until 31.10.2004, load profiles would be constituted on the distribution zones. A pricing method would be formed on the tariffs to be put into force in the distribution zones and the analysis of service cost would be resulted. A method of sale price equalization for the consumers would be formed.
e. Until 30.10.2004, the income need of the distribution zones would be stated precisely. The distribution companies in the privatization program would apply for license. The contracts of transition period between TETAŞ and the distribution companies would be signed. Contracts for transition period between portfolio generation companies/groups and the distribution companies would be signed.
f. Until 31.12.2004, the distribution companies would apply for tariff. Licences would be provided for every distribution zone separately and within the frame of the income need determined for every distribution company/zone, the tariff proposals would be approved by EPDK in order to put into force as of 01.01.2005.
g. Until 31.03.2005, the process of the contract awards would begin for the distribution company/ zones following the enforcements of the preparation studies depicted above and until 03.12.2006, it was aimed to privatize all the distribution companies/zones.
h. Within the frame of the enforcement that would be effectuated, the transition period contracts would be revised and the revision of tariff would be carried out by EPDK, when necessary.

5.4 RE-STRUCTRING THE GENERATION ASSOCIATIONS AND PRIVATIZATION OF THEM THROUGH CLASSIFICATION

The sections of the hydro-electric power plants on energy generation built and administrated by DSİ and their real properties as integrated/component parts were

determined to be handed over to EÜAŞ , until May 2004, without paying DSİ, by taking into account the real costs.

While determining and classifying the generation power plants, which were included in the privatization program, lack of a dominant power and financial difficulties were determined to be handled as basic aspects.

The Action Plan of the Privatization of Generation is mentioned below;

a. Until 30.04.2004, the hydro-electric power plants that would stay under public authority (EÜAŞ) would be specified. The sections on electricity generation of all the hydro-electric power plants which were public properties would be endorsed over EÜAŞ.
b. Until 30.09.2004, the portfolio production groups would be determined and become companies.
c. Until 30.11.2004, the contracts of the transition period between EÜAŞ and TETAŞ and also the transition period contracts between the portfolio production companies/groups and the distribution companies were planned to be signed.
d. Until 30.09.2005, portfolio production companies/groups were determined to be included in the privatization scope. The contract on the service of consultation of the privatization process would be signed by the Privatization Administration (ÖİB).
e. By 01.07.2006, the privatization process would begin for the portfolio production companies/groups on the condition that the system of the market management constituted by TEİAŞ worked.

5.5 ENFORCEMENT OF THE MARKET AND THE TRANSITION PERIOD ENFORCEMENTS

A structure of free market that is completed by a mechanism of stabilization and mediation and that is dependent on the mutual agreements between the buyers and sellers will be formed. In order to reach the goals and principles of that strategy, the stabilization and mediation mechanisms are aimed to function as a market independent from a contract, where electric energy can be bought and sold and also that enforcement

is aimed to contribute to the safety of supply by helping the small and independent electricity producers to enter the market.

As a beginning, the amount agreed with the transition period contract will contain 85 percent of the total electric energy demand of the consumers that are not independent in the related distribution zone. The transition period contracts will be carried out on the prices regulated and except the TETAŞ contracts they will be valid until a period of five years at the most. When the period of those contracts come to an end, mutual agreements based on market prices will be put into force instead and so an easier transition to the free market will be possible. A mechanism of stabilization and mediation is aimed to lead to the constitution of a spot market and to be effective on encouraging new investments.

The human resources, basic financial and technical facilities of TEİAŞ will be strengthened with the enforcement of the Electricity Market Act under no. 4628 and with enforcement of the related procedure by carrying out the charges of system/market management successfully.

5.5.1 Market Enforcements

a. By January 2005 the mechanism of balancing and mediation of the transition period based on the 3rd mediation period would be put into force.
b. By July 2006; the market management system as a whole with the hourly prices would be enforced.

5.5.2 Tariffs

It was planned that a mechanism would be developed in order to provide the equalization of the sale prices for the consumers in the distribution zones. That equalization mechanism would be provided in order to comply with the principle of the regional tariff enforcement reflecting the real costs for the distribution companies and also to reach the goal of determining a specific national tariff for the consumers that weren't independent. That balancing mechanism as a transition period enforcement would be in effect at least throughout the first tariff enforcement period.

5.5.3 Transition Period Contracts

Transition period necessitated new contracts between the associations to provide harmonization and a practical process to achieve the goals of privatization without bringing disadvantages to the market and associations through those changes.

5.5.3.1 Purchase of TETAŞ from the Hydro-Electric Power Plants in Accordence With the Current Contracts

The sale of the generation of hydro-elecric power plants not included in the generation groups and under the administration of EÜAŞ, to TETAŞ would continue, because the provision of an average sale price of TETAŞ reflecting an expected market price was required.

5.5.3.2 Contracts about the sales of TETAŞ to the Distribution Companies

The electric energy bought by TETAŞ from the generation of the power plants within the scope of the current contracts and from EÜAŞ would be shared to all the distribution companies through mutual agreements signed between TETAŞ and distribution companies. On the condition that TETAŞ couldn' t not get enough income to afford the financial charges rising from the long term contracts, the mentioned additional charges would be paid by adding a cost on the transmission tariff.

5.5.3.3 Contracts About the Sales Between the Portfolio Production Companies/Groups and The Distribution Companies

It was determined that those contracts would be enforced before the privatization of the distribution companies, in order to guarantee sufficient experience before the privatization. And also it was determined that the mentioned contracts would be valid after the privatizations in order to provide a predictable income circulation in the first years following the privatization.

5.5.3.4 Process of Procedure

Regulations were planned to be enforced in accordance with the Act under no.4628 and with the related procedure in order to reach the goals predicted in that strategy document. The incomplete parts in the secondary prosedure predicted in accordance with the Act no.4628 were decided to be issued within the year 2004.

5.6 PROJECTION OF DEMAND AND THE SAFETY OF SUPPLY

The studies with the attandence of Ministary of Energy and Natural Resources (ETKB), Undersecretariat of State Planning Organization (DPT), Undersecretariat of Treasury and EPDK were planned to be completed until 30.05.2004 in order to re-determine the supply forecasts predicated on in the projection of the generation capacity.

In order to increase the capacity of supply and to stregthen the risk management the studies that were determind to be carried out are as follows;

a. Sufficient appropriation will be provided within the budget of the year 2005 in order to invest on the rehabilitation and renovation required for EÜAŞ and its related partnerships or the generation groups.
b. The investment demand necessary for the frequency control systems of the public power plants will be determined by ETKB and Under secretariat of DPT until 01.05.2004 to provide the national electric system with the standards of European International Energy Transmission Networks (UCTE). Necessary precautions will be enforced by ETKB, The Under secretariat of DPT and the Turkish Treasury in order to provide the necessary financing demand.
c. Necessary studies for the development of the electricity energy trade through the interconnections within the policy determined about the interconnections except UCTE will be concluded by ETKB till the end of the year 2004.
d. The preparation studies on the capacity hiring through contract awards within the scope of the additional services agreements in order to protect the system safety of TEİAŞ will be complated by TEİAŞ.
e. The necessary investment demand to strengthen the transmission system will be determined by ETKB and the Under secretariat of DPT and the sufficient appropriation to make the required investments will be provided in the budget of TEİAŞ in the year 2005.
f. The investments on generation from the local resources including the big hydro-electric power plants after analysis on the supply safety will be made to guarantee the provision of various fuels and resources and planning the supply resources beforehand. Also the necessary regulations will be enforced for supply safety by ETKB and the Under secretariat of DPT.

g. The ratio of investment of the generation power plants within the scope of the licences of the corporations who have been licenced in order to carry out generation activities in the electric market will be observed periodically by EPDK and will be reported to ETKB.

> *"Some issues depicted and determined to be put into force by the related associations in this document have not been fulfilled yet. While the Strategy Document is still effective, the shortcomings will be completed with delay and the goals mentioned in the document will be fulfilled. This is the policy. According to this document the Republic of Turkey is determined in opening up the electric energy market to the international competition in the field of generation and distribution. The transmission will exist as a public service[69]."*

As a result of the studies about the privatization of electric energy with in the scope of the "Electric Energy Sector Reform and Privatization Strategy Document" issued by Supreme Planning Council in 17.03.2004, the privatization process has shown a great improvement. However, the subjects that will be mentioned later in this text should be emphasized on too.

At the model idealised in Turkey, the possession of the public and handing over the authority of management to private companies for a period of 49 years at the longest are based on. A joint stock company will be constituted for the administration of every zone dividing Turkey into 21 parts by TEDAŞ. The company that will be constituted will make the investments of rehabilitation and new power plants under the control and approval of the state.

The company that will take over the service will buy energy according to the price TETAŞ will determine for 5 years and will sell it according to the pricing EPDK will determine for a zone. That issue which is against the principles of the act of energy is probably considered just for the transition period. The unit price of electricity that will be bought from the pool TETAŞ will form will be around the level of 5 cent/kWh. That value is so high for a distribution company and also losses will add to that cost. Pricing should be determined taking into account the abnormal rise of the foreign monetary unit, inflation and the labour cost. According to the current model, the sale and purchase prices of the service of electric distribution and retail sail will be put into force with the values determined by the state for 5 years. The difference between and the investments,

the cost of management, the company profit and the cost of purchase of the company shares will be paid.

Under those conditions the effectiveness of the distribution company on the electricity unit prices will be within the range of difference between the sale and purchase price. That value will not be so effective. The obligation of purchasing electricity from the pool will affect the investors in a negative way.

With the privatization model predicted, 21 companies constituted by TEDAŞ will have no financial potential, however there will be a joint stock company to operate the stable power plants of TETAŞ. Within the portfolio of that company;

a. The licence of electricity distribution limited with a specific time (not determined yet) will be given by EPDK.
b. A five year tariff will be given by EPDK.
c. An act of electric energy purchase guarantee will be given by TETAŞ and will be effective for five years.

The shares of every company having no existence before the Liquid Assets mentioned before, however having labour potential in 21 regions will be sold by tender with its specifications.
The firms that will apply for the purchase of the shares of the companies are required to have the technical, administrative and financial structure and experience to achieve that work.

In the model considered to be put into force in Turkey it is said that the investments will be made on behalf of TEDAŞ. At the end of the procession of management of the investments that will be made, the yield of depreciation will be paid to the operator company and those will be handed over to the owner. Building the stable power plants on behalf of the operator companies will be a credit resource for the operator company. If that unclear issue does not result in a solution, the serious foreigner investors may not be interested in the privatization of electricity distribution.

The investments will be carried out in behalf of TEDAŞ and that will possibly create so serious problems to enter the financial records in the accounts. The cost elements of the investments that will be enforced in the year will have a rise of 100 percent. Otherwise no investors would be interested in the enforcement of depreciation dependent on the agreement process.

The basic reason of the failure of the studies of privatization in the electric generation and distribution in Turkey can be explained that as the witness of the legal basis. It is inevitable for our country to give the service of electric distribution to the responsibility of the private sector and to hand over the control to the Regulatory Authorities. It is not seen efficient for the state to be operator anymore.

It is impossible to prevent the losses and leaks with detective precautions. It is a weakness of administration to present the values that are not cashed and accrued as profit or to be heavily hit by the losses in order to pay taxes.

It seems impossible to start the privatization in accordance with the Strategy Document and to put the schedule given in the strategy document into force on time. However, Turkey has a loss of 1.5 billion dollars every year because of the losses and leaks of the distribution organizations all around the country. Because the studies for privatization have been delayed for seven years, the country has a loss of 10 billion dollars.

In order to prevent that loss and to open the door of privatization, creating a new model that will persuade the local and foreigner investors and showing determination about that as it is mentioned in the strategy document will be so beneficent.

6 MAIN REASONS AND RESULTS OF THE ELECTRICITY MARKET ACT

The Draft of the Act of Electricity Market dispatched to TBMM on 14.01.2001 by the Council of Ministries, took its final form in 26th of January after being debated in the Planning and Budget Commission. The draft was accepted in the General Commission of TBMM on the 24th of February. The Act was put into force on 03.03.2001 being issued in the Offical Journal. (No. 24335)

6.1 MAIN REASONS

It is of great importance to make legal and administrative regulations about increasing the private sector share while decreasing the public share at the investments in order to restructure the electric energy market in the free market conditions and about increasing the effectiveness on the activities of inspection and orientation.

The energy need of Turkey developing fast is increasing in parallel with industrialization and economical enlargement. It is impossible to meet that fast increase with local resources. Our country is in the position of an importer in the field of energy. In 1999 the energy generation from the local resources met 35 percent of the total primary energy demand and in the decreasing trend it is predicted to meet 28 percent of it in 2010 and 24 percent of it in 2020.

On the other hand, in parallel with the rise in the general energy demand, the electric energy demand is showing a fast increase. The electric energy demand has shown an increase of 8,5 percent in the recent 20 years.

The electric energy demand increase between the years of 1980-1990 could be achieved with the public financial resources. Since 1990, a policy of decreasing the public financial resources and increasing the share of the public sector has been accepted.

However, in the period between the years of 1990-1997, the expected rise of installed capacity of electric energy could not be achieved because of reasons like the lack of required allocation for the public investments and the failure of the private sector investments as aimed because of the problems rising from procedure.

According to the studies of planning, the demand of electric energy in our country is expected indicate a rise of 8 -10 percent averagely in a year by 2010. Therefore it is required to increase our installed power of electric energy nearly twice as much as the current amount in order to meet that demand until the year. When the capacity of electricity energy that should be provided and the transmission and distribution power plants investments are taking into account, new regulations are required for our electric energy sector having a great deal of financial need in order to take place in the local and foreign sector's energy investments effectively in the following period.

The reason of that Act is to provide the required basis for the enforcement of the regulation about the generation, transmission, distribution and continuous, safe and cheap presentation of the electricity energy that is the fundamental income of the socio-economical development, to the consumers within a new market structure where local and foreign private sector investors take place in general.

Following that aim with the new market structure that will be formed, it is expected that the free competition will improve on the basis of the prices reflecting to the consumers and the prices will reflect real costs. The required transparency will be required, when the public corporations that take place or will take place in the market work on the real costs and the new cheap and productive investments will be encouraged and the burden of the Public Institutions and Associations still showing activity in the market on the general budget will decrease.

The regulations about the process that will be followed in the privatization of the generation and distribution power plants with the aim of receiving maximum benefit from the liberal market structure take place in the act too.

The electric energy market activities operating in accordance with so many acts and decree laws and the related provisions are aimed to be operated within the scope of this Act and the regulations that will be issued within that Act.

In many of the countries who restructured their electric energy sectors, one of the fundamental factors of this restructuring process were to form a body independent from political authority having inspections and regulation activities. In our country the formation such an independent body EPDK is a regulation in parallel with the enforcements observed in the world. Also the formation of that body is seem necessary in the aspect of our country's harmonization to the Acquis Communitaire and the energy procedure. In the mean time part of the "Energy", in the Accession Partnership requires the formation of a Regulatory independent administration in the electric sector, the equipment of that administration with authority and tools for an effective work and the opening of the internal energy market.

That Act also includes the formation of a regulatory administration (EPDK) to be in charge of inspection and observation for public in the market and the organization of it. The new market structure predicted in compliance with that Act is explained as a restructuring with a transition from a structure of competition for the market to a structure of competition in the market.

For the creation of an internal market competition atmosphere, it is required to encouraged enough private investors to enter into the market without State guarantees and to create an excess supply of electricity energy in the course of time. In the current condition, almost all of the market risks are undertaken by the State.

EPDK organized with that Act will assure that an equal and just enforcement will be carried out on behalf of the public corporations that will show activity in the electric energy market. It is aimed to constituted mechanisms of transparent market with a transmission operator that will show display activity in an objective way between the equal parties in that reliable atmosphere and also to form a competitive ambience where market risks are shared.

On the other hand “Energy Market Regulatory Council” that is the body of representation and determination of EPDK has been structured also to give trust to the sector.

In our electric energy sector, a market structure where the publish is the only purchaser, where almost all of the market risks are undertaken by the state where long term purchase guarantees and treasure guarantees about the payments required for those purchases and so many long term procedures take place.

In that aspect, another advantage of that Act about the structure of the market is that the investments (primarily the generation power plant investments) that will be made and the activities that will be displayed can be carried out according to specific regulation and inspection methods that are simple. With the enforcement of the act, only to take licence from the EPDK organized for that act, will be enough to display activity in the market for any public corporation.

Another reason of that act is to make required regulations to let all the users benefit from the transmission and distribution services supplying natural monopoly in the aspect of the electric energy transfer.

Also regulations that will form a increasing competition in the generation and sales activities having a high competition potential have been made. That competition will reflect to the consumers as a better service and cheaper electricity prices. The new foresee market structure will become functional following a preparation period determined within the scope of that Act and all the market activities will be enforced in accordance with the Act and the regulations dependent on that act that will be issued until the end of the preparation period. The necessary regulations have been made through temporary articles in order to provide the target transition to the free market structure in a reasonable way as much as possible.

The enforcement of that Act will constitute an important phase on the way of implementation of re-structuring Turkey’s electric energy sector. With the enforcement of that Act, the possibility of completion of the infra-structural investments in the

energy sector by local and private investors will be created and energy crises will be able to be prevented.

6.2 THE DIRECTION AND RESULTS OF THE POLICY OF ENERGY IN TURKEY

The enlargement of usage area of the electricity energy which is the basic in put of every kind of economical activities increased the demand for electric energy. The usage simplicity that, the distribution network reaching till to the smallest residential area provides increases the share of the electricity energy consumption in the total energy consumption[70]. The policies that are put into force in order to gain a structure and function supporting development and increase of welfare to the energy sector are gathered under five male headings according to their priorities (Kılıç, 2006).

Those policies are as follows;

a. The liberalization of the sector, increasing the productivity of the sector by creating competition in the energy market and providing transparency.
b. Turkey's playing the role of transferring the rich energy resources of the east to the west markets as an Energy Corridor.
c. To display activities required for Energy Safety in our country where the ratio of dependency on foreign resources is increasing to meet the energy demand.
d. To display activities on the evaluation of the energy resources and consumption within the frame of Sustainable Development by taking into account the interaction with the environment.
e. To increase the studies of Energy Technologies

Within that frame the provision of cheap electricity energy sufficiently and on time in the conditions of an energy market dependent on competition high quality and reliable. The energy policy determined in the development plans of five-years is as follows;

a. To provide the energy in a high quality in a reliable and economical way for continuation in the socio economical development,
b. To provide the safety in the energy provision
c. To encourage the investments.

The total installed power of the power plants which were 20,37 MW in 1993 reached to a level of 36.824 MW in 2004.

Table 6.1 : The total installed power gross generation net electricity consumption of the power plants (1993-2004)

Years	Total Installed Capacity (MW)	Gross Production (GWh)	Net Consumption	Installed Capacity Per Person (W)	Consumption Per Person (kWh)
1993	20.337,6	73.807,5	59.237,0	342	995
1994	20.859,8	78.321,7	61.400,9	344	1013
1995	20.954,3	86.247,4	67.092,3	339	1086
1996	21.249,4	94.861,7	74.326,8	338	1181
1997	21.891,9	103.295,8	81.884,9	342	1278
1998	23.354,0	111.022,4	87.704,6	258	1345
1999	26.119,3	116.439,9	91.201,9	394	1375
2000	27.264,1	124.921,6	98.295,7	404	1458
2001	28.332,4	122.724,7	97.070,0	414	1420
2002	31.845,8	129.399,5	102.947,8	460	1485
2003	35.587,0	140.580,5	111.766,0	507	1591
2004	36.824,0	150.698,3	121.141,9	518	1703

Reference: Turkish Electricity Transmission Company: The statistics of electric generation and transmission.

In the first period of the year 2005, 29.890,8 GWh was thermal, 9.595,7 GWh was hydraulic and 16,4 GWh was wind energy of the total generated electricity and in the first period of the year 2006 30.573,0 GWh was thermic, 11.700,2 GWh was hydraulic and 16,5 GWh was wind enery of the total generated electricity[71].

Table 6.2 : Periodical gross electricity energy generation according to generation type,2005

Generation Type	I. Period	II. Period	III. Period	IV. Period
Total	39.502,9	38.224,8	42.400,9	41.854,7
Thermic	29.890,8	27.549,8	32.350,8	32.477,2
Wind	16,4	11,2	11,2	17,5
Hydraulic	9,595,7	10.038,9	10.038,9	9,360,0

Reference: Turkish Electricity Transmission Company: The statistics of electric generation and transmission

The electricity energy generation was 42.390 GWh in the first period of the year 2006 by increasing in the ratio of 7.31 percent compared with the same period of the previous year.

Table 6.3 : The first period gross electricity generation according to the type of generation 2005-2006 (GWh)

Generation Type	I. Period of 2005 (January, February, March)		I. Period of 2006 (January, February, March)	
	Amount	(%)	Amount	(%)
Total	39.502,9	100,00	42.390,0	100,0
Thermic	29.890,8	75,67	30.573,3	72,12
Wind	16,4	0,04	16,5	0,04
Hydraulic	9.595,7	24,29	11.800,2	27,84

Reference: Turkish Electricity Transmission Company: The statistics of electric generation and transmission

In the first period of the year 2006 47.11 percent of the electricity energy was provided by EÜAŞ and the related partnerships, 43.28 percent by generation companies and 9.61 percent was by auto producers.

According to the same period of the previous year the electricity generation increased in the ratio of 13.44 percent at EÜAŞ and the related partnerships and 6.11 percent at the generation companies. At the auto producers it increased in the ratio of 11.63 percent

The gross electricity energy generation in the first period of the year 2005 was provided from 44.17 percent natural gas, 24.29 percent as water, 17.73 percent lignite power plants. In the first period of the year 2006 it was provided from 40.49 percent natural gas, 27.84 percent water, 18.56 percent lignite power plants.

Compared with the same period of the previous year the electricity generation in the power plants using natural gas decreased in the ratio of 1,61 percent and the electricity generation in the power plants using lignite increased in the ratio of 12.35 percent.

The electricity consumption in the first period of the year 2006 was 30.4499 GWh by increasing in the ration of 9.23 percent compared with the same period of the previous year. The electricity energy was consumed in the ratio of 41.47 percent in the industry, in the ratio of 27.54 percent in the houses, 14.61 percent in the trading concerns, in the ratio of 4.75 percent in the official institutions, in the ratio of 2.35 percent in the

lightening of the stress, in the ratio of 1.54 percent factory plants, in the ratio of 0.53 percent in the agricultural watering and in the ratio of 7.21 percent as the other and direct sales.

The first period of the 2006 the electricity sales income of the electric distribution companies increased in the ratio fo 13.1 percent with current prices compared with the firs period of the year 2005.

Table 6.4 : The periodical electric energy generation according to the generator associations, 2005 (GWh)

Generator Associations	I. Period	II. Period	III. Period	IV. Period
Total	39.502,9	38.224,8	42.400,9	41.845,7
EÜAŞ and Its' Subsidiaries	17.603,5	17.818,1	20.119,8	18.777,0
Producers	17.290,6	16.344,7	18.165,7	18.626,5
Autoproducers	4.608.8	4.062,0	4.115,4	4.451,2

Reference: Turkish Electricity Transmission Company: The statistics of electric generation and transmission

In the year 2006, the electric generation was 176,3 billions kWh and the electric consumption was 174,6 billions kWh. When we look at the electricity consumption in last years in Turkey; the electric consumption yearly in 1960 was only on the of 2 billions and 815,1 millions kWh.

The electricity consumption increasing regularly in the course of time as a result of the development in the economical and industrial field, the increasing population, urbanization and the infra-structural investments level of 8 billions 623 millions kWh in 1997, 24 billions 616,5 millions kWh, 56 billions 811,7 millions kWh in 1990, 128 billions 280 millions kWh in 2000, 174,6 billions kWh in 2008. That is, the electric consumption of Turkey increased 87,5 times in 44 years.

In the mean time it is obvious that some problems occur in the electricity generation-transmission. Especially at the months when tourism is busy frequent power cuts occur. After the power cut that left seven cities without electricity for hours on 24.05.2006, power cuts occurred in 13 cities for five hours at the night of the first of July in that year. Various reasons are put forward about the power cut that left almost all of the tourism areas without electricity.

About the power cut that left the one third of Turkey in darkness, TEİAŞ told that the break down was because of the computer records and TEDAŞ told that the break down was because of the reflection of the "natural gas fiber separator" in the Ovaakça Natural Gas Transformation power plant in Bursa because of extravagant consumption.

Also, because the power cut was at the same time with the meeting of the Parliament where the Act by-passing the Council of State decision about the closing of a power plant belonging to private sector, it was possible that the generators made a collective protest.In the mean time it was emphasized that the power cuts were a result of the dependency on an electricity generation and natural gas having only one resource.

Finally, on the west costs of Turkey where millions of tourists are hosted, life stopped because of the power plant break down. The power cut, affected İzmir, Antalya, Bursa, Eskişehir, Uşak, Burdur, Isparta, Çanakkale, Afyon, Denizli and İstanbul Islands and production stopped in the industrial field. Especially the exporting firms who were trying to produce due orders on time notified their big loss because of that power cut.

The generation and consumption data about Bursa power plant causing the power cut and about Turkey in general were brought about by the Energy Ministry. According to that data, on the night of the first of July electricity generation could not be implemented for 7 hours in the power plant.

However, a power cut in generation in only one power plant decreased hourly electricity consumption from 20 millions kWh only to 15 millions khW in Turkey. In the region until 22.00 pm, the consumption of electricity that was 3 millions 750 thousands decreased to 630 thousands first and then later to 360 thousands kWh.

As it is indicated in the examples shown above, the electricity energy in Turkey is insufficient and expensive in the generation field. According to the data of the "International Energy Agency" about the year 2000, Turkey is the 2nd country out of developed 32 countries, where the highest electricity price is given to industry after Japan.

Because of that the energy prices in Turkey should be brought to a level that is competitive in the World. The price of the electricity energy used in industry in Turkey is above the World markets. For instance, the average price of the electricity given for the usage of industry in the EU countries is 4.3 cent/KW and according to the data at the end of the year 2001 it was 6.5 cent/KW.

The cost of the electric energy is quite high amount the other energy types. The decrease of the energy cost and the energy demand made energy disposal obligatory. It is important to use the energy in a productive way in our country where the total productivity of the power plants that has to export 62 percent of its need of energy and using fossil fuel for the transformation of electric energy is 30 percent.

According to a survey made by TOBB four reasons rising up the electric energy prices in Turkey are as follows;

a. VAT and other additions to the cost of energy (TRT, Municipality, Energy Fund)
b. Loss-leak ratios which are too high,
c. Expensive energy agreements made,
d. Staff and organizations costs.

It is a common view that VAT which is used in the ratio of 18 percent on the energy costs are too high. In the mean time the costs out of tax like 1 percent of municipality consumption tax, 3,5 percent of TRT share, increase the energy cost for the industrial activities.

As it is explained in the Final Report of the platform of the Sectoral Associations in Electricity, Electronics and Communication;

a. Today, electricity which is considered as the most important factors of the social welfare and sustainable development should be provided in any time in any amount and in a high quality and economical way.

b. In the electric energy policy of our country primarily our national resources should be assessed in a way with minimum harm to the environment within the frame of a sustainable plan.
c. The primary resources used in the energy generation and the countries where they are provided should be diverse as many as possible, keeping a balance.
d. The energy strategically planning of 5-10-20 years of Turkey should be made and that plan should be enforced.
e. The role of the council authorized in the generation, transmission, distribution and transportation of electricity to the last user, in regulating, inspecting and protecting the rights of the last user, should be strengthened. That council should be the only one authority and should be guaranteed to work in a righteous way.
f. In the liberalization that will be enforced in the electricity generation, distribution and the sale to the last consumer;
    1. The privatization calendar accepted by the State in the Strategy Document should be complied with.
    2. The sufficiency criteria that will prevent the participation of the national private sector firms by taking into account the conditions of our country in the privatization and the usage of the equipment of local generation should be supported.
    3. The reliability, transparency, investments and the policies of the companies that will display activity after the privatization should be inspected continuously.
    4. A transparent and reliable investment atmosphere should be provided by dissolving the bureaucratic barriers before the investors.
    5. In this period when the negotiations process started with the European Union we should emphasize on the harmonization to the EU criteria and also the harmonization to the border countries of our interconnected network.
    6. The design of the goods that are dependent on contemporary, aesthetic and technological values should be supported; in the electric, electronics and communication fields the entrance of the law quality and counterfeit goods should be prevented.
    7. The inspections should be condensed in order to keep the goods causing illegal, unqualified and unjust competition away from the market.

8. The measures that are encouraging and forcing energy disposal in the public and private sector should be enforced without delay. The production of the devices providing energy disposal and their usage should be supported.

In the engineering education and practice;

a. The formation of a staff and basis for educating engineers who are appropriate for the international programs and giving importance to the countries' necessities in our universities.
b. The corporation between the universities and the professional organizations about the issue of continuous vocational retraining should be encouraged and the financial difficulties in the enforcement should be removed.
c. Opportunities for continuous vocational retraining should be provided in the technical field as in every field of life.
d. In the energy sector research and development (R&D) studies should be encouraged according to The Scientific and Technological Research Council of Turkey (TÜBİTAK) decisions and also the university-industry relationships should be supported and financial support should be provided for them.

Within that frame the necessary enforcements are as follow;

a. To concentrate on more productive technologies in the electric generation,
b. To take technical measures in order to decrease the lost-leak ratios in transmission and distribution to an acceptable level.
c. It is necessary to increase the productivity and disposal in the first and secondary energy generation, distribution and the usage.

6.3 THE EFFECT OF THE CURRENT CONTRACTS ON THE COMPETITIVE STRUCTURE OF THE ELECTRICITY GENERATION MARKET AND THE ELECTRIC MARKET OF TURKEY WITHIN THE FRAME OF THE CONTRACTS

As a result of the entrance of the electric energy discovered at the late 19^{th} century into our daily lives, the first electricity power plant was established in 1882 in London. The first electricity in Turkey was gained from a dynamo of 2 kWh transformed from a water mill that was established and operated by a foreigner in Tarsus in 15.101902

within the period of the 2nd Abdülhamit and that electricity was used for lightening Tarsus. As a result of the acceptance of that enterprise having a feature of a complete private sector enterprise, the generation was increased to 60kWh and took its place as the first enterprise in history, being the beginning of the electricity generation in Turkey[72]. The first organized electricity generation was provided from the Silahtarağa power plant with the cooperation of Hungarien GANZ Joint Stock Company, Banque Generale de Credit and Bangue de Brexellese Companies and the Ottoman Electricity Corporate in 1910. The electric energy which was first used to operate electric cars, was first given to Istanbul in 11.02.1914 (Kırbıyık 2002, 79). The mentioned company survived as a privileged company until the date 1938 and then on that date it was nationalized (Kulalı 1996, 83; Toktaş 1993, 101).

In order to give electricity to the cities like İzmir, Ankara, Adana, Bursa, Gaziantep and Tekirdağ some companies were authorized between the years 1923-1945, however those companies were nationalized in the course of time (Toktaş 1993, 101). In the year 1935 Etibank, MTA, EİEİ and in the year 1945 The Bank of İller and in the year 1953 DSİ started to display activity in the sector of electricity[73]. Çatalağzı Thermic power plant that is the first regional power plant was established in order to consolidate electricity in Istanbul and displayed activity dependent on the Ereğli Coal Administration until 1952. In 1952, Northwest Anatolian Electricization Turkish Shared Joint Stock Company, in 1953, Aegean Electricity Joint Stock Company, Çukurova Electricity Joint Stock Company (ÇEAŞ) and in 1956, Kepez and its Regional Bodies Electricity Power plants Co.Inc. (KEPEZ) were established but later on, Northwest Anatolian Electricization Turkish Shared Joint Stock Company was dissolved, and Aegean Electricity Joint Stock Company was discharged because of their unsuccessful operation.

In 1960, in the regions including the West, Northwest, the Middle and Southeast of Turkey; the name of the business organization providing the purchase, generation, transmission and distribution of electricity was changed as Etibank Electricity Administrative Association. In 1970 TEK was established in compliance with the Act under no 1312, and the power plants of Etibank, DSİ, the Bank of İller and the municipalities were endorsed over to TEK. ÇEAŞ and KEPEZ survived until the year

2003. The distribution power plants under the control of the municipalities were taken over by TEK in compliance with the Act under no. 2705 in 03.09.1982. Another renewal brought in compliance with the Act under no. 2705 was the removal of the monopoly of TEK and DSİ on the establishment of power plants, the opening of the electricity private sector and allowing the private sector to sell the electricity they generate to TEK by establishing generation power plants (Kulalı 1996, 84).

TEK which, used to give high quality and cheap service in aspect of the country standards in the first years when it was established, began to lose its productivity in the course of time (Tekinel 1993, 176). The administration started have difficulties in transferring the required resources to TEK as a result of the rights of the investment need in parallel with the increase in the electricity consumption in the course of time and the Association had to complete many projects with foreign credits especially after 80's. Although that condition gave rise to an increase in the costs of TEK, because of the interest and currency differences, the income of the big hydro-electric power plants which were important income resources of the Association were used in the provision of new highways and infra-structural services after being transferred to Public Participation Administration. In 1993, TEK was divided into to as TEAŞ responsible for generation and transmission and as TEDAŞ responsible for distribution in compliance with the Council of Ministers Decision under no 93/4789.

After the Act no. 2705 which is the first regulation to foresee the display of activity by the private sector in the electricity sector, another structure was brought in with the Act no. 3096 where the private sector would display activity in the electricity sector in 1984.

Between the years 1994-1997, in the electricity sector regulated through various acts over the models of Build-Operate-Transfer (BOT), Build-Operate (BO), Transfer of Operating Rights (TOR) with the display of activity of the private sector, the investments that could not be carried out by public because of insufficient sources tried to be achieved by the private sector. As a result of the change of the 47th article of the Constitution in compliance with the Act under no.4446 in 1999 and of the enforcement of the Act no. 4501 in 2000, the possibility of solving the disagreements rising from the privileged contracts through national or international arbitration by subordinating the

privilege contracts that would be made in the field of public services including the electricity sector to the administrative law or private law rules. TEAŞ were divided into three independent parts as EÜAŞ, TEİAŞ and TETAŞ with the Council of Ministers Decision under no.2000/1312.

The Act of Electricity Market under no.4628 aiming to form an electricity market opening the electricity sector to competition and working in compliance with the private law provisions were put into force in 20.02.2001. The participation of the private sector to that Act and the provision of the required investments planned to be made by the private sector failed to meet the expectations. Also before the Act no.4628 a crises occurred in the procedure and various regulations about the contracts in compliance with private law provisions and without privilege in the electric services, were cancelled with the Constitutional Court and Council of State Decisions after a while they were put into force and the opposition of the supreme judicial bodies on that issue could be solved only after a Constitutional amendment. It is foreseen in the Act under no.4501 that national or international arbitration could be preferred in the contracts about the disagreements rising from the mentioned acts.

Before the Act under no.4628 agreements of 20 years were signed between TEAŞ and private sector companies in the electricity generation market within the frame of the models of BOT, BO and TOR. Also in the distribution market, TOR contracts of 30 years were signed between TEDAŞ and the private companies. The period was determined to be long in the mentioned contracts in order to encourage the investors for the electricity market and the guarantees of long term purchase/income and guarantees of payment by the Under secretariat of Treasury took place in those contracts.

6.3.1 The Period Before The Act Under No.3096 and The Public Service Privileges

The electricity sector is a field where the public service privilege method has been frequently used since the period of the Ottoman Empire. The administration does not hand over the possession of the electric generation power plants in the privileged method however it authorized the private sector for the operation of the plants for a while and within that period the electricity is generated by the private sector. In the

Ottoman Empire period the Privileged Companies used to be authorized mostly with the pressures of the powerful countries and the Public Debtor Organization. When the Republic of Turkey most of them were nationalized. However, as a result of the liberal economy policies started to be put into force in 1980's, the method of privilege started to be implemented again.

The first regulation in the electricity sector was issued in 10.06.1910. Accordint to this Act, the first enforcement carried out in electricity sector was the 50-year privilege given to the Hungarian GANZ electricity joint stock company in 01.10.1910 in order to give service of electricity energy generation and distribution in Istanbul. That enforcement continued in the Republic period and in the following years 40-50 companies were founded in the electricity generation and distribution field in 1928 (Koçoğlu 1993, 169). Of these companies, ÇEAŞ, KEPEZ, Kayseri and Surroundings Co.Inc. disclose activity for a long time.

The crucial articles of the Act no.3096[74] are mentioned below;

Law No: 3096
Date of Acceptance: 04.12.1984
The date of the Official Journal it was issued in which it was issued: 19.12.1984
The Number of the Offical Journal in which was issued : 18610

Purpose :

Article 1 :The purpose of that article is to regulate the electric generation, transmission, distribution and trade of the local and foreigner companies with the status quo of capital stock companies subject to the provisions of the private law except TEK and the operation of them.

Scope :

Article 2 : That article contains the formation and the basis of assigning the charge of the electricity generation, transmission, distribution and the trade except TEK and also of the end of contracts, period, tariff and the charges.

Assigning the Charges:

Article 3 : The Council of Ministers can give the charge of the establishment, operation and trade of the electricity generation, transmission and distribution power

plants to the capital stock companies establish to give service about electricity in the task zones determined with regulation before, upon the proposal of the Energy and Natural Resources Ministry including the DPT. Energy and Natural Resources Ministry will enter into a contract with the related charged company within the frame determined by the Cabinet Decision.

The Permission of Electricity Generation :

Article 4 : Energy and Natural Resources Ministry can give the permission of the establishment of the electricity generation power plants and the operation of them to the capital stock companies that will be formed with the purpose of only electricity generation, by taking the positive view of DPT.

The electricity energy that will be generated in that power plant is sold to the charged company displaying activities in that zone or TEK, according to the pricing determined by the Energy and Natural Resources Ministry.

The Hand Over of the Management Right :

Article 5 : The Council of Ministers can determine to give the rights of management of the generation, transmission and distribution power plants established by public institutions and associations (including the State Economic Enterprises) to the responsible companies in the task zones.

The subjects about the enforcement of that article are implemented by the Energy and Natural Resources Ministry within the frame of the Regulation Issued by The Council of Ministers.

Energy Commerce :

Article 6 :It is required for the responsible companies to make the potential of the current electricity energy in the task zones usable and to meet the need of electricity of a region from its own resources. However when the electricity generation is sufficient in the zone or with the purpose of energy economy provision, TEK can enter into commercial activities with the charged company or companies.

The Period of Charge :

Article 7 : The contracts and that will be entered into in compliance with Article 3 and 4 can be regulated until a period of 99 years. The shortest charged period in the contracts are determined by taking into account of the amortization periods of the generation, transmission and distribution power plants that exist or will be established. With those contracts it is possible to set aside a capital stock amortization on the total cost power plants, separately from the technical amortization.

The End of the Charge :

Article 8 : The contracts of a specific period, unless the extension of the period is proposed, and with the end of that process. On that condition, the power plants and the movable and immovable goods clear from all kind of debts and commitments are handed over the State without charge. The contracts are dissolved before the due time when the charged company falls in want and violates the provisions of the contract.

The contractual clauses on the discharge of the contracts and the results of that discharge are regulated in the contract.

Energy Sale Conditions and the Requirements of the Tariff :

Article 9 : The energy tariffs are put into force with the proposal of the charged company and the Energy and Natural Resources Ministry approval. In the determination of the tariffs, if the costs of annual operation, caring and repayment and the difference of interest and currency are not guaranteed it is required to provide the technical and capital stock amortizations (…..), the other costs and outcomes and the necessary income for a reasonable financial profit that will be shared between the partners.

To make contracts regulating the amount and the conditions of those commercials and having a period of more than one year between the responsible companies and the associations and companies to whom the generated electricity will be sold and to put special clauses about the tariffs in those contracts are possible with the Council of the Ministers decision.

Regulation :

Article 10 : The regulation that regulates the subjects about the regulation mentioned in the 3rd article and enforcement of that Law is prepared by the Energy and Natural Resources Ministry and put into force with the decision of the Council of the Ministers.

Expropriation :

Article 11 : When the need for expropriation rises according to the approved field exercise projects of the generation, transmission and distribution power plants of the charged companies, expropriation is enforced by the Energy and Natural Resources Ministry in compliance with the provisions of the Act under no.4650, provided that the expropriation cost except of the power plants with reserve, is paid by the charged company. The cost of the expropriation of the power plants with reserve is paid by the Treasury through the allocation that will be put in the budget of the related ministry. The provision changed with that article is put into force for the projects that have been signed in the scope of the Act under no.3096 but not begin operation yet.

Temporary Articles :

Temporary Article 1 : The generation, transmission and distribution power plants which are out of the scope of privilege but being operated, of the companies having the privilege of electricity generation, transmission, distribution and trade on the date of the issue of that Act and the cities where those plants take place, have been taken within the scope of the privilege contract.

The change of contract that Act provision requires is signed by the Energy and Natural Resources Minister and the company authorities in three months following the issue of the Act. The provisions in the 6th Article of that Act, is enforced for the privileged companies too.

Temporary Article 2 : A right of charge for a period limited to 99 years at the most can be given to the companies having the current privilege of electricity generation, transmission, distribution and trade on the issue date of that Act, when they want to transform into a charged company mentioned in the 3rd article provided that they apply the Energy and Natural Resources Ministry in a year following the issue date of that

Act, with the decision of the Council of Ministers. The contract change that article provision requires is signed between the Energy and Natural Resources Ministry and the company authorities in three months following the Council of Ministers Decision.

Temporary Article 3 : The Council of Ministers is authorized on re-charging the companies which were continuing the activities of electricity generation, transmission, distribution and trade on the issue date of the Act no. 1312 but whose privilege ended on the date of enforcement of that Act.

6.3.2 The BOT period Began With The Act No.3096 and The BOT Model

The BOT Model is a model formed as a result of the globalization and the enterprises of privatization in the beginning of the 1980's and used for the provision of the required financial resources to carry out the projects. The state made its investments mostly concentrating on the public sector until the 1980's and the public services were provided generally by the public institutions. However the method of the establishment and the operation of the public services by the private sector as a result of the privatization enterprises occurred in the 1980's were accepted. Therefore, the method of the BOT began to be used in the electricity sector in compliance with the Act under no.3096 in the year 1984, in the transportation sector in compliance with the Act under no.3465 in the year 1988 and in the other fields in compliance with the Act under no.3996 in 1994(Giritli-Bilgen-Akgüner 2001, 851).

The features of the model of BOT can be summarized as follows (Güneş 1999, 43);

a. In that model the whole financial risk of the project is undertaken by the private legal person and the public authority only guarantees about the purchase and payment of the generated goods or services with a specific price and for a specific period. In some projects the public does not have the guarantee of purchase (for instance: in the airports and marinas, the service is taken not by the public but by the private persons).
b. The power plant will be endorsed over to the State or the person that the State will refer to without any charge, as clear from any kind of debt and in a well end functional condition at the end of the contract.

c. The public has to right of inspection the private legal person in the operation period.
d. As a result of the changes in the Constitution and the related Acts, the contracts regulated within the frame of the model of BOT can be in effect as privilege contracts as an administrative contract or as private legal contracts. National or international arbitration can be foreseen in the solution of the disagreements that rise from these contracts.
e. The aim of the model is to provide the enforcement of the investments and services requiring high financial resource and developed technology with the participation of local and foreign private legal persons. Therefore, the sources that the public authorities will set aside for the infra-structural investments will be directed to necessary projects. While the local investors undertake the building section of the investment the foreigner investors undertake the responsibility of the process of montage, machinery and equipment requiring developed technology.
f. The model was regulated in order to solve the problem of resource shortage of the public sector to carry out the infra-structural services by using the sources provided from the local and foreigner private sector.
g. That model contains local and foreigner consortiums before the Administration in order to carry out the infra-structural services with high risk and requiring high capital stock on the same level.

The Acts under no.3096, 3465, 3996 and the various regulations issued dependent of those constitute the legal frame of the method of BOT. The first act to enforce the model is "The Act About Charging The Associations Except TEK In Electricity Generation, Distribution and Trade" under no. 3096. In accordance with that Act, Regulations were issued with the Council of Ministers Decision under no.85/1799 in 16.08.1985. The Act no.3096 which is the first act about BOT regulates the charging of the local and foreign companies in the having the status quo of company following the private legal provisions except TEK, in the field of electricity generation, distribution and trade.

6.3.2.1 Enforcement of the BOT Model

The mentioned model is a model consisting of complex relations and supported with diverse sub-agreements. Two kinds of contracts can be made in accordance with the Act under no.3096 which is one of the two acts regulating the model and the regulation issued according to that Act. These are "The Charge Contract" which will be made with the aim of the establishment and operation of power plants that will generate electricity and the "Operation Rights Contract" about giving the operating right of the generation, transmission and distribution power plants made by public institutions and associations in the task zones, to the charged companies (Gözübüyük and Tan 2001, 48). With in the scope of that Act the generation companies can be allowed just to generate electricity.

6.3.2.2 The Advantages of The Investments Made With The Model of BOT

The advantages of the model of BOT can be drawn up as follows; (Güneş 2002, 27)

a. The mentioned model has diverse advantages like the transfer of developed technology, the increase of the foreign capital stock entrance, the rise in the employment and tax income to balance the differences of development between the regions and the rise of the internal disposals when we evaluate it from a macro-economical point of view. However, in the enforcement of the model in Turkey, it has been observed that the foreign companies have not brought the complete capital stock they committed before.
b. The projects carried out within the scope of this model can be concluded in a shorter time than the ones made by public resources, so crucial projects can be carried out prior to the others. However, in our country a process of about ten years exists between the start and completion dates of the projects in the enforcements within the scope of the model. On account of that Turkey can not utilize from that advantage of the model.
c. Because the financial resource of the projects carried out within the scope of the model is provided by the sector, the ratio of resource that the public sector will set aside for the infra-structural investments decreases and resources can be transferred to the social projects by the public sector.

d. Because the investments made within the scope of this model are completed in a shorter time than the ones by the public resources, that model has advantages like overcoming the deficiency in infra-structure and disposal from the costs.

Although the mentioned models have diverse advantages as mentioned above, those models can be effectual only if they are used well. The mentioned model has also includes a great deal of risk.

6.3.2.3 The Risks of The Model of BOT

The risks of the mentioned model are summarized as follows;

a. The most crucial disadvantage of the model is that it contains the high cost factor. Because the required finance is provided by the private sector in the enforcement of BOT, it has a more expensive cost compared with the business carried out by the methods of regular financing and the cost of investment reflects exactly to the unit price of the produced good or service. Because of that, the cost-benefit analysis should be carried out well in the phase of the assessment of the projects.
b. If the model is practiced in a bad way; it encourages expensive investments in the macro economical aspect some negative results can occur like tax losses rising from the incentive practices, exchange accrual rising from the profit transfers made within the period of operation and wrong public investments.

6.3.3 The Model of Transfer of Operating Rights (TOR)

The Operating Right is the operation of a power plant by a real person or corporate against remuneration within the scope of procedures and basis determined with contract, provided that the right of property stays at the transferor party and the profit and loss is undertaken by the transferee party taking over the right of operating (Güneş 2002, 81). In the mentioned model, the profit and loss as a result of the operation belong to the transferee corporate (Güneş 2002, 83).

The first regulation taking place in the procedure related with the right of operations takes place in the Act under no.2983. According to the 3/e article of the mentioned Act the right of operation is;

"*The operation of the associations, subsidiaries, business and similar facilities belonging to State Economic Enterprises by real persons and corporate entities for a specific period and within the specific conditions and giving the right of trading and distributing their goods if there is, to those entities*".

Another definition takes place in the 18/A-c article of the Privatization Act under no.4046. According to the mentioned article giving the right of operating is defined as;

"*giving the right of operating the associations as a whole or as their current goods and service production accumulations – provided that the right of property stays reserved – against remuneration for a period and within specific conditions".*

Giving the right of operating started to be enforced in the electricity sector with the Act under no.3096. According to the 50th article of the Act no.3096, the rights of operating the generation, transmission, distribution power plants made by the public associations and institutions in the task zones can be given to the charge companies with the decision of the Council of Ministers. In compliance with the Council of Ministers Decision the contract of TOR is made between the transferor association and the charged company and in accordance with that contract the transferred power plants are operated. In accordance with the Act mentioned, the party taking over the right of operating about the power plants makes the required investments in order to produce goods or services and hands over the power plants at the end of its duty. In that aspect, TOR can be depicted as a complex version of the model of BOT, which contains the right of operating and also the return of the power plant at the deadline after making investments and operating (Güneş 2002, 83).

In the transfers of the right of operating made in accordance with the Act no.3096, the firm taking over right of operating can give commitments of various investments about that power plant. Therefore in the method of the transfer of the right of operating, differently from the method of BOT, the establishment, operation and at the deadline the transfer of the public power plants are aimed. However in the BOT method the power plant is built by the investor.

At it is explained in a detailed way in the previous sections, as a result of the changes in the 47th and 125th articles of the Constitution, it is regulated that the contracts signed about the provision of the public services will be subject to private law provisions and

arbitration could be determined for the solution of the disagreements. In parallel with that required changes were implemented about the right of operating in the Acts under no.3096 and 3996. Today, the privilege contracts about the electricity generation, transmission, distribution and trade could be made according to public law in accordance with the Act 3096 and they can also be made according to private law provisions in accordance with the Act no. 3996.

The features of the method of TOR could be drawn up as follows (Güneş 2002, 56);

a. The right of property is reserved by public and only the transfer of the power plants as a whole or specific current generation units is involved.
b. The right of operating is transferred against remuneration. The cost can be determined as a specific amount or as a share from endorsement or profit.
c. The right of operating is transferred for a specific period.
d. The transferee party has to comply with the basis the transferor party determines and has to use the power plants in accordance with that basis.
e. With the transfer of the right of operating all the immovables about the power plant and infra-structural facilities are transferred to the transferee party.
f. After the transfer, all the legal charges like duties, taxes and levies about the operation belong to the transferee party.
g. In compliance with the transfer of the right of operating the transferee party has to carry out the other liabilities like the maintenance and insurance of the power plants.
h. On the condition that there is a related provision in the contract, the transferrer party can inspect the conditions of the power plants.

According to the features of the goods services that are the subjects of the right of operating, additional agreements can be signed except the right of operation contract.

The transferee companies taking over the right of operation can make the third persons or companies do some of the services they are responsible of, in accordance with their liabilities with the permission of The Energy and Natural Resources Ministry (ETKB) (Güneş 2002, 87). Also the contract about the energy trade together with the contract of

the right of operating transfer is obligatory to be signed between the Administration and the charged company.

6.3.4 The Model of Build and Operate (BO)

According to the Act under no 4283, in the BO method, thermic power plants are established and operated by the local and foreigner capital stock companies having the property and also the electricity generated in that way sold to TEAŞ. According to the 2nd article of that Act the BO model is described as follows;

> "T*he BO model contains the establishment and the operation of the electricity energy power plants under the property of the generation companies and also contains the sale of the electricity energy generated within the frame of the procedures and methods determined".*

According to the Act under no.4283, the BO model is a procedure that will be enforced just about the thermic power plants which will be established and operated to generate electricity energy; the hydro-electric, geothermal, nuclear power plants and the other power plants that will be operated with the renewable energy resources are out of the scope of that Act.

In the Act under no. 4283 the guarantees that frequently take place in the similar regulations about the electricity market are include. For the payment obligations of TEAŞ rising from the contract the Treasure Guarantee can be given to the generation company by the Ministry of State which the Under secretariat of Treasury belongs to, according to the 4th article of the Act. The guarantee of purchase is mentioned in the Regulation under no 97 / 9853 issued about the method of BO as follows;

> "*The percentage rate of the purchase guarantee that will be given by TEAŞ of the energy amount that will be generated in the mentioned generation power plants by taking into account the balance of supply – demand, according to the features and the place of the generation power plants that will be established in the conditions of the national electricity system".*

There is a prohibition of transfer that will be brought in for the generation company in the BO method. The generation company can not transfer the business as a whole or partially to the 3rd parties without a prior written approval of TEAŞ and also according

to the contractual clauses it can not transfer its any demand or receivable from TEAŞ to the 3rd parties.

6.4 THE STRUCTURE OF THE ELECTRICITY GENERATION MARKET IN TURKEY

By the year 2005, the installed power of Turkey increased to 38843,5 MW. Nearly 58 percent of that is controlled by EÜAŞ, its subsidiaries and the power plants of the privatization scope of program. 15,7 percent belongs to BO power plants, 10,5 percent to auto producers and the groups of auto producers, 6,3 percent to power plants of BOT, 5,8 percent to the liberal generation companies, 1,9 percent mobile centers and 1,7 to TOR power plants, of the rest of the installed power. The total shares of the power plants of BOT, BO and TOR reaches to a point of 23.7 within the installed power. The biggest part of the installed power is under the control of EÜAŞ having the hydro-electric power plants under public authority.

Table 6.5 : Percentage of Distribution of the installed power of Turkey According to the Generator Associations[75].

GENERATOR	**MARKET SHARE (%)**
The power plants in the scope of Privatization + EÜAŞ+Subsidiaries of EÜAŞ	58,1
Build-Operate	15,7
Autoproducer and the Groups of Autoproducer	10,5
Build Operate Transfer	6,3
Liberal Generation Companies	5,8
Mobile Power Plants	1,9
Transfer of Operating Right (TOR)	1,7
TOTAL	**100**

Reference: Turkish Electricity Transmission Company Annual Report (2005)

By the year 2005 the electricity generation of Turkey reached to 161.956,2 millions kW[76]. The percentage distribution of that generation according to the generator associations are as follows;

Table 6.6 : The percentage of distribution of the electricity energy generation in Turkey, according to the generator associations (2005)[77].

GENERATOR	**MARKET SHARE (%)**
The power plants in the scope of Privatization + EÜAŞ+Subsidiaries of EÜAŞ	45,4
Build-Operate	25,8
Autoproducer and the Groups of Autoproducer	10,6
Build Operate Transfer	8,5
Liberal Generation Companies	6,7
Mobile Power Plants	2,5
Transfer of Operating Right (TOR)	0,5
TOTAL	**100**

Reference: Turkish Electricity Transmission Company Annual Report (2005)

Just like in the installed power, by the year 2005 about 45 percent of the electricity generation of Turkey is under EÜAŞ. As it is understood from the table above, the share of the power plants of BOT, BO and TOR is about 36 percent in the total electricity generation in Turkey. The market share of the Auto producers generating electricity in a low amount of 2233,4 GWh in 1984, increased its market share in the course of time and by the year 2005 they reached to a generation amount of approximately 17087,2 GWh and 10 percent of market share[78].

As it can be understood from all of these data the power plants of BOT, BO and TOR has an important share in the electricity generation market. Most of the generation of the mentioned power plants is sold within the scope of the guarantees in their contracts therefore they can not create a competitive effect in the generation market.

The distribution of generation according to the resources is as follows;

Table 6.7 : The distribution of generation According to The Resources[79]

ENERGY RESOURCE		ENERGY AMOUNT (GWh)
THERMIC	Coal	2.965,1
	Lignite	29.946,3
	Imported Coal	10.281,1
	Fuel-Oil	5.120,7
	Gas Oil	2,5
	LPG	33,7
	Naphta	325,6
	Natural Gas	73.444,9
	Renewable + Waste	122,4
Thermic Total		**122.242,3**
Hydraulic		**39.560,5**
Geothermal		**94,4**
Wind		**59**
TOTAL		**161.956,2**

Reference: Turkish Electricity Transmission Company: The statistics of electric generation and transmission (2005).

As it is observed in the table above, the biggest share in the electricity generation is of the thermic power plants a great deal of which consist of natural gas power plants. It is followed by hydro – electric power plants, the power plants generating electricity out of geothermal resources and the wind power plants. According to the report of the Presidency of Republic State Supervisory Council (DDK); the potential of the hydrolic energy that can be used economically was estimated as125 billions kWh/year. The installed power amount that will provide that generation is 35.483 MW. In the electricity energy generation even though the requirement for the usage of the whole thermic and hydraulic capacity dependent on local resources is emphasized on, the amount of the energy provided from the auto producers and the natural gas power plants generating energy with foreign resources in general, has displayed an increase in the course of time. That condition is considered to increase the dependency on other resources in the electricity generation and threaten the supply safety.

6.5 THE RESULST OF THE CURRENT CONTRACTS IN THE ELECTRICITY GENERATION MARKET

Until the Act under no. 4628 bringing about a liberal electricity market subject to private law provisions and aiming the liberalization of the electricity sector, a great deal of contracts (current contracts) based on the BOT, BO and TOR models were made in the electricity generation market. Because most of those contracts are long term contracts, they will maintain their effectiveness besides the competitive system the Act under no. 4628 requires and the critiques on that dilemmatic condition will go on.

The excess supply in the electricity sector is a serious barrier before the enforcement of the Act under no. 4628. A serious excess supply for the future consisting of mostly high priced contracts with purchase guarantee can create serious problems for the operation of the new electricity market tried to be formed in accordance with the Act under no 4628. However, according to the demand estimations, the electricity consumption is increasing year by year. Therefore, it is estimated that the problem of excess supply will be solved soon. In accordance with the Act under no. 4628, the public power plants under EÜAŞ including the hydro – electric power plants generating cheap electricity were allocated to TETAŞ for five years at the most in order to balance the excessively high energy prices in the current contracts with purchase guarantee taken over by TETAŞ.

The prices of TETAŞ is the only price determining the whole sale prices in the electricity market because there is no other a big provider. However despite the excess supply, the high electricity prices determined ignoring the economical realities attract the new generators in the market. As a result of the entrance all those generators the sales of TETAŞ will decrease and that deficit will be covered by the restriction of the generation without purchase guarantee (public thermal and hydraulic resources). On account of the restriction of the generation of those power plants generating cheap electricity, the prices of TETAŞ will rise more. That will go on until the supply and demand in the market will really be balanced.

Also another factor that should not be ignored is the problems that the companies selling electricity following the contracts with treasury guarantee within the scope of the

models BOT, BO and TOR, creates in the electricity market. In the electricity market it seems impossible for the current companies displaying activity in accordance with the contracts with purchase guarantee to compete with the companies that will enter into the market by taking licence and making investments following the Act under no. 4628. Therefore the prices can not be formed in a liberal market in that aspect. The companies displaying activity in accordance with the current contracts with purchase guarantee and generating a great deal of consumed energy due not sell the electricity day generate with bilateral agreements and negotiations in a free competition market but in accordance with long – term contracts with purchased guarantee to the public. However the new companies that will enter into the market by taking licence in accordance with the Act under no. 4628 will first find the purchaser to sell the electricity they generate and then compete with the other generators. Within that frame when an important part of the market is close to competition because of the current contracts it seems impossible to form a competitive price and market as it is targeted in the Act under number 4628. However the electricity generation in Turkey is increasing every year. Therefore the ratio of the electricity energy gained through the mentioned current contracts will decrease in the total electricity consumption in the course of time with the increase of the consumption and the negative, competitive effects of the current contracts will decline in that way.

6.5.1 The Enforcement of the Model Without Tenders and Competition

The ministry has the right of preference on whether to call for tender or not and whether to obtain an offer from the other firms by publication or not, about the power plants that will be established following the Act no. 3096 and the related regulations. Tender and publication is obligatory in the Act no. 3996. The related ministry preferred the enforcements within the scope of BOT method to be without tender, publication and bargaining. Because of that, the contracts signed are full of provisions against public interests and all the risks are on public. Also, because there are provisions about "privacy" in all of these contracts, the issues mentioned can not be known by public opinion.

6.5.2 The Bot And The Franchising Model (Demsetz)

The practices like BOT, BO and TOR are mechanisms used with the aim of the removal of the public monopoly in the electricity generation and the entrance of the private sector into the market for the new investments. The basic critics on the mentioned models are their inappropriateness for competition in the market and their expensiveness.

In fact, there is a model of competition estimated in both of the acts regulating the model of TOR in the electricity sector. According to the system called the "Competition for the Market" or the Franchising (DEMSETZ) (Paşaoğlu 2003, 34-36), regulation is a very high cost process. Therefore, giving the right of monopoly to the firm, giving the least price offer at the end of the tender made with the participation of firms in enough number is the best way providing for the optimum solution, because regulation is not required in that way. According to that model, the tender process will provide the competition between the firms and the come out of the optimum offer. Here, although the mentioned firms are involved in the "Competition for the Market" in the tender, the competition continuous after the first tender phase and is effective in the other phases where the Franchising is renewed. The DEMSETZ model is an attractive approach containing the advantages of the competition and also the effectiveness of the control of the natural monopoly by one firm.

When the BOT, BO and TOR practices in the electricity sector are examined within the frame of the Demsetz model, it is clear that the legal procedure mostly tries to provide the competition in the sector through that model. In the aspect of the generation make, by taking account of the Acts no. 3096 and 3996, the legal procedure on the mentioned practices should be evaluated together with that model. Even though in the Act no. 3096 a right of preference was provided for the Administration on the issue of tender and publication, in the Act no. 3996 later detailed regulations about the tender process were included. Therefore, in the BOT, BO and TOR enforcements the main goal is tendering the construction of the generation power plants by the Administration in a way that will give rise to "The Competition for The Market". However the Ministry has always used its right of preference by not tendering especially in the projects within the scope of the Act under no. 3096 and because of that unfortunately "Competition for the Market" has failed to be created.

6.6 THE NEW ELECTRICITY MARKET ACT UNDER NO 4628 AND THE PROBLEMS RISING FROM THE CURRENT CONTRACTS

The reasons giving rise to the Act No. 4628 is mentioned below;

In the "Electricity Market Act" under no. 4628, put into force by being issued in the Official Journal no. 24335 in 03.03.2001, a model of market depending on bilateral contracts between the market participators and on the mechanism of energy stabilization and mediation is foreseen.

The electricity sector in Turkey is mostly under the public monopoly in the aspect of property, operation and pricing. In various legal regulations before the Act no. 4628, the services of electricity generation, transmission, distribution and trade accepted as public service were presented as monopoly by the Administration or they were provided by the private persons with no public service quality. The models of BOT, BO and TOR were developed with various regulations before the Act no. 4628 in order to provide sufficient energy and competition, to decrease the costs, to increase the quality and productivity and to increase the share of the private sector and foreign capital stock for new technology transfer (Uçan 2002, 153).

The factors giving rise to a new regulation in the electricity sector with the Act no.4628 are different from the regulation movements in this sector in European Union and England before. For instance the ultimate goal of the regulation movement in EU is form an internal electricity market. In the countries like England the regulation movement began in order to remove the ineffectiveness of the public enterprises (division of property) and as a result of the possibility of competition in the electricity generation following the technological developments. However the main reason of a new regulation with the Act no. 4628 in Turkey was to provide the liberalization and the participation of the private sector, besides the insufficient public investments that could not meet the increasing demand because of its financial shortcomings in the electricity sector (Atias ve Dutz, 2003, 8).

6.6.1 Basic Points In the Competitive Market Model Subject to The Act No.4628

The Act no. 4628 brings forth a market model including a mechanism of stabilization and mediation and that is dependent on the electricity sale with the order of bilateral contracts. The aim of the electricity market Act under no. 4628 is "to form an electricity energy market that can display activity in accordance with the private law provisions in a competitive atmosphere and that is financially strong, stable and transparent in order to present the electricity to the consumers in a sufficient, high-quality, continuous, cheap an environmental way and also to provide an independent regulation and inspection in this market" (The article no.1/1 the Act no.4628). EPDK having an independent legal entity was formed in accordance with the mentioned Act for inspection and regulation.

The enforcement of the market model subject to the Act requires a privatization quite appropriate for the market goals and a formation of an excess supply open to negotiation. In the Application Book, issued by EPDK it says;

> "*…the existence of a transparent market structure that does not discriminate between the equal parties and is dependent on competition is gaining a great deal of importance. A reliable market structure where the market risks are decreased to a minimum level with regulations and liberalization is gradually increased by a specific program will become appealing for local or foreigner private sector investors".*

In the Act no.4628, the market activities are described as generation, transmission, distribution and sales (retail sale/wholesale) in general, in parallel with the technical unbundling of the electricity services (Ayanoğlu 2003, 74). In accordance with the Act the liberalization of the electricity market which used to be mostly under public authority and which has a vertical complex structure. With that aim, while the markets of generation and the retail and wholesales open up to the competition, the distribution and transmission markets become subject to regulation. The business of transmission displaying a natural monopoly quality and can not open up to competition is transferred to TEİAŞ and becomes a public monopoly. With the Act, the distribution power plants stay under the authority of TEDAŞ which is a public institution for a while however it is aimed to privatize those power plants as soon as possible for the operation of the electricity market in a healthy way.

The contracts, the privilege contracts and application contracts signed in accordance with the provisions of the Acts no. 3096, no. 3996, no. 4283 and no. 4501 and the related regulations which were put into force before the Act no.4628 are defined as the current contracts in the Act no.4628.

According to the 2nd article of the mentioned Act, the corporations that will display activity in the electricity market will be able to do generation, transmission, distribution, whole sale, retail sale and its related services, trade and import – export activities.

The sale of electricity is a product its carried out after a specific process in the market. The generated electric energy is sold primarily to the wholesale dealers by the producers and then to the retail sellers by the wholesale dealers and finally to the consumers by the retail sellers after specific processions in the market. Within that scope all the sales process is carried out by bilateral agreements. The bilateral agreements are the agreements between the real or corporate persons which are about the electricity energy and / or about the purchase and the sale of the capacity and which are not subject to the approval of EPDK, in accordance with the private law provisions (the Act no. 4628, article 1/41).

Another important agreement group in the electricity market includes the connection and system usage agreements. These are the agreements made to allow the generation companies, auto producers, auto producer groups, distribution companies or the consumers to reach or connect with a transmission system or a distribution system and which include conditions and provisions for the users.

The last group of agreements are the ones about the sub services, the sub services agreements are the agreements determining the costs conditions and the provisions of the sub services that will be carried out by the generation companies, auto producers, auto producer groups, distribution companies which are dependent on the transmission system or the consumers in accordance with the organization, regulations through TEAŞ. It is important to provide the required liberalization for the operation of the competitive market foreseen, in both sides of electricity generation and consumption. In that aspect, in that Act the issue of the free consumer having the right to choose the provider to buy the electricity is included. The free consumers are the real persons or

corporations having the right to choose their providers, because they consume more then the electric energy amount determined by EPDK or they are connected with the transmission system directly. The limits of free consumer determined the ratio of liberalization of the market and they are drawn up by the Council until the end of January every year, the free consumer limit determined for the year 2005 was 7,8 millions kWh. That ratio was stabled with the "Strategy Document" until the beginning of the year 2009. The free consumers can not buy electricity by making bilateral agreements with the distribution companies with retail sale licence, retail sale companies, whole sale companies and the generation companies on the price determined in that agreement. The captive customers (consumers) can provide electricity energy and / or capacity only from a distribution company with the licence of retail sale or a retail sale company on the retail sale prices subject to the regulation, because they do not have the right to chose their providers. The aim in the bilateral agreements is to let the providers (the distribution companies with retail sale licence, retail sale companies, whole sale companies and the generation companies) to provide the whole electricity need of the consumers. Even if a subtle estimation is made, the generation and consumption balance foreseen in the bilateral agreements can be spoiled because of the changes in the conditions of the parties. On that condition, the transmission system operator (National Load Dispect Center) keep the physical balance of the system increase or decrease the generation of some companies according to the proposals received by the Balancing and Settlement Center (PUMP), in order to equilibrate the electricity system and to match the generation and consumption. In this instance, PUMP determines the prices for the system participators being the parties of the mutual agreements, on the ratio of the cost of stabilization and mediation. The difficulties that will occur in the enforcement of the Act no. 4628;

a. Failure to find sufficient excess supply open to negotiation,
b. High loss-leak ratios in many distribution regions,
c. Failure to establish the infra-structure of the measuring-communication-control structure on the level the new market model requires.
d. The position of TETAŞ as a dominant whole sale company in the market.
e. Greatness of the cost that will be paid by TETAŞ,
f. Incompleteness of the profit process of privatization.

6.6.2 Entrance Into the Generation Market

According to the Act no. 4628, the activity of generation is carried out by EÜAŞ, its subsidiaries, the private sector generation companies, the auto producers and the auto producer groups, the private sector generation companies are legal entities subject to civil law provisions and dealing with the electricity energy generation and sale in the generation power plant(s) which they possess or have obtained by financial leasing or taken over the right of operating.

The legal entities dealing with the activity of generation can sell the electricity energy and/or capacity they generate to the legal entities with whole sale licence, the legal entities with retail sale licence and to the free customers through mutual agreements. The obligations the legal entities have to comply with in the generation activities as follows;

a. To keep the generation power plants in function by carrying out the responsibilities they undertake, except in the instances of compelling reasons and the maintenance schedule with annual program,
b. To provide the electric power meters, the infra-structure of the measuring-communication-control requires,
c. Without any zone limitation, to pay the cost of transmission and/or the sale of the electricity energy and/or capacity to the customers,
d. Within the frame of the technical means, to submit a proposal to TEİAŞ or the legal entities with distribution licence for the sub services on a price that will meet the whole of the costs.
e. Within the frame of the Regulation of Stabilization and Mediation, to submit a proposal to PUMP for taking in and out freight,
f. The legal entities has to take licence for each of the generation power plants and to keep separate accounts for each,

While forming competitive markets planned in the Act no. 4628 the effects of the enforcements in the previous period (except the current physical and institutional structure), on the new market should be taken into account. Therefore a competitive electricity market can not be designed and practiced without taking into account the

current conditions[80]. There was a structure established with the contracts like BO, BOT and TOR in the electricity market especially for the electricity generation in 2001, when the Act no. 4628 was put into force. The current structure requiring the entrance of the private sector companies into the market and their investments about the electricity generation in accordance with the Act no. 3096, does not comply with the market order brought in with the Act no. 4628 and problems occur in various subjects about that. Therefore, the Act no. 4628 requires a transition period to enter the new market order from the previous structure and to comply with the current contracts.

EÜAŞ and subsidiaries will have the right of property all of the public electricity generation power plants including the hydro-electric power plants. In accordance with the temporary 6th temporary article of the Act no. 4628, EÜAŞ and its subsidiaries and they will sell the electricity they generate to TETAŞ for a period of five years at the longest. Throughout that period, the basis and methods about the electricity and capacity sale of EÜAŞ to TETAŞ will be determined by the Council within the frame of the view of ETKB[81].

It is foreseen that the problem of supply safety will be solved by attracting the investors for the market and with the entrance of the companies as powerful as to finance the new investments on generation and to sign purchase – sale contracts reliable in the aspect of the capacity to meet the financial liabilities and with the new generation investments those companies implement[82].

6.7 THE TRANSFERS OF THE RIGHT OF OPERATING AND THE TRESUARY GUARANTEES

The private sector distribution companies that have obtained the right of doing the service of distribution through TOR in their zones within the scope of their current contracts can not utilize from their right of establishing generation power plant by taking generation licence and can not cooperate with any legal entities unless they modify their contracts in a way complying with the free competition conditions, the distribution companies are subject to and unless they adapt to the new regulations.

According to the Act no. 3096, the transfer of the generation, transmission and distribution power plants established by public associations and institutions in the task zones to the charged companies is determined by the Council of Ministers. With the act no. 4628, various provisions about the current contracts containing TOR were issued. The current contracts foreseeing the transfer of the right of operating (TOR) contain the contracts that became subject to the civil law provisions in accordance with the 2nd clause of the 1st Temporary Article of the Act no. 3996 (changed with the 7th article of the Act no. 4501) and the contracts maintaining as privilege contracts.

The transfer process of the public electricity generation and distribution power plants required to be transferred in accordance with the 4th Temporary Article of the Act no. 4628 will have to be completed as of a specified date. According to the mentioned provision the current contracts of the companies whose rights of operating were required to be transferred but did not complete their transfer process until the date 31.10.2001 were assumed invalid. The enforcement of the mentioned clause was ceased by The Constitutional Court but later was cancelled by the Regulation no. 2001/389, Decision no. 2003/29 and Regulation no. 2001/293 and Decision no. 2002/28.

The legal grounds The Constitutional Court brought about while cancelling the mentioned clause of the 4th Temporary article were of interesting quality. The Constitutional Court cancelled the 4th Temporary article of Act no. 4628 by notifying that the previously dated contracts made through the self – determinations of the parties can not be defeated with a latter dated Act and that condition is obligatory for the protection of the contractual liberty according to the principle of *pacta sund servanda* and *certainty and predictability of the law*.

With the regulation subject to the Act no. 4628, the transfer of the power plants could not be eventuated de facto, although the contract was signed, the transfers of the right of operation dragged on, were aimed to be completed until a specific date. However, the termination of the contracts is enforced in accordance with the contractual clauses but if there is no contractual clause, it is possible in accordance with the general law basis. Otherwise, it is impossible to intervene in the contracts in effect, with a latter dated act or abolish those contracts in accordance with the non-retroactivity of pacta sund

servanda principles and that violates the article no. 48 of the Constitution about the contractual liberty.

The treasury guarantees are based on the 11th article of the Act no. 3996. In accordance with the 13th article of the Act no. 3996, upon the demand of the related administration, also the affairs subject to the Act no. 3096 can utilize from the guarantees in the 11th article. The factor that makes the BOT model attractive in the electricity sector and the other sectors, are the long term purchase and price guarantees provided by the Treasury. According to the 2/d-1 article of the Act of the Electricity Market no. 4628 which was put into force 20.02.2001, TETAŞ can make a purchase of energy contract for a year at the most. Also, the provision issued in the 8th Temporary article of the same Act says:

> "*the treasury guarantees within the frame of the provisions of the Act no. 3996 can be given for the projects determined before the issue of this Act provided that they start operation as of the end of the year 2002. If the projects receiving the Treasury guarantee do not commence operation as of the year 2002, the Treasury guarantees will become invalid. Except those projects the Treasury guarantees are not given within the frame of the legal provisions of the Act no. 3996 dated 08.06.1994 and with the Act no. 4283 dated 16.07.1997".*

Because TETAŞ can not make long term purchase and the Treasury guarantees can not be given, it can be derived from those regulations that the model of BOT will no longer be an appealing mechanism working as guaranteed. In that instance, the people who want to invest on this sector will take into account of the market conditions not the Treasury guarantees in their investment determination. The models like BOT, BO and TOR were put into force in order to meet the investment deficit of the public in the related sectors and to provide the participation of the private sector in the infra-structural investments. However, because of the mistakes made in the evaluation and the preference of the projects, the burden of the Treasury increased in the course of time and following the proposals of the associations like IMF and the World Bank the mentioned article about the treasury guarantees were added to the Act of the Electricity Market (Güneş 2002, 67). Before the regulation mentioned with the Act no. 4628, the treasury guarantees used to be given by the Council of The Ministers. If the system about the guarantees had worked successfully, and the unnecessary and ineffective projects for the country economy had been eliminated by the related administrations

before the Council of Ministers, the provision about the guarantees in the Act no. 4628 would not have been necessary(Güneş 2002, 68).

It is so difficult to make investment without Treasury guarantees in the electricity energy sector especially for the foreign investors. Because the energy investments are investments with high-cost and it is not appropriate for the activity quality to make investment without a guarantee of purchase and payment in those investments which do not have a quality of normal commercial project. Also it is impossible for the local capital stock to make those investments, the local capital stock can afford only small investments and the social cost of them are heavy. Therefore, the investments in the electricity sector were made by public in the past. Today it is so hard for the public sector to make those investments because of its financial deficiency. Also it is so hard to operate the new electricity market unless the supply is increased. When we evaluate all of these factors together, it is obvious that the cancellation of the Treasury guarantees constituting an encouraging factor for the investments that will be made in the electricity sector will increase relatively small investments like auto producer and that there will be a crisis for a while in the electricity sector unless the planned investments are not concluded (Güneş 2002, 68).

7. CONCLUSION

The electric supply industry does not resemble the other industries because of the peculiar features of electricity and should be evaluated separately.

Although the electricity supply industry has qualities of natural monopoly externality and public good, it is sub-markets display different qualities. In the electricity supply industry consisting of four parts, while transmission and distribution have the qualities of natural monopoly it is possible to carry the service given about the electricity transmitted through those networks to competition. Therefore generation and supply display the qualities of a competitive market. All the electricity is a universal product, the organization of the electricity industry in the same way in the international arena should not be expected. The regulation of every market that can be regulated or the entrance of every market having that capacity into competition should not be seen as an obligatory. The structural, cultural and legal basis of every country plays an important role in the formation of their industries. One of the mistakes that countries frequently make is to form too many regulations. The cost of regulation is an issue that should not be ignored and to regulate a market or opening up it into competition without a cost-benefit analysis may result in failure.

The structural of the electricity sector determines the frame of the regulation that will be made in that sector. The issues on the limitations of competition in the sector, the way of transition from an economy focused on public to an economy focused on market, the limitations of vertical and horizontal integration, are important during the structuring of the electricity sector. First of all, a good legal and commercial infra-structure should be formed for a appropriate structure of sector and a regulation system supporting that. Like in the other industries in the parts of the electricity industry that can enter the competition, it is impossible to reach the “ideal” competition and protect it. The impossibility to reach the ideal competition does not mean to regulate the whole industry. A “workable competition” is the best solution for those markets. While trying

to provide the workable competition in the electricity industry, the issues on the usage of the market power, the competition models for the network, resolution, the liberty of the consumers to choose their own providers, the stranded costs are of great importance.

The usage of the market power in various wholesale markets (England, California..etc) have created great problems recently and delayed the reform studies. Even the small companies not having a dominant position can increase the market prices above the competitive levels by using their market power and ruin the competition. In the competition acts of many countries the abuse of the dominant companies their market power is prohibited but there is no prohibition or sanction about the small companies using their market power and utilizing from the peculiar features of the electricity sector. Many countries began studies on that issue (for example England and the USA). Turkey being in the process of re-structuring its electricity market, should take necessary measures and make legal regulations on that issue. One of the most important reasons of the rise of the market power is the transmission limits. Therefore, it is required to make transmission line investment, which is necessary in parallel with the de-regulation of the electricity markets.

The wholesale and retail sale markets can enter the competition by using the transmission and distribution network. It is necessary to apply the conditions of the entrance to network equally between the competitors in order to provide an efficient competition. Another condition to form the competition in the electricity sector is resolution. As a result of the resolution between the markets, the markets gain transparency and the discrimination between cross-subsidy and the market players is prevented. The assurance of equality removes the uncertainty in the market and creates confidence. Those conditions result in the entrance of the new companied to the sector and the increase of the investments. While the property resolution is the most effective way of resolution, every country should apply a resolution method according to their sectoral qualities. The basic point of the reform in the electricity sector is the freedom of the consumer to choose the provider. The efforts of liberalization beginning in the high markets of the electricity supply chain go down to the consumer finally. In the liberalization process, the chance of the free consumers to change their providers is of great importance. Therefore, the free consumers should not be bound with long term

supply agreements bringing forth the obligation to provide their whole necessities from a stable generator. The captive customers should have enough knowledge about the market in order to buy electricity from an alternative resource instead of a distribution company in their own regions and also the markets of retail sales should be developed for that alternative purchase.,

During the transition from the public property or the regulated monopoly structure to market based structure, the biggest problem is the stranded costs. Following unfair methods while financing the stranded costs can ruin the competition in the market. The competitive associations responsible for the protection of the competition and the regulatory associations responsible for the technical regulation should cooperate in order to prevent that problem rising from the stranded costs by counteracting discrimination in the markets.

It is of great importance for the regulatory associations in the electricity sector not to be obliged to receive approval for their decisions from supreme authorities or supreme political associations. The independence of the regulatory associations gets stronger unless their members change with every new government and as long as their members are appointed for a long period and the association has financial autonomy.

Although the studies on reformation in the electricity sector were initiated rapidly especially after 1980s, that process is still continuing, sometimes with mistakes. During the reform studies in the mentioned countries can make various mistakes in the process of the entrance to competition and regulation of the markets. It is impossible to qualify a country's electric sector as "perfect". However, repeating the past mistakes and failures of some other countries will cost high and also will take so much time and therefore it is of great importance to learn from the experiences of the other countries in order to not to make a mistake.

It should not be forgotten that the restructuring of the electric sector is a dynamic process and the countries in that process should follow the requirement of the time with necessary infra-structural and legal regulations. Turkey initiating the process of restructuring the electricity sector with the Act no. 4628, has to take so many crucial steps like the preparation of the secondary procedure. As a result of the restructuring in

Turkey, it is expected to open up the markets into the competition and to provide the market risks not through state but through market participators from now on. That means the application of the competition within the market instead of the competition for market. While Turkey is making the mentioned regulations, it should be learned from the experiences of the other countries in the electricity sectors and should prefer the most effective methods with the lowest costs.

Foot Notes

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