

**THE REPUBLIC OF TURKEY  
MINISTRY OF ENERGY AND NATURAL  
RESOURCES  
STRATEGIC PLAN  
(2010-2014)**

## **PRESENTATION BY THE MINISTER**

The phenomena of population rise, industrialization and urbanization and the emerging new opportunities of making business due to globalization introduce the increasing need for natural resources and energy.

Increases both in costs and prices in the energy sector and also within the framework of the rising electricity energy demand, a large number of nations take new precautions for providing energy security and the existing market structures and rules are renewed according to the experiences and the emerging problems, and the mechanisms of these markets are strengthened with measures for providing the supply security. The increase in demand in our country, which continues with its occurrence above the worldwide average, and the rising need for investments depending on that necessitates the new precautions to be taken.

Accordingly, the “Electricity Energy Market and Supply Security Strategy Paper”, which outlines our long-term targets in the electricity energy sector, was enforced with the resolution of the Higher Board of Planning in 2009.

Within the framework of the Strategy Paper, by the year 2023, the 100<sup>th</sup> anniversary of the foundation of Our Republic, the integration of our entire coal and hydraulic potential into our economy, making our wind energy installed capacity reach up to 20,000 MW, and our geothermal energy installed capacity reach up to 600 MW and, additionally, supplying the 5 percent of our electricity energy production through nuclear energy have been aimed.

As the Ministry of Energy and Natural Resources, within the perspective of the energy and natural resources policy of our country, we have prepared our Strategic Plan covering the period between 2010 and 2014. In the Strategic Plan of the Ministry, which has been prepared by considering our national priorities, our strategic aims and targets have been determined for the following five years in the matters of “Energy supply security”, “the regional and global effectiveness of our country in the field of energy” “Environment” and “Natural resources” and the strategies to be pursued have been clarified. The main target is to provide the energy resources to all consumers adequately, with high quality, at low costs, securely and in consideration of the sensitivities about the environmental matters. According to such aim, the efforts for creating a competitive and liberal market will continue and practices for the realization of the new production investments to be activated for meeting the electricity energy need, within the structure of the market, in harmony with the resource priorities of the energy policy of our country and under sustainable conditions. Within that framework, the production and distribution privatizations that are among the instruments for bringing competitiveness into the electricity energy market will be completed within the planned process and a market that is based on competition within the framework of the free market conditions will be given its shape.

In line with the aim of reducing the import dependence of our country in the energy supply, our studies for the exploration and production of the domestic oil, natural gas and coal resources will continue increasingly within the period of the Plan. Moreover, according to the aim of providing diversification of the energy supply, the maximum use of the domestic and renewable resources in the production of electricity energy and the initiation of the construction of the nuclear plant have been targeted.

Again, within the framework of the targets for the provision of energy supply security, the reduction of the risks resulting from the import dependence and the increase in the effectiveness of the struggles against the climatic change, studies will be conducted for raising the efficiency and the reduction of the energy intensity in the process from the production to the use of energy.

our ministry evaluates the energy resources in eastern countries through actualizing the geographical features that will enable transportation of such resources to western countries and the projects that will cover the commercial and political dimension of the involvement. The geo-strategic position of our country has been rendered with comprehensive and strategic studies and Turkey has acquired an identity of an “energy corridor” and also has become the new and the critical actor of the multi-national oil and natural gas pipeline projects and the international energy arena.

The energy policy we have been applying will be sustained throughout the period of the Plan and our studies for the implementation of Nabucco Natural Gas Pipeline Project, Turkey-Greece-Italy Natural Gas Pipeline Project and the other international projects on the agenda, with consideration of the interests of our country, will be intensified.

The greenhouse gas emissions out of the energy production and consumption are considered as the main reason for the climatic change caused by human beings. An effective role undertaken for the struggle with the climatic change is important. In terms of demand, improvements parallel to the advancements in technology especially in the energy efficiency and in terms of supply, the spreading of the use of renewable energy resources alternative to the fossil fuels and the integration of nuclear energy into the composition of electricity energy production are the two main components of the energy policies of our ministry.

In the area of natural resources, considering the fact that the mines are formed in limited amounts within a period of time of millions of years, it is clearly revealed that in the mining zones, these must be used through regarding the environment-economy balance. For securing the conduction of the mining operations within framework of the plan for environmental harmonization, controls are carried out by our Ministry within the scope of the Mining Law. With such controls to be conducted effectively throughout the period of the plan, by the year 2015, 10 thousand mining operations are aimed to be controlled.

The boron reserves of our country are of worldwide levels as well as the industrial raw materials and marble. Moreover, our country is among the rare countries with reserves of a magnitude sufficient to meet the need for required raw materials for the industry.

In line with the purpose for increasing the contribution of our natural resources in the national economy, throughout the period of the Plan, it has been aimed that the production capacity of boron chemicals will be increased and the exportation of our country of marble and processed natural mineral stone products will have a capacity of 5 billion dollars and the mineral sale income will exceed TL 12 billion.

With the Strategic Plan of our ministry for the period between 2010 and 2014, we hereby share our plans and policies publicly regarding the five-year period ahead, with an understanding of administration based on participation, accountability, transparency, total quality approach principles and information. In parallel to our national priorities, this plan, which poses a significant component of our national energy and natural gas resources strategy and which sheds light on the energy and natural resources sector, will hopefully bring advantages for our country and I hereby express thankfulness for the employees of our ministry, who have made intensive efforts in this diligent study, and for all institutions, bodies and persons that have made contributions.

**Taner YILDIZ**  
**Minister of Energy and Natural Resources**

## **PRESENTATION BY UNDERSECRETARY**

The developments worldwide have brought about the need for a comprehensive restructuring in Turkish Public Administration. Accordingly, in our country, the practices of **strategic planning** and **performance-oriented budgeting** were given priority for the purpose of transformation into a system where focus on performance, efficiency and effectiveness stand out and the resources are used cost-effectively and comprehensive legal arrangements were made according to that.

With the Public Financial Administration and Control Act numbered 5018 that was enacted in that respect, the conversion of the public institutions and authorities into a strategic management understanding and the public administrations were imposed to undertake the preparation of their own strategic plans.

Strategic Planning will on the one hand make the public financial administration gain effectiveness by enabling them to provide planned service provision, make policies, monitor and evaluate the determined policies according to the concrete working programs and budgets, and on the other hand, it will be supporting the development of the corporate culture and identity.

For the purpose of putting the result-oriented approaches in the public sector in the foreground, to utilize the resources effectively, economically and efficiently, making transparency and accountability the basic principles, our ministry's Strategic Plan covering the period from 2010 to 2014 has been prepared.

I hereby present my thankfulness to the personnel of the Ministry of all levels that have made efforts in the intensive studies conducted for about two years and our shareholders who have made contributions and wish success in its application.

**Metin KİLCİ**  
**Undersecretary**

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## **SECTION 1**

### **SITUATION ANALYSIS**

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#### **HISTORY**

The Ministry of Energy and Natural Resources (ETKB) was established upon Presidential Approval No. 4-400 dated 25.12.1963 on the basis of the authority vested by Law No. 4951. Law on Organization of the Ministry was provided for on 13.02.1983 through Decree Law No. 186, which law was finalized by Law No. 3154 enacted on 01.03.1985.

With the amendments on the Law numbered 3154;

- The Department of EU Coordination was established on December 28, 1989,
- On 12.08.1993, the two Departments were converted within main service units into General Directorates, and establishing the External Relations Department and the Mining Affairs General Directorate.
- On 27.06.2001 the Transit Petroleum Pipelines Department was established.

And with Law No. 5436 which took effect in 2005, Strategic Development Units (SGBs) were created within all public bodies, and accordingly the Research, Planning and Coordination Board of our Ministry was replaced in 2006 by a Strategy Development Department.

#### **PURPOSE OF FOUNDATION**

To help define targets and policies related to energy and natural resources in a way that serves and guarantees the defense of our country, security, welfare, and strengthening of our national economy; and to ensure that energy and natural resources are researched, developed, generated and consumed in a way that is compatible with said targets and policies.

#### **AUTHORIZATIONS, DUTIES AND RESPONSIBILITIES**

Our Ministry is assigned for the followings:

- Determining the short and long term needs of the country for energy and natural resources, assisting the detection of required policies, conducting the planning for these,
- The examination of the energy and natural resources in the interest of the nation, technical needs and economic developments, assisting the determination of the general policy principles for their operation, improvement, evaluation, control and protection, arranging the required programs, preparing or ordering the preparation of the plans and projects,
- Granting the rights for exploration, founding facilities, operating and utilization for the evaluation of the energy and natural resources, where needed, conducting the transfer, succession, and cancellation transactions upon these rights, establishing the rights of mortgage, expropriation and other restrictive rights and keeping and preserving records upon these,
- In accordance with the public need, security and benefit, conducting the coordination of the studies for the detection of the general policies regarding the services for energy and natural resources and the services for the foundation,

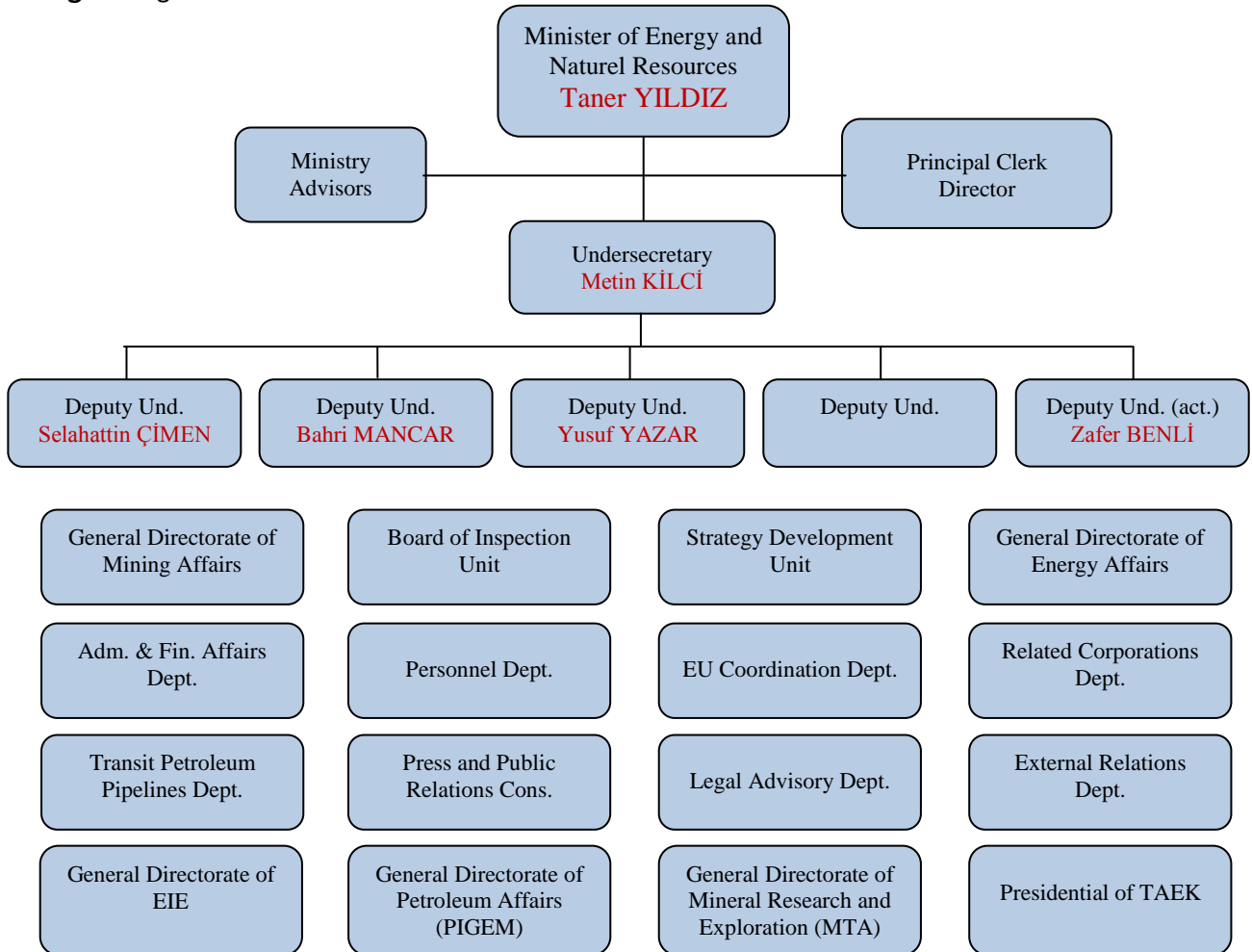
operation and sustaining of energy production, transfer, distribution facilities and making controls over these,

- Determining and appraisal of the policies for production, transfer, distribution and consumption prices of the underground and aboveground energy and natural resources and their products,
- Examining the operation and investment programs of the institutions bound to or related to the Ministry and approving these and monitoring their operations according to annual programs and their evaluation,
- Examining in all aspects, making researches on and supervising the operations and transactions of the institutions bound to or related to the Ministry, giving any type of orders and supporting these,
- Collecting the required information for carrying out the duties assigned with the legislation, their evaluation and the detection and development of long term policies and carrying out the preparation studies for these.

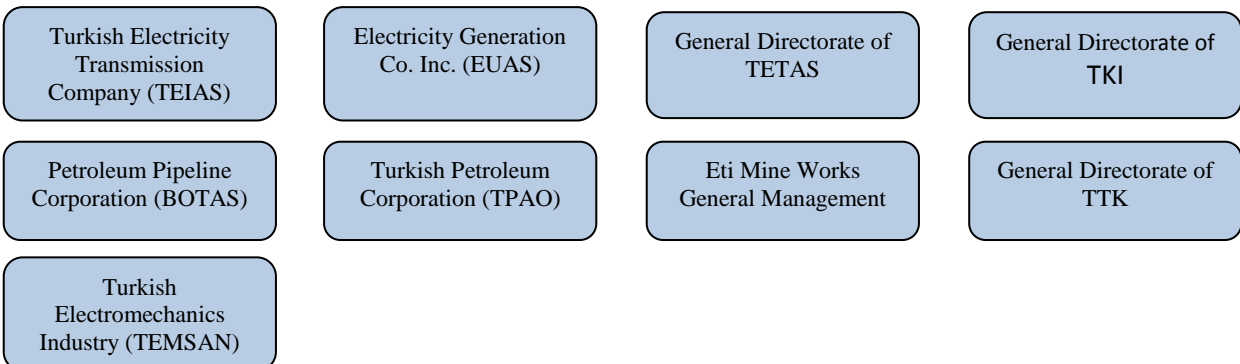
## ORGANIZATIONAL STRUCTURE

The existing organizational structure of Our Ministry has been provided in Fig. 1.

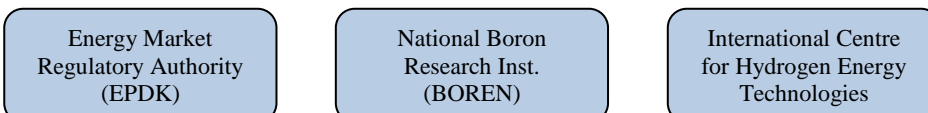
**Fig. 1:** Organizational Scheme



## ATTACHED INSTITUTIONS



## RELATED INSTITUTIONS





## SWOT ANALYSIS AND ITS CONNECTION WITH THE STRATEGIC AIMS

Strengths	Supported Aims
The influence of the policy and operations of our Ministry in the formation of national policies	Supports Targets 1, 2, 3, 4, 5, 6, 7, 8, and 9
The influence of our ministry in the formation, application and direction of the required regulations	Supports Targets 2, 3, 4, 5, 6, 7, 8, and 9
The fact that significant institutions that are assigned in critical matters are within the structure of our ministry	Supports Targets 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10
The tendency for technological change and novelty	Supports Targets 10 and 11
The influence of our ministry on the studies for the international cooperation projects	Supports Targets 5 and 6
The fact that in the operations for the exploration of our natural resources, coordination and effectiveness have been secured	Supports Targets 1, 2, 5, 8 and 9
A strong R&D structure	Supports Target 11
Weaknesses	Aims Suggested for Improvement
The fact that the personnel salaries are lower than the other public authorities	To be actualized with Target 10
Lack of expertise system for the employment of the qualified personnel	
Lack of adequate corporate identity	
Ambiguities in the distribution of authorizations and responsibilities in some of the areas within the operation area of our ministry, among the other institutions and our ministry	
The failure in the provision of cooperation, coordination and flow of information among the ministry institutions and the bound institutions	
The inadequacy of our Ministry for the information management system	
The lack of a service headquarters used only by our ministry	

<b>Opportunities</b>	<b>Aims to be Used</b>
Advantages offered by the geostrategic position of our country	Supports Targets 5 and Target 6
The fact that our country has various rich renewable energy resources	Supports Target 2 and Target 7
The fact that our country has rich reserves in some of the minerals	Supports Target 8 and 9
The diversity of natural resources of our country	Supports Target 1 and Targets 8 and 9
Our high potential for energy efficiency	Supports Target 3 Target 7
The restructuring of energy markets	Supports Target 4
EU harmonization process	Supports target 3, 4, and 7
Rise of regional cooperation opportunities	Supports target 5 and 6

<b>Threats</b>	<b>Aims Suggested against Threats</b>
The high rate of import dependence in terms of primary energy resources	to be met with Target 1, 2, 3, 5 and 6
The need for high amounts of financial resources needed for the effective use of national and renewable energy resources on electricity energy	to be met with Target 4
The sharp fluctuations in the price of energy resources	to be met with Target 1, 2, 5 and 6
The political instabilities in our region	to be met with Target 5 and 6
Foreign influences in the use of transboundary resources	to be met with Target 2
The contradiction between the energy policies of other countries with the target of our country for becoming and energy hub	to be met with Target 6
The rise in greenhouse gas emissions and the climatic change and the international obligations in such matters	to be met with Targets 2, 3 and 7
The non-reliance of investors in market practices	to be met with Target 4
The difficulties encountered with in the employment of qualified personnel due to the salary policies	to be met with Target 10
The environmental overreactions in the public opinion about the minerals of high value mined in our country such as gold	to be met with Targets 8 and 9
The lack of companies in the mining sector with the ability to compete on the international scale	to be met with Targets 8 and 9
The failure in the adequate and effective evaluation of the research institutions due to restrictions of budget and administrative problems	to be met with Targets 10 and 11
The limitations to be brought especially in matters related to Environment within the scope of harmonization with the EU and the needs for high cost investments to emerge	to be met with Target 3, 4 and 7

## **SECTION 2**

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### **STRATEGIC PLAN**

#### **OUR VISION**

To make our country the leader of its region in energy and natural resources

#### **OUR MISSION**

Our mission is evaluating the energy and mining resources effectively, efficiently, securely, timely and environmentally friendly and therefore reducing the import dependence and bringing the highest contribution into the national prosperity.

## OUR BASIC VALUES AND PRINCIPLES

### ✓ **Transparency**

The conduction of our operations as open for access by the related parties and their offering for the information of the public opinion within framework of the laws.

### ✓ **Reliability**

The conduction of our operations according to the aim of becoming an authority that is reliable and reputable both on a national and international scale

### ✓ **Being Innovative and Pioneering**

The encouragement of the R&D studies and pioneering in the use of new technologies.

### ✓ **Being Open for Cooperation**

The conduction of our operations through securing the participation of relevant parties and therefore according to the aim of providing services in line with the needs and expectations.

### ✓ **Depending on Efficiency**

The utilization of the public resources allocated to our Ministry for the purpose of providing efficiency and effectiveness

### ✓ **Being Coherent and Projectable**

The conduction of our operations in the light of the medium and long term reliable projections and according to the global developments, through consideration of the interests of our country.

## OUR STRATEGIC AIMS AND TARGETS

### Strategic Theme -1

#### Energy Supply Security

The energy supply security, which sets the basis for the debates on the energy sector both across the world and in single countries, is also significant for our country. Within the context of the energy supply security of our country, in recent years, the legal and technical studies have been intensified for the purpose of restructuring our energy market with a market understanding that is based on competition and transparent, detecting and using our domestic and renewable resources potential, integrating the nuclear energy into the electricity production, and utilizing the new energy technologies.

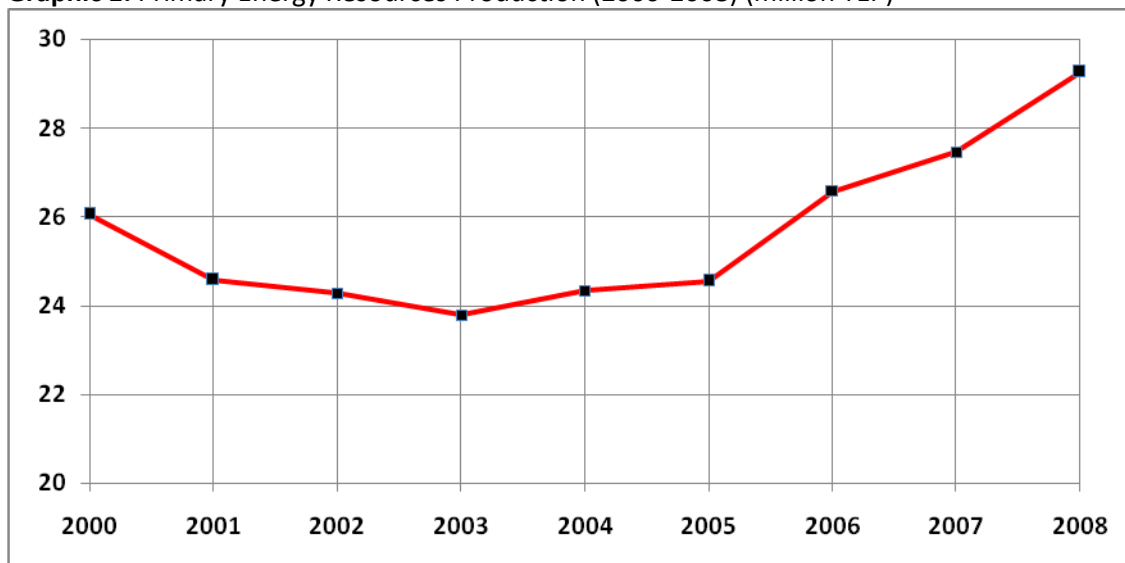
#### AIM -1

##### *Providing Diversity in Resources by Giving Priority to the Domestic Resources*

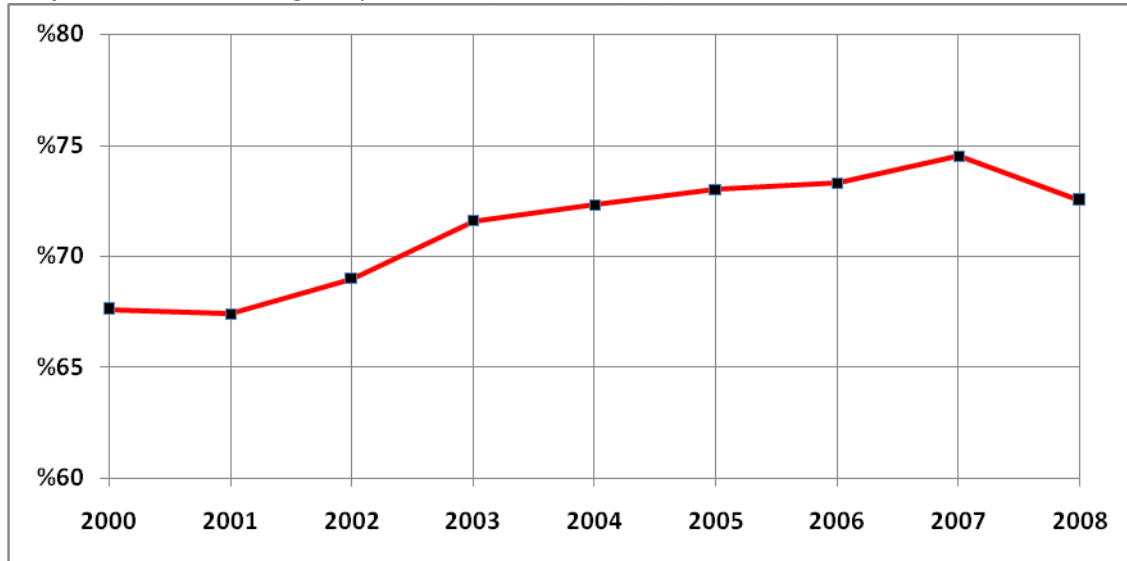
In our long term plan study for the covering of the energy demand, in the year 2023, which is the 100<sup>th</sup> anniversary of the foundation of Our Republic, the utilization of all of our domestic resources, and the maximum use of the renewable energy resources, the increase of the diversification of the energy supply and the integration of the nuclear energy into the electricity energy by the year 2020 and the redesigning of our energy sector, which has been based so far on three main bases (coal, natural gas and hydraulic) and therefore, reducing the import dependence and importation balance have altogether been targeted.

In the year 2008 the total primary energy consumption of our country has been 108 million Ton Equivalent Petroleum (TEP), and its production has been 29 million TEP. The graphic revealing the primary energy resources production and the covering of the primary energy demand with importation in the period from 2000 to 2008 has been provided below.

**Graphic 1:** Primary Energy Resources Production (2000-2008) (million TEP)



**Graphic 2: Rate of Foreign Dependence (2000-2008) (%)**



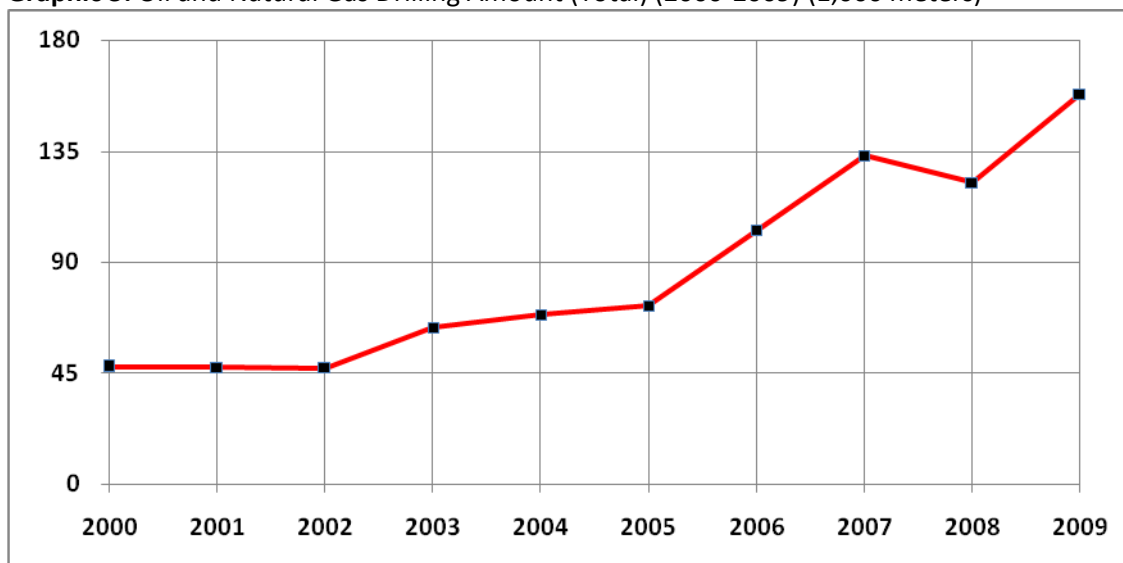
Throughout the plan period, the realizations in these two graphics will be closely followed.

The relative insufficiency of the domestic resources of our country especially in terms of oil and natural gas in proportion to the rising energy demand in our country brings about the importation of oil and natural gas. Currently, the rate of dependence of our country is 73 pct. In this context, great importance is given to the improvement of the diversification of resources, technologies and infrastructure. For this reason, the oil and natural gas exploration operations both at home and abroad have been intensified in the recent years and these shall also be continued increasingly within the period of the Plan.

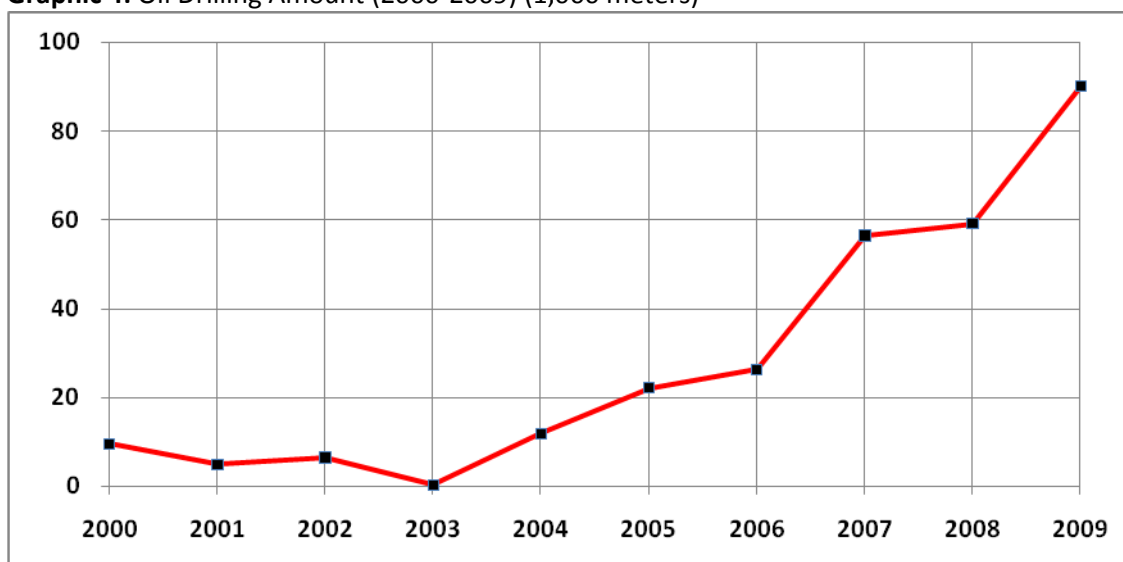
As of the end of 2009, 133,1 million tons of crude oil and 11,3 billion m<sup>3</sup> of natural gas production was made and the remaining producible crude oil reserve available is 39,4 million tons, and the natural gas reserve is 6,1 billion m<sup>3</sup>.

With the moves of investment in the exploration works both at home and abroad that have been accelerated in 2003, the exploration and drilling operations have been improved. In line with the changing exploration strategy and the rising exploration investments, the exploration works at home in the land as well as the hydrocarbon explorations in the seas abroad are given much importance. In line with this strategy, especially in the Black Sea, from 2004 to 2009, an intensive seismic program was implemented in our waters and the studies will be sustained increasingly. The graphics on the oil and natural gas drilling amounts conducted in the period from 2000 to 2009 are given below.

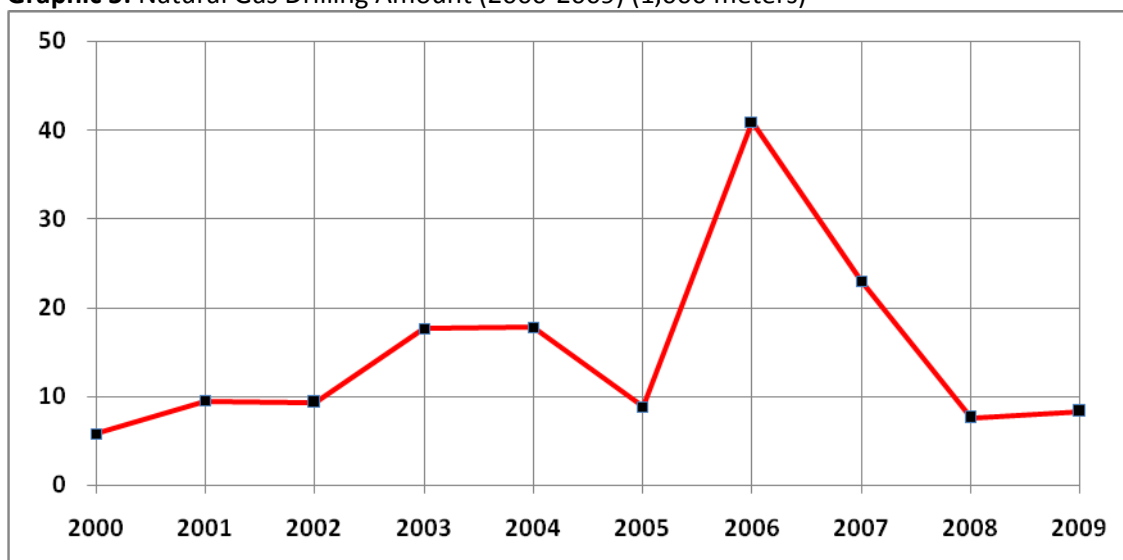
**Graphic 3: Oil and Natural Gas Drilling Amount (Total) (2000-2009) (1,000 meters)**



**Graphic 4: Oil Drilling Amount (2000-2009) (1,000 meters)**



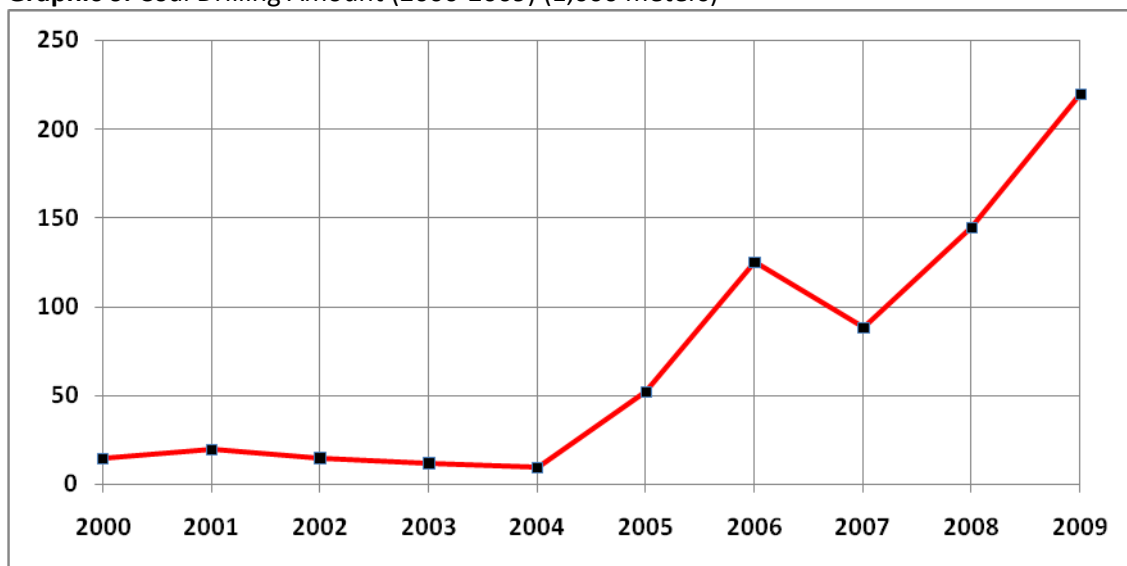
**Graphic 5: Natural Gas Drilling Amount (2000-2009) (1,000 meters)**



Among our domestic resources used for electricity production, the electricity energy production potential is 120 million kWh/year, in total, from lignite and the 44 percent of the potential has been actualized. As with the coal, which has a potential of 11 billion kWh/year, 32 percent of the potential has been evaluated. As of 2005, especially the Mining Detection and Exploration (MTA) General Directorate and Turkish Coal Operations Authority (TKİ) General Directorate, and other national institutions have cooperated and with a mobilization among them, a coal exploration move was made. At the end of the works, in the period from 2005 to 2009, 4,2 billion tons of lignite reserve was detected and thus, a rise of 50 percent was seen in our lignite reserves.

The graphic showing the total amount of drilling conducted for coal explorations by General Directorate of Turkish Coal (TKİ) and Mineral Research & Exploration General Directorate (MTA) has been provided below.

**Graphic 6: Coal Drilling Amount (2000-2009) (1,000 meters)**



**Target 1.1** Within the period of the Plan, the domestic oil, natural gas and coal exploration works will be increased.

**Performance Indicator:**

- Oil Drilling Amount (thousand meters)
- Natural Gas Drilling Amount (thousand meters)
- Coal Drilling Amount (thousand meters)

**Target 1.2** The domestic coal thermal plants of 3,500 Mega Watt (MW), the construction of which has started, will be completed by 2013.

**Performance Indicator:**

- The Installed Capacity for the Domestic Coal Thermal Plants that Are Planned to Be Completed by the End of 2013 (MW)

	Estimated Date of Commencement of Operations				
	2010	2011	2012	2013	TOTAL
Installed Capacity (MW)	200	1,200	800	1,300	3,500



**Target 1.3** By the year 2014, the construction of nuclear plant will start.

### Strategies

1. For the purpose of increasing the energy supply security, the resources, routes and technologies will be diversified.
2. Priority will be given to the domestic coal, oil and natural gas exploration and production operations and precautions will be taken to secure the sustainability of the investments in this area.
3. Studies required for the evaluation of the small scale coal reserves in the regional energy production facilities will be conducted.
4. Importance will be given to the spreading of the technologies according to the quality of domestic lignite and the utilization of the cycle technologies to provide low emission per unit and high efficiency in the new thermal plants to be established.

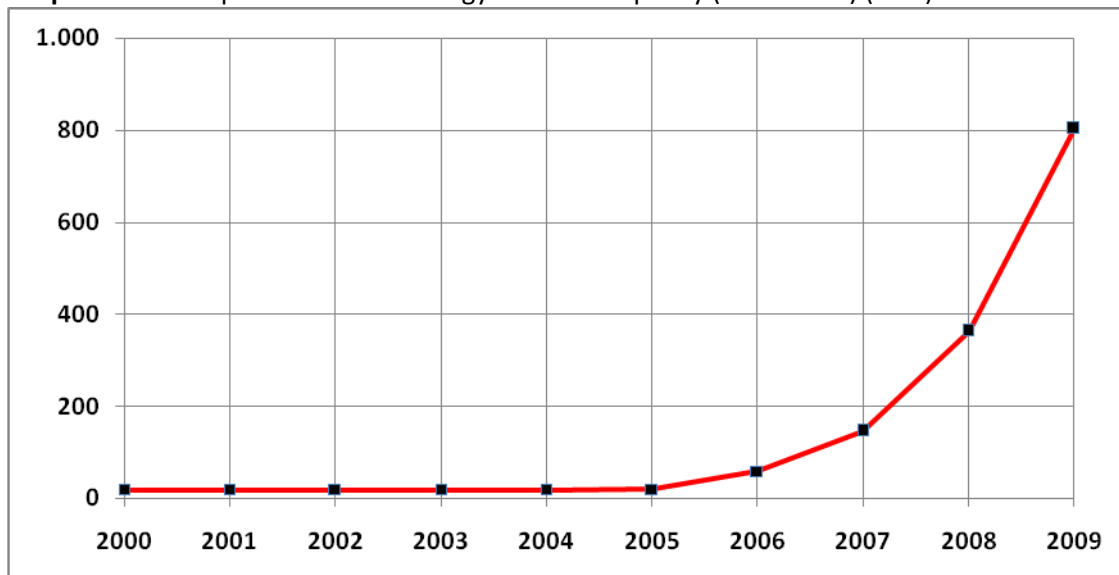
### AIM -2

#### *Increasing the share of the renewable energy resources within the energy supply*

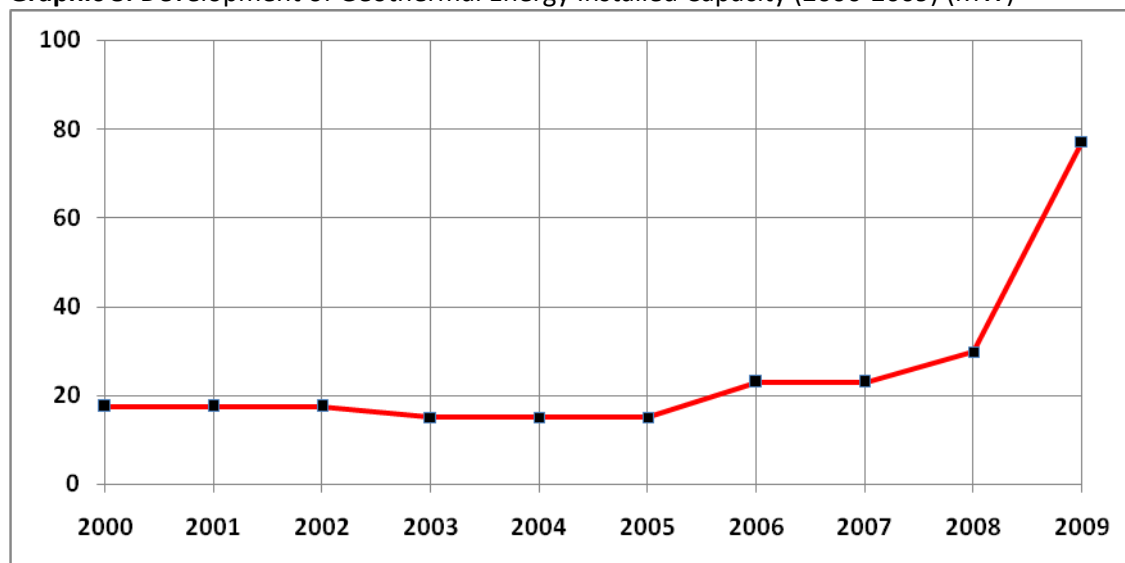
With the Law for the Utilization of the Renewable Energy Resources for the Electricity Energy Production that was enforced in 2005, the opportunity for the production of electricity energy from the renewable energy resources by the private sector has been provided. Our main target for the renewable energy resources is to provide 30 percent share of these resources in the electricity energy production.

The wind energy installed capacity, which was almost absent in 2002, reached 800 MW in late 2009. The graphics for the wind energy and geothermal energy installed capacity actualized in the period from 2000 to 2009 are given below.

**Graphic 7:** Development of Wind Energy Installed Capacity (2000-2009) (MW)

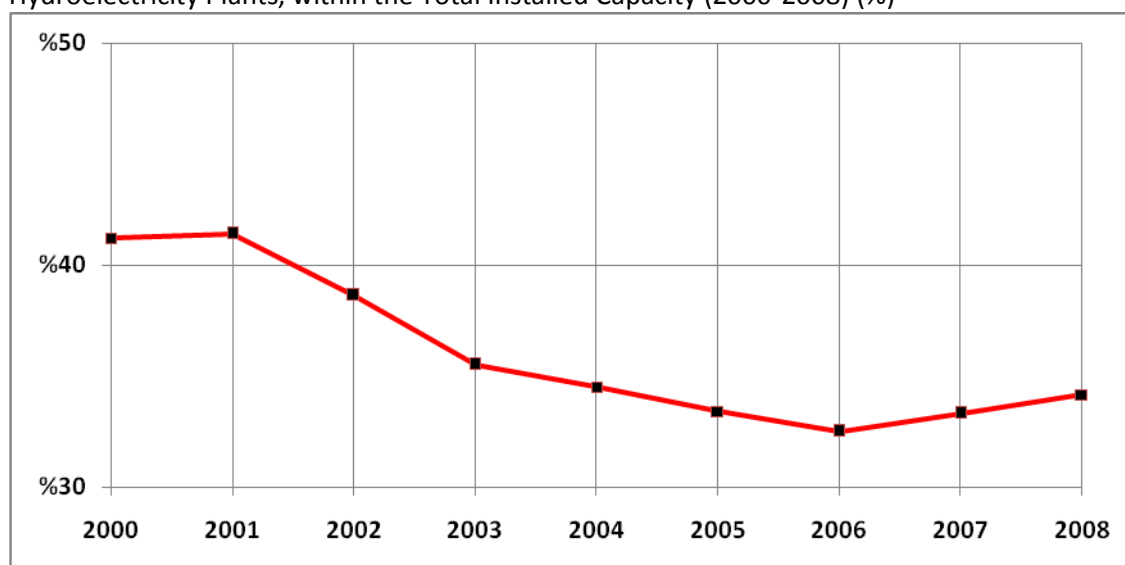


**Graphic 8:** Development of Geothermal Energy Installed Capacity (2000-2009) (MW)

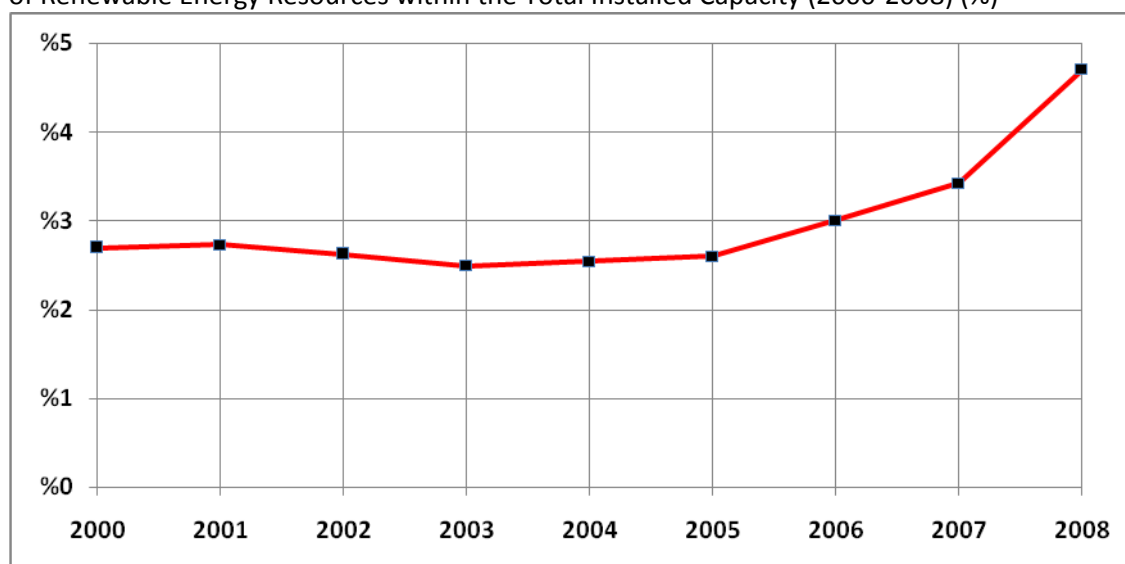


The graphics about the development of the installed capacity of the renewable energy resources from 2000 to 2008 are given below.

**Graphic 9:** The Share of the Installed Capacity of the Renewable Energy Resources Including the Dam Hydroelectricity Plants, within the Total Installed Capacity (2000-2008) (%)



**Graphic 10:** With the Exclusion of the Dam Hydroelectricity Plants, the Share of the Installed Capacity of Renewable Energy Resources within the Total Installed Capacity (2000-2008) (%)



Throughout the period of the Plan, the actualizations in these two graphics will be monitored closely.

**Target 2.1** The hydroelectricity plans of 5,000 MW, the construction of which has started, will be completed by 2013.

**Performance Indicator:**

- The Installed Capacity of the Hydroelectricity Plants that Are Planned to Be Completed by 2013 (MW)

	Estimated Date of Commencement of Operations				
	2010	2011	2012	2013	TOTAL
Installed Capacity (MW)	1,200	1,000	1,500	1,300	5,000

**Target 2.2** The wind plant installed capacity, which has been 802,8 MW as of 2009 will be increased up to 10,000 MW by the year 2015.

**Performance Indicator:**

- Development of Installed Capacity of Wind Energy (MW)

Base Year 2009	Target Year 2014
802,8	10,000

**Target 2.3** The installed capacity for the geothermal plant, which has been 77,2 MW as of 2009, will be increased up to 300 MW until 2015.

**Performance Indicator:**

- Development of Installed Capacity of Geothermal Energy (MW)

Base Year 2009	Target Year 2014
77,2	300

## Strategies

- 1) Regarding the renewable energy resources that create an economic potential, the required precautions will be taken for the completion of the licensed projects within the projected term.
- 2) The production planning will be prepared through considering the developments in the renewable energy utilization potential in line with the advancements in technology and the arrangements in legislation.
- 3) For the maximum evaluation of the hydroelectricity potential of our country and the integration of this potential into the national economy through private sector, the precautions will continue being applied.
- 4) The cooperation required for the conduction of the studies for the improvement of the water resources suitable for the production of hydroelectricity, first of all on the basis of the basin with an integrated approach and with flexibility in the meeting of changing consumption demands will be accelerated.
- 5) The economic analysis criteria of hydroelectricity plants will be evaluated according to the conditions of the present day.
- 6) The studies required for the strengthening of the electricity transmission system to allow for the connection of a higher number of wind energy plants will also be accelerated.
- 7) In line with the protection during utilization of the geothermal resources, their regeneration will be made and their renewable quality will be sustained.
- 8) The studies for the opening of geothermal areas suitable for electricity energy production for the private sector will be accelerated.
- 9) The technology development studies in the field of renewable energy resources will be given weight.

### AIM -3

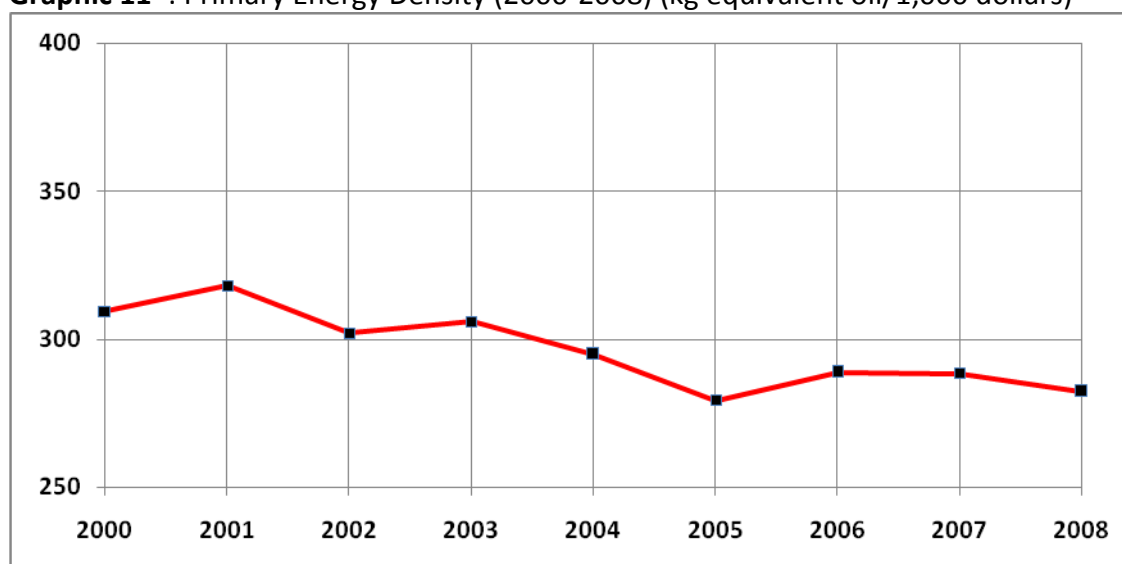
#### *Increasing Energy Efficiency*

Within the framework of the targets for the provision of the energy supply security, reducing the risks arising from import dependence, and increasing the effectiveness of the struggle with climatic change, the improvement of the efficiency in the process until the use of energy, the prevention of loss and the reduction of energy intensity are of vital importance.

In this context, without affecting the social and economic development targets, the precautions to reduce energy consumption will be applied and studies will be conducted for the increasing of the energy efficiency in the electricity energy production facilities and the transmission and distribution networks, and for the spreading of high efficiency cogeneration applications. Within the scope of the conducted and planned studies, the primary energy density is planned to be reduced by 2023 at the rate of 20 percent compared to the amount in 2008.

The development in the primary energy density throughout the period from 2000 to 2008 has been provided in the graphic below.

**Graphic 11\*:** Primary Energy Density (2000-2008) (kg equivalent oil/1,000 dollars)



\*with the dollar price in 2000, according to the GDP in 1998

**Target 3.1** Within framework of the energy efficiency studies in process, 10 percent of reduction in comparison to the year 2008 will be secured by the year 2015.

#### **Performance Indicator:**

- Rate of decrease in energy density

Base Year	Target Year
2008	2014
282	254

**Target 3.2** The completion of the maintenance, rehabilitation and modernization studies conducted for increasing the efficiency and production capacity through the use of new technologies in the existing state owned electricity production plants by the end of 2014 will be secured.

**Performance Indicator:**

- State Owned Electricity Production Plant, the Maintenance, Rehabilitation and Modernization of Which Have Been Planned

**The Date Planned for the Completion of the Project**

	2010	2011	2012	2013	2014
Bursa Natural Gas Combined Cycle (DGKÇ) Plant				√	
Aliağa DGKÇ Plant		√			
Ambarlı DGKÇ Plant				√	
Hopa Thermal Plant (Rehabilitation Survey)				√	
Hamitabat Thermal Plant	√				
Afşin-Elbistan A Thermal Plant					√
Çatalağzı Thermal Plant			√		
Yeniköy Thermal Plant	√				
Kangal Thermal Plant (1 <sup>st</sup> and 2 <sup>nd</sup> Units)	√				
Ambarlı Fuel-Oil Thermal Plant (Natural Gas Cycle Project)			√		
Keban Hydroelectricity Plant					√

**Strategies**

- 1) Within the scope of our policies for national energy efficiency, the studies for the effective application of the precautions and programs for strategic and integrated energy efficiency will be continued increasingly.
- 2) Full harmonization with the EU Energy Efficiency Acquis and especially with the cogeneration regulations will be provided.
- 3) Especially in illumination, the energy efficiency studies in the public sector will be intensified and the society will be guided.
- 4) Energy efficiency projections will be made and the energy efficiency potentials of lower sectors will be determined.
- 5) Precautions for spreading and encouraging the high efficiency cogeneration/tri-generation and regional heating applications will be taken.
- 6) Alongside the final consumption, in all phases of energy from consumption to production precautions for increasing efficiency will be taken.
- 7) Within the scope of the rehabilitation projects concerning the electricity production plants, the compliance with the environmental legislation will be taken into consideration and their performance, reliability, and lifetime of operation will be increased.
- 8) The healthy and integrated information systems of the electricity production plants in operation will be created and the infrastructure for monitoring, control and reporting will be developed.
- 9) The corporate support to be granted for the energy efficiency studies for transportation will continue.
- 10) Activities for energy efficiency in the buildings will be intensified.
- 11) The projects of industrial bodies for increasing the efficiency and their precautions for reducing the energy density will be supported.
- 12) The spreading of the energy management system and energy managers in the industry and construction sectors will be provided.

- 13) For the purpose of raising awareness in our society for energy culture and efficiency, with the participation of the private sector and non-governmental organizations, campaigns, prize contests, training and media events and many other awareness activities will be held countrywide.

#### **AIM -4**

##### ***Making the free market conditions operate fully and providing for the improvement of the investment environment***

With the enforcement of the Electricity Market Law numbered 4628 (2001), the Natural Gas Market Law numbered 4646 (2001), the Oil Market Law numbered 5015, and the Liquefied Petroleum Gases (LPG) Law numbered 5307 and the Market Law numbered (2005), significant steps were taken for the creation of a competitive and functional market in our national energy sector, the public institutions operating in the sector were restructured, the rules that will enable liberalization in the sector started to be applied. The main aim of the liberalization of the energy sector is to create the investment environment that will allow for making the necessary and adequate investments for the supply security, and the reflection of the advantages to be gained with the rise in efficiency resulting from the competitive environment, to the consumers.

The total investment need of the energy sector of our country by the year 2020 is more than 120 billion dollars. In this framework, the studies for the implementation of the regulations to secure the needed investments to be made as much by the private sector as possible are conducted by our ministry. Our installed capacity of electricity production reached up to 44,600 MW from 31,750 MW in the period from 2002 to 2009. The additional capacity opened in this period as 12,850 MW, consists of the plants constructed by the private sector as 7000 MW.

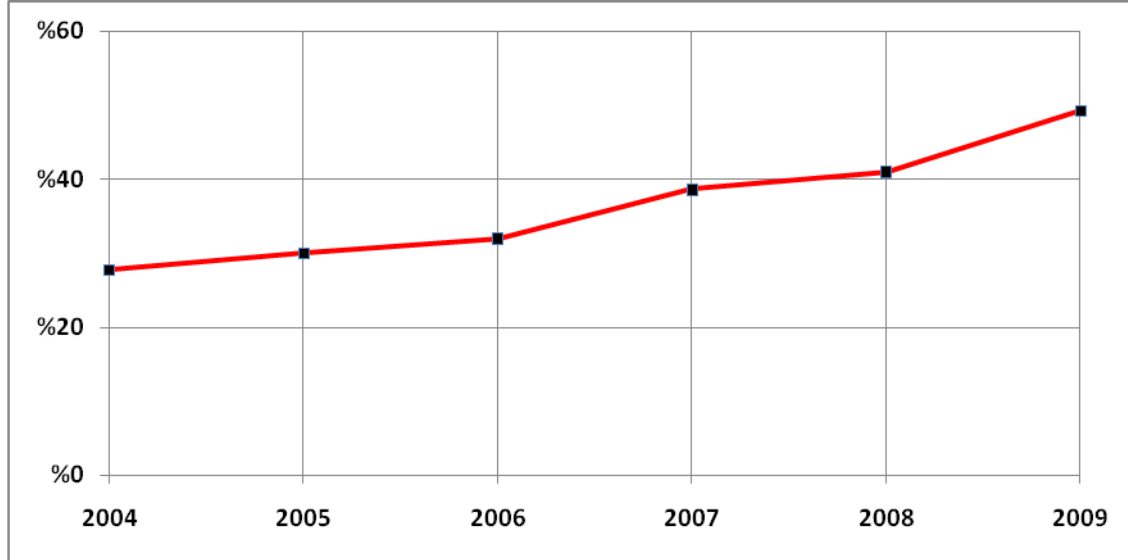
**Table 1:** Electricity Market Private Sector Investment Amount (MW) (2003-2009)

Private sector investment (MW)	2003	2004	2005	2006	2007	2008	2009	TOTAL
	388	569	1,183	619	384	972	2,810	6,925

The development of the investment environment based on competition will continue being one of our main strategies for meeting the rising demand in the energy sector. The model projected in the electricity energy market is based on bilateral agreements. In this model, electricity production, wholesale, retail sale, and consumption areas will have their number of suppliers increased, and the conclusion of bilateral agreements in liberalization and competition has been projected. Within this system, the free consumers, that is, the natural and legal persons with a certain amount of consumption have the opportunity to choose their suppliers as a result of reciprocal agreements, at the price and conditions they wish. The free consumer limit is determined by the Energy Market Regulatory Authority (EPDK) every year. The discount process for free consumers started with the reduction of the 9 million kWh limit down to 7,8 million kWh in 2004. In 2009, the free consumer limit was reduced down to 480 thousand kWh. Thus, the rate of free float of the market in the year 2009 reached nearly up to 50 pct.

The graphic revealing the free float of the market for the period from 2004 to 2009 has been given below.

**Graphic 12:** Rate of Free Float in the Electricity Energy Market (2004-2009) (%)

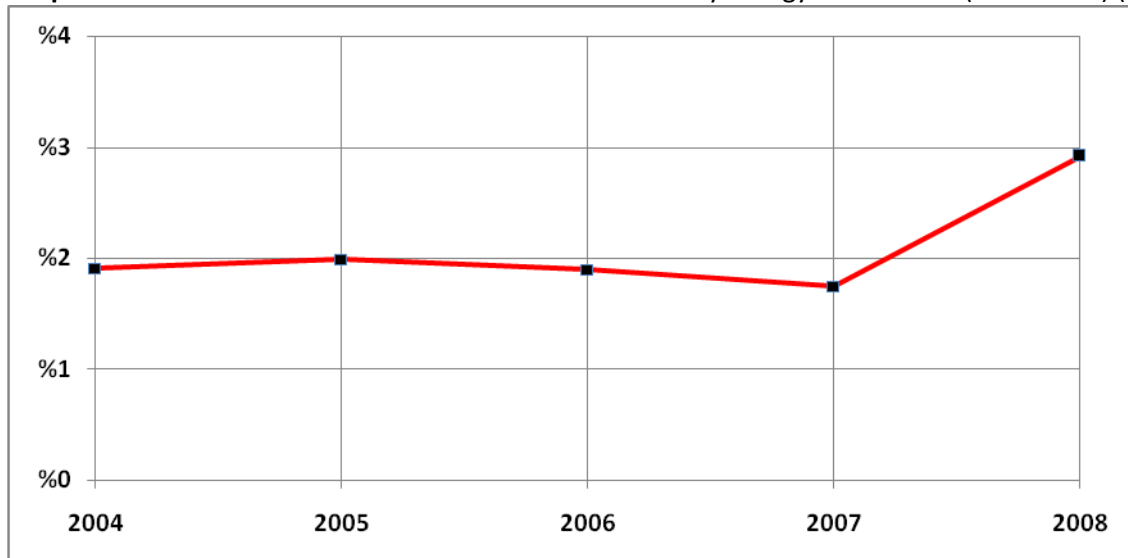


As projected in the Electricity Energy Market Supply Security Paper” admitted by the resolution of the Higher Planning Board on 18/05/2009 with the number 2009/11, for the purpose of increasing the market free float rates in the consumption area in the electricity energy market, the free consumer limit will continue being reduced gradually and by the end of 2011, all consumers other than houses will be free consumers by the year 2015.

Significant achievement was made in the studies for the privatization of one of the most significant elements of liberalization in the electricity energy sector, the electricity distribution and production activities. With the restructuring of Türkiye Elektrik Dağıtım A.Ş. (TEDAŞ) General Directorate, from the 20 regional electricity distribution companies, as of the end of 2009, Başkent, Sakarya, Meram and Menderes electricity distribution companies were totally privatized and transferred. The privatization of Çoruh, Osmangazi and Yeşilırmak electricity distribution companies but the transactions of transfer have not been made yet.

The graphic showing the share of the private sector in the distribution of the electricity energy for the period from 2004 to 2008 has been given below.

**Graphic 13:** The Share of the Private Sector in the Electricity Energy Distribution (2004-2008) (%)

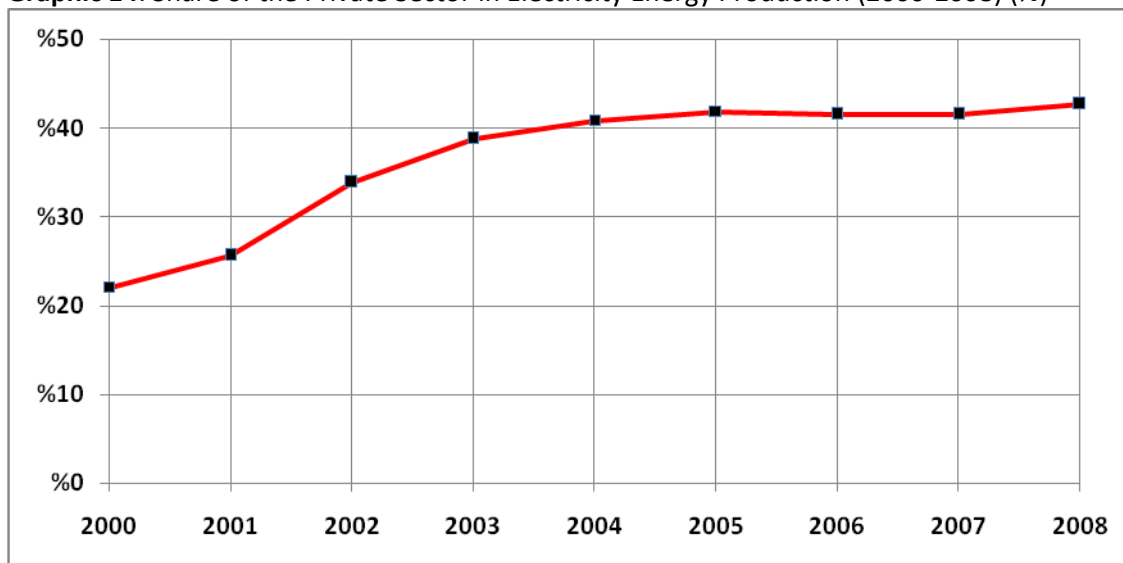




For the improvement of electricity production capacity, the increase in the service loyalty of the existing production facilities, and the increase of the capacity utilization factors and the competition in the sector, during the process for the privatization of the electricity production facilities conducted for the triggering of the private sector resources, the privatization of 11 small scale production facilities with total installed capacity of 140 MW has been completed, and the privatization process started for the 52 small hydroelectricity plants with installed capacity of 141 MW.

The graphic revealing the share of the private sector in the production of electricity energy from 2000 to 2008 has been given below.

**Graphic 14:** Share of the Private Sector in Electricity Energy Production (2000-2008) (%)



**Target 4.1** By the year 2014, the targeted privatizations in the electricity sector will be completed.

**Performance Indicators:**

- The share of the private sector in the production of electricity energy (%)
- The share of private sector in the distribution of electricity energy (%)

**Target 4.2** By the year 2015, the formation of the market structure that works as based on competition will be secured.

**Performance Indicators:**

- The rate of free floating in the electricity market (the share of free consumers (%))
- The amount of private sector investment (MW)

**Target 4.3** By the year 2015, the formation of the market structure that works as based on competition will be secured in the natural gas sector.

**Strategies**

- 1) Models for making the big investments of strategic importance with the cooperation of the private and public sectors.

- 2) In the determination of the production facilities to be privatized and their grouping according to portfolios, the prevention of monopolization and the provision of competition will be taken as criteria.
- 3) The balancing and settlement system applied by the Market Financial Settlement Center (PMUM) will be improved and the before the day market and a real time balancing power market will be established.
- 4) Within the framework of the Capacity Mechanism developed for the establishment of the production capacity and spare capacity needed for providing the supply security, for the producers; regarding the reliable capacities, the liability for making capacity statements in proportion with their MW power, publishing their capacity documents in line with this statement, and the liability to provide such capacity and for the suppliers, the liability for providing and communicating the required MW capacity documents for meeting the loads they are obliged to supply, will be brought
- 5) The market structure based on the system of bilateral agreements electricity sector will be strengthened.
- 6) The transmission system investments for the improvement of the electricity transmission system and the reduction of the transmission losses will be given priority.

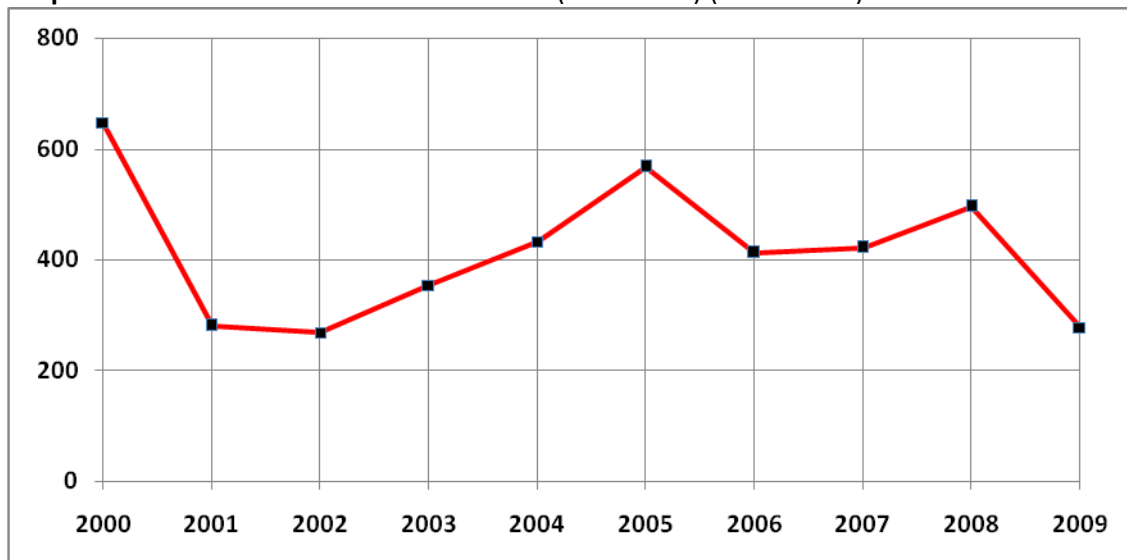
#### AIM -5

##### ***Providing the diversity of resources in the are of oil and natural gas and taking the measures for reducing the risks due to importation***

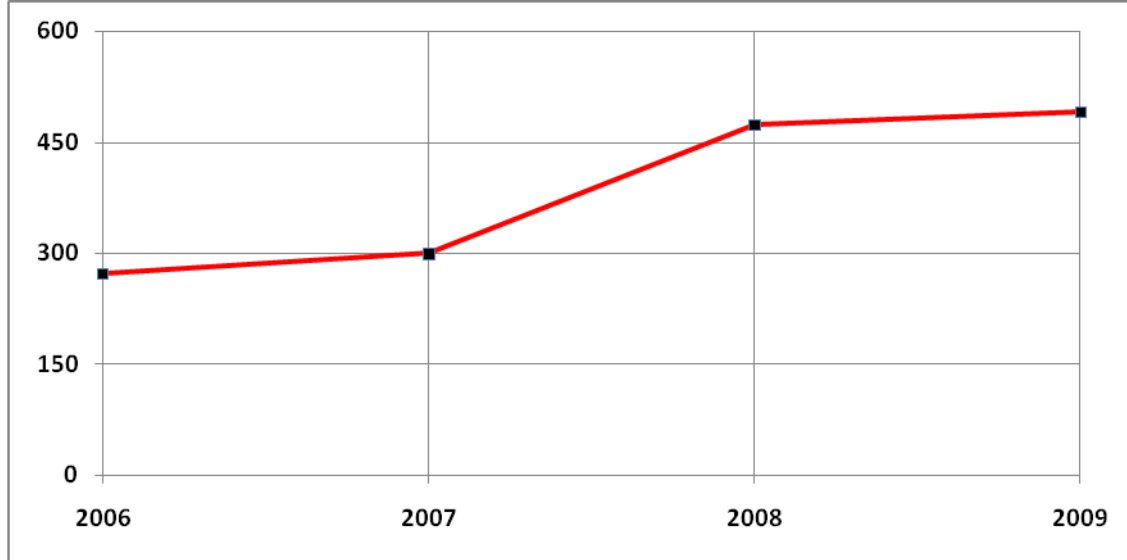
The natural gas production of Turkey for the year 2008 has been approximately 1 billion m<sup>3</sup>, and the consumption has been 36 billion m<sup>3</sup>. Considering the consumption, the rate of import dependence in natural gas is around 97,3 pct.

The graphics revealing the domestic and foreign natural gas production amounts for the period from 2000 to 2009 is given below.

**Graphic 15: Domestic Natural Gas Production (2000-2009) (million sm3)**



**Graphic 16:** Natural Gas Production Abroad (2006-2009) (million sm<sup>3</sup>)



The natural gas need of our country is covered from 5 source countries and two thirds of our importation is made from one country.

The amounts of natural gas received from the source countries in the period from 2000 to 2009 have been given in the table below.

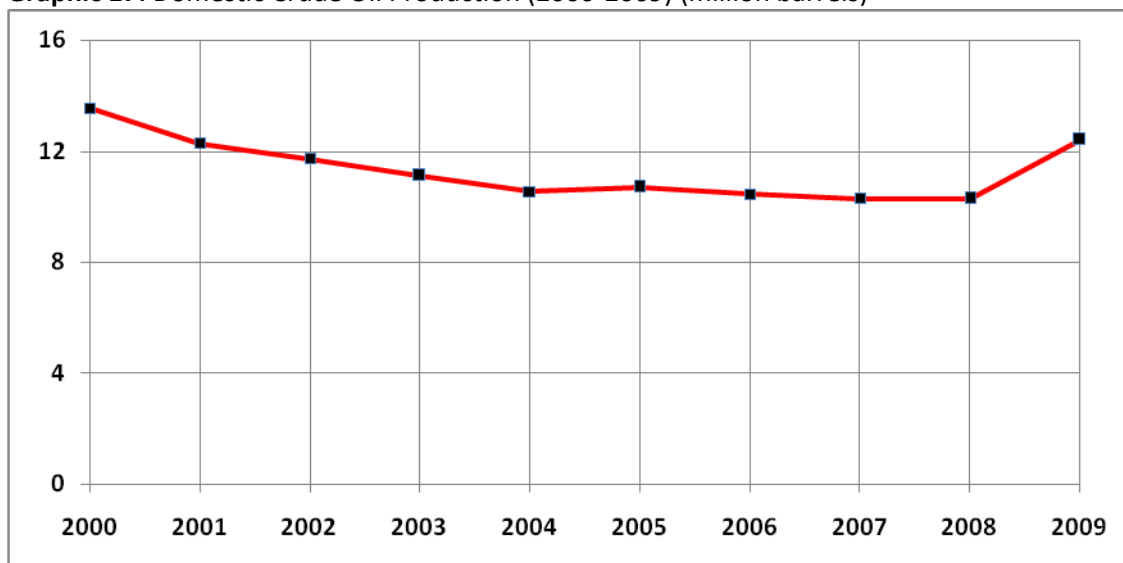
**Table 2:** The amounts of natural gas importation according to source countries (2000-2009)  
(million m<sup>3</sup>)

YEARS	RUS. FED. (WEST)	B. STREAM	IRAN	AZERB	ALGER (LNG)	NIGERIA (LNG)	SPOT (LNG)	TPAO	TOTAL
2000	10,082				3,594	704		151	14,531
2001	10,928		114		3,626	1,198			15,866
2002	11,574		660		3,722	1,139			17,095
2003	11,229	1,231	3,461		3,794	1,107			20,822
2004	10,919	3,183	3,498		3,182	1,016			21,798
2005	12,639	4,885	4,248		3,815	1,013		136	26,736
2006	12,038	7,278	5,594		4,211	1,099		87	30,307
2007	13,565	9,188	6,054	1,258	3,255	1,396	1,117	40	35,873
2008	13,156	9,806	4,113	4,580	4,220	1,017	333	895	38,120
2009	7,680	9,527	5,253	4,960	4,486	903	259		33,068

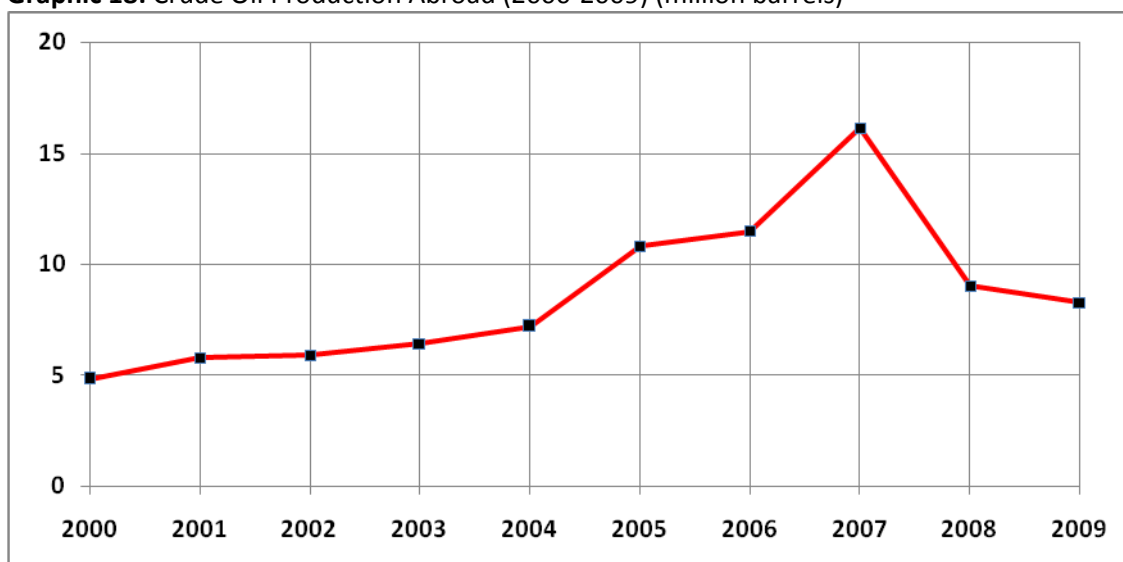
The Turkish oil production in 2008 (the total sum of domestic and foreign production) has ben around 19,3 million barrels, and considering the consumption, our import dependence is 93 pct.

The graphics revealing the crude oil production amounts at home and abroad for the period from 2000 to 2009 are given below.

**Graphic 17: Domestic Crude Oil Production (2000-2009) (million barrels)**



**Graphic 18: Crude Oil Production Abroad (2000-2009) (million barrels)**



**Target 5.1** By the year 2015, the foreign crude oil and natural gas production will be redoubled in comparison to the production amounts in 2008.

**Performance Indicators:**

- Foreign crude oil production amount (thousand barrels)

Base Year	Target Year
2008	2014
9,000	20,000

- Foreign natural gas production amount (million sm<sup>3</sup>)

Base Year 2008	Target Year 2014
474	1,000

**Target 5.2** The existing natural gas storage capacity which is 2,1 billion m<sup>3</sup> in 2009 will be redoubled by 2015.

**Performance Indicator:**

- Natural Gas Storage capacity (billion m<sup>3</sup>)

Base Year 2009	Target Year 2014
2,1	4,0

**Target 5.3** In natural gas importation, by the year 2015, we will decrease the share of the country from which the highest amount of importation is made and the diversity of source countries will be provided.

**Performance Indicator:**

- The rates of importation according to source countries

**Target 5.4** The sustainability of the storage of the national oil stocks at a secure level will be provided

**Performance Indicator:**

- Oil stock capacity

## Strategies

- 1) Our ultra deep sea oil and natural gas exploration and production operations will be continued in the Black Sea and other waters increasingly.
- 2) Especially the focus countries of the Turkish Petroleum Corporation (TPAO), in the countries with hydrocarbon potential, the enterprises for exploration and production project development, establishing partnerships and buying shares will be continued.
- 3) For the purpose of preventing the imbalances of supply and demand in the natural gas market, for the establishment of the required infrastructure legally and physically, coordinated works will be conducted with the relevant bodies and the required support will be granted for that.
- 4) First of all, the gas input capacities of the existing natural gas storage facilities will be increased.
- 5) The Salt Lake Natural Gas Storage Project will be implemented immediately.
- 6) A National Oil Stock Agency will be founded.

## Strategic Theme-2

### The regional and global influence of our country in the area of energy

Our ministry has been applying the policies and strategies, based on the provision of the national supply security and the contribution into the supply stability in the region and the world, by taking the leading role in the significant regional oil and natural gas projects and sustains its resolve in the area. Moreover, for contributing into the electricity energy supply security and for the supply of the adequate energy without any interruption and at high quality, we are also giving importance to the interconnections with the neighboring countries bilaterally and as multi-parties (regional).

#### AIM -6

##### ***Turning our country into an energy hub and terminal by using our geo-strategic position effectively within the framework of the regional cooperation processes***

Turkey is positioned in a geography where about 72 percent of the proved oil and natural gas reserves of the world are buried, especially as the Middle East and the Caspian Basin. In the period by 2030, the world's energy consumption is projected to rise by 40 percent and is anticipated to be covered to a significant extent from the resources in the region where we are positioned.

The difference between the supply and demand geographies drive the producing countries into turning their reserves into economic income by reaching the markets and the consuming countries to get access to the resources at economic conditions, seeking to secure their energy supply.

Turkey is aiming at playing a significant role in the axis of the developments in the global energy sector and within framework of the advantages brought by its private geostrategic condition, in the provision of the diversification of the supplier countries for its own energy security, as well as leading a significant role in the transfer of the rich hydrocarbon resources to the growing markets and especially the EU market.

The most critical component of the Eastern-Western Energy Corridor, the Baku-Tbilisi-Ceyhan (BTC) Crude Oil Pipeline started with operations on June 4, 2006, with the first oil tanker loaded at Ceyhan Exportation Terminal and the transfer of the Azerbaijani oil to the international markets has started. From 2006 until the end of 2009, the amount of oil loaded reached 800 million barrels in total.

In the Table below, the amounts of oil received in Ceyhan from the BTC Crude Oil Pipeline in the period from 2006 to 2009.

**Table 3:** The Amount of Oil Received in Ceyhan from Baku-Tbilisi-Ceyhan (BTC) Crude Oil Pipeline

Year	Number of Tankers Loaded	Amount of Oil (million barrels)
2006	80	57
2007	225	211
2008	315	245
2009	366	287

Additionally, for the purpose of increasing our electricity importation and exportation potential, the international transmission connections are made with the neighboring countries and the existing connections are strengthened.

**Target 6.1** By the year 2015, the implementation of the projects on the agenda for the increase of the oil and natural gas supply security of our country and Europe will be secured.

The information regarding the implementation status of the international projects on the agenda have been provided in the table below.

**Table 4:** International Projects

<b>International Project</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Iraq-Turkey Crude Oil Pipeline (HPBH)	Iraq-Turkey HPBH Agreement extended				
Nabucco Natural Gas Pipeline (DGBH)	Conclusion of the talks over supporting agreement	Start of Construction	(Construction)	(Construction)	Shift to First Period of Operation
Turkey-Greece-Italy DGBH Project		Commencement of the construction of Greece-Italy part (Poseidon Pipeline)	(Construction)	(Construction)	Completion of the construction and Shift to First Period of Operation
Project for the linking of Syrian and Turkish Natural Gas Networks		Linking of the networks			
Iraq-Turkey DGBH Project	The bilateral and multi-sided cooperation relations with the source, consumer and transit countries will continue.				
Turkmenistan-Turkey DGBH Project					
Qatar-Turkey DGBH Project					
Turkey-Israel Multiple Pipelines Project					
Blue Stream 2 DGBH Project					
South Stream DGBH Project					
Samsun-Ceyhan HPBH Project					

**Target 6.2** By the year 2015, the amount of oil received in Ceyhan will be redoubled compared to the amount in 2008.

**Performance Indicator:**

- Amount of oil received in Ceyhan (million barrels)

Base Year 2008	Target Year 2014
245	500

**Target 6.3** Ceyhan Region will be turned into an integrated energy terminal where various quality and feature of crude oil may be offered for international markets, and where a refinery, petrochemicals facilities and liquefied natural gas (LNG) exportation terminal will be available.

**Performance Indicator:**

- The installed refinery capacity of Ceyhan Region

**Target 6.4** By the year 2011, full integration into UCTE will be provided.

**Performance Indicator:**

- Date of full integration into UCTE

**Strategies**

- 1) With the advantage offered by the geographical and geostrategic position of our country, the studies in line with the target of becoming both a hub and a terminal in the transportation of the Middle Eastern and Central Asian production to the world markets will be continued increasingly.
- 2) The talks for the acceleration of the projects and for the establishment of the cooperation with the relevant countries for the purpose of actualization of the oil and natural gas facilities with the pipeline projects on the agenda will be continued and coordination will be made with the relevant bodies in our country.
- 3) For the purpose of increasing the importation and exportation potential of electricity energy, the international transmission links will be formed with the neighboring countries and the existing connections will be rendered.
- 4) As of the start of the period of the Plan, the parallelization between our system of transmission and UCTE will be secured.

**Strategic Theme -3**

**Environment**

The greenhouse gas emissions caused by the production and consumption of energy are regarded as the main reason for the climatic change caused by human beings and within the framework of the negative impacts of climatic change on the living quality, environment, water, agriculture and food resources and the national economies, new pursuits on a global scale are brought up in the energy sector. It is projected that the energy sector will play an effective role in the struggle with the climatic change and this brings about the new approaches in the energy supply and demand.

In the area of natural resources, considering the fact that the minerals are formed in nature in a span of time up to millions of years, naturally and in environments where the geological conditions are suitable, the necessity of the utilization of minerals with consideration of the environment-economy



balance is clearly revealed. In the meantime, the rehabilitation and recycling of the mining areas and their integration back into the ecosystem, the development of the disposal and treatment technologies in the sector, and the appropriation of mining according to the sustainable principles for development are aimed.

## **AIM -7**

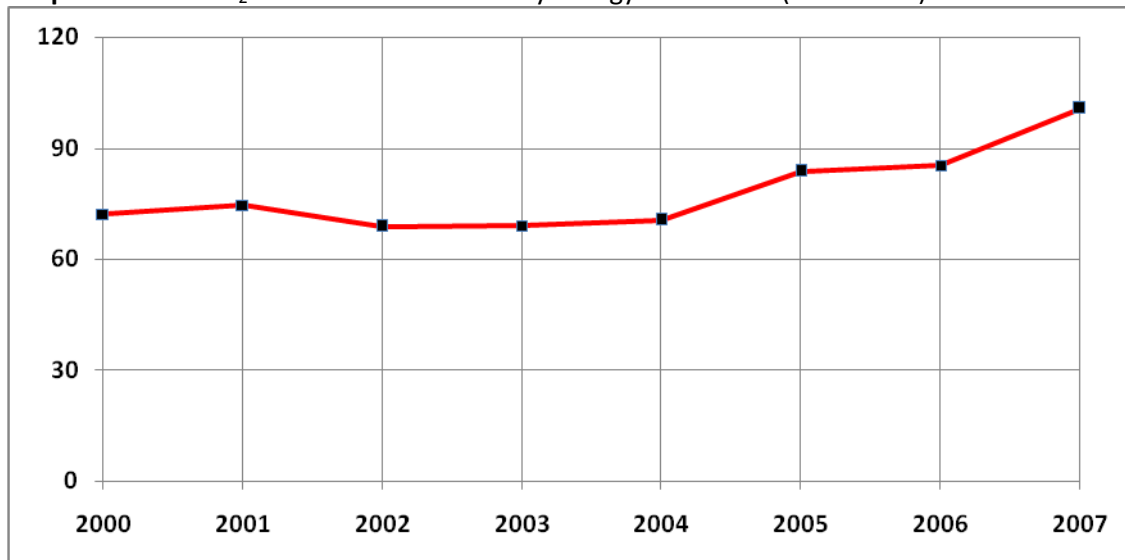
### ***Minimizing the negative environmental impacts of the activities in the energy and natural resources area***

Our position in the international platforms regarding the environmental dimensions in the energy and mining sectors is based on the evaluation of the economic development level of our country, the growth potential of the energy sector and the needs for energy supply in that respect on the basis of “common but different responsibilities” principle.

Our country has taken part in the United Nations Climatic Change Framework Agreement in 2004 and in 2007, she has presented the first National Statement. The Kyoto Protocol has been approved by the Turkish Grand National Assembly on February 5, 2009. The improvement of energy efficiency, the spreading of the utilization of renewable energy resources and the clean coal combustion technologies, and the integration of the nuclear energy into the electricity energy production options are our main strategies within the framework of the relationship between the energy and environment.

The graphic revealing the CO<sub>2</sub> emission rates due to the electricity energy production from 2000 to 2007 is given below.

**Graphic 19: The CO<sub>2</sub> Emission from Electricity Energy Production (2000-2007)**



Whether the operations conducted in the mining operation areas are carried out according to the operation project and the studies specified in the Environmental Compliance Plan are controlled during the on-site supervisions carried out within the scope of the articles 7, 11, 24, 29 and 32 of the Mining Law numbered 3213. With these controls made from the beginning of the mining operations until the end, the environmentally friendly and sustainable mining operations are actualized. The operations with negative impacts on the environment and human health are halted at the time of detection and penal transactions are imposed according to the legislation.

**Table 5:** The Number of the Mining Operations Supervised According to the Environmental Compliance Plan within Framework of the Mining Law numbered 3213 (2005-2008)

Years	2005	2006	2007	2008
Number of Fields Supervised	1,133	1,128	1,116	2,062

**Target 7.1** After the year 2014, reduction will be achieved in the rise of greenhouse gas emission arising from the energy sector operations.

**Performance Indicator:**

- The change in the rising speed of the total greenhouse gas emissions due to operations of energy (%)

**Target 7.2** By the year 2015, the environmental compliance plan supervision will be conducted on 10 thousand mining operations in the mining market.

**Performance Indicator:**

- Number of Operations Supervised According to Environmental Compliance Plan

Base Year 2009	Target Year 2010-2014 (Total)
2,062	10,000

## Strategies

- 1) In meeting the rising energy demand, the use of renewable energy resources and the effective use of energy, and the use of clean coal technologies will be regarded as the options of priority for the sustainability of the growth in the sector.
- 2) The greenhouse gas reduction potential of our country will be determined.
- 3) The studies on the influence of the climatic change on the energy sector and the precautions that need to be taken will be increased and studies will be conducted on the precautionous minimization of the risks and losses and awareness will be aroused among the society and investors.
- 4) For the period of application of the Kyoto Protocol and the policies after 2012 and the energy sector impact analysis studies will be conducted.
- 5) The utilization of the biomass/gas potentials of the infrastructure facilities for water, waste water and solid waste will be provided.
- 6) The effectiveness of the control and supervisions for compliance with the sustainable mining and sustainable environment principles in the mining operations will be continued increasingly.
- 7) Training and public awareness on environment-energy and climatic change will be conducted.

## Strategic Theme-4

### Natural Resources

The effective utilization of the natural resources has a great role in the existing economic power of the developed countries. The mining sector is the one that produces the main inputs of industrialization. The shifting of the production and exportation from the agriculture to the industry

in time has necessitated the provision of the raw materials required for industry in a qualified and economic manner.

The mining sector has had the duty of being the pioneering sector that triggers the economic development in almost all developed industrialized nations. For that reason, the importance of the mining sector is also rising day by day in our country.

Our country is one of the rare countries that can meet a significant part of her own raw material demand as a result of the geological structure where it is positioned. Among the 132 countries that are influential across the world in mining, her rank is 28<sup>th</sup> in total mining production and 10<sup>th</sup> in the diversity of the mining productions.

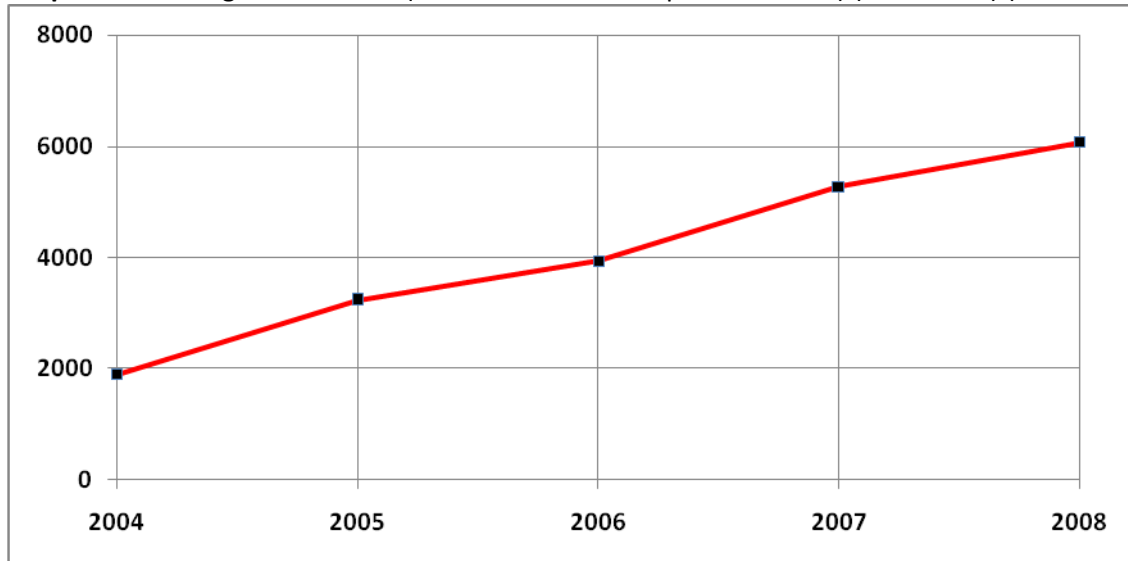
## AIM -8

### *Increasing the contribution of our natural resources into the national economy*

With the effect of the new regulations on the Mining Law numbered 3213, and the application regulations, brisk has been achieved in the mining sector and rises have been recorded both in the license applications and, n the share of the sector in the exportation and the national income. In the year 2002, our mining exportation was around 700 million dollars and in 2008 it was 3 billion 240 million dollars.

The development of the mining sales income in the period from 2004 to 2008 is given in the graphic below.

**Graphic 20:** Mining Sales Income (Domestic Sale and Exportation Sum) (2004-2008) (million TL)



**Target 8.1** By the year 2013, the conduction of the mining transactions will be provided within the scope of e-state.

#### **Performance Indicator:**

- The completion of the required infrastructure studies

**Target 8.2** By the year 2015, our total mining production will be redoubled in comparison to 2008.

**Performance Indicator:**

- Mining Sales Income (Million TL)

Base Year 2008	Target Year 2014
6,000	12,000

**Strategies**

- 1) Starting from the year 2009, the transactions of mining will be conducted within the e-state scope.
- 2) The required corporate restructuring and legislation amendment preparations will be made for the shortening of the operation license and operation permit transaction periods.

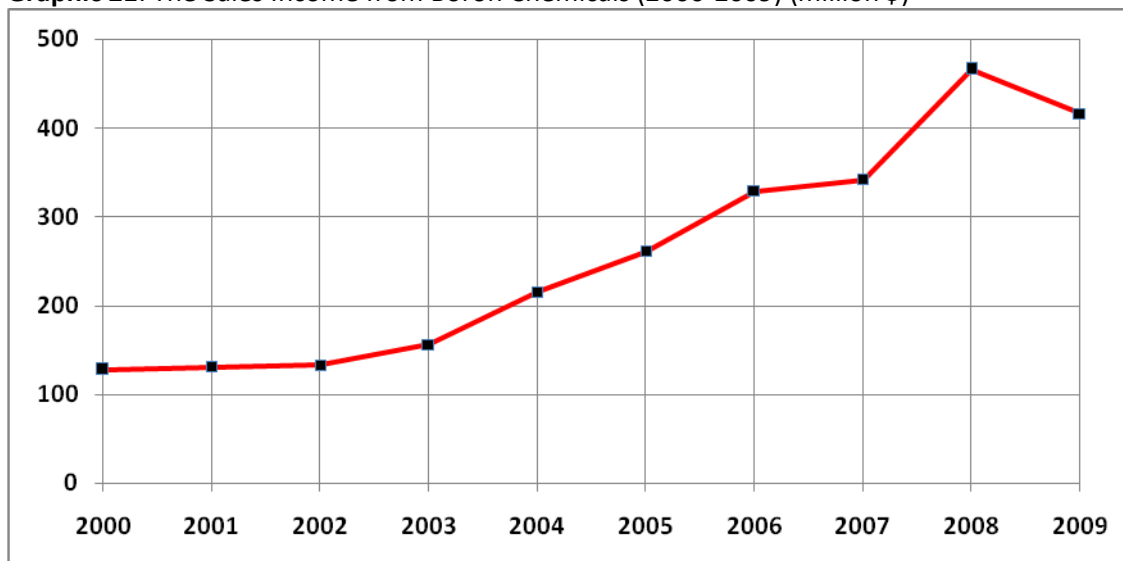
**AIM -9**

***Increasing the production of our industrial raw material, metal and non-metal mineral reserves and providing for their utilization on a national scale***

Our country has reserves at the worldwide levels such as boron minerals, industrial raw materials and marble. Moreover, Turkey is one of the rare countries with reserves of a magnitude to meet the required raw materials for the other minerals. In our country, which has the 72 percent of the boron reserves worldwide, the production boron essence, refined boron products and boron acid, has reached significant levels. At this point, the target for the following decade is to direct towards the boron peripheral products and to make our country a center in the world and to have the world leadership in technology and production.

The graphic revealing the sales income of the boron minerals for the period from 2000 to 2009 has been given below.

**Graphic 21:** The Sales Income from Boron Chemicals (2000-2009) (million \$)



Our exportation of marble and natural stones in 2008 increased by 4.5 times in comparison to the year 2002, up to about 1,5 billion dollars and has got the top rank in the mineral exportation with 43 percent of share. In 2009, due to the global financial crisis that affected the entire world there has been a decrease in the marble and natural stone exportation.

The exportation amount of processed products of marble and natural stone actualized in 2008 and 2009 have been provided below.

**Table 6:** Amount of Exportation of Marble and Natural Stone Processed Products (2008-2009)

PRODUCT	2008		2009	
	AMOUNT (Million Tons)	Value (Million Dollars)	AMOUNT (Million Tons)	VALUE (Million Dollars)
<b>Natural Stones (Processed)</b>				
Processed Marble	1,420	824	1,173	573
Processed Travertine	93	56	198	108
Processed Granite	37	25	32	18
Other Processed Stones Suitable for Construction	183	20	42	21
Chalk - Processed	0,8	4	0,9	2
Pavement Stones	16	2	11	2
Square, Granule, Particles and Dust	9	6	13	6
<b>TOTAL</b>	<b>1,761</b>	<b>940</b>	<b>1,472</b>	<b>734</b>
Natural Stones (Unprocessed)	3,364	461	3,482	488
Natural Stones General Sum	5,125	1,402	4,955	1,222

**Target 9.1** The boron chemicals and equivalent products capacity, which was 1,3 million tons in the year 2009 will be increased up to 2.8 million tons by the year 2015.

**Performance Indicator:**

- The production capacity of boron chemicals and equivalent products (million tons)

Base Year 2009	Target Year 2014
1,3	2,8

**Target 9.2** By the year 2015, efforts will be made for increasing the marble and natural stone processed product exportation up to 5 billion dollars.

**Performance Indicator:**

- The amount of exportation of marble and natural stone processed products (million dollars)

Base Year 2009	Target Years 2010-2014 (Total)
734	5,000

## Strategies

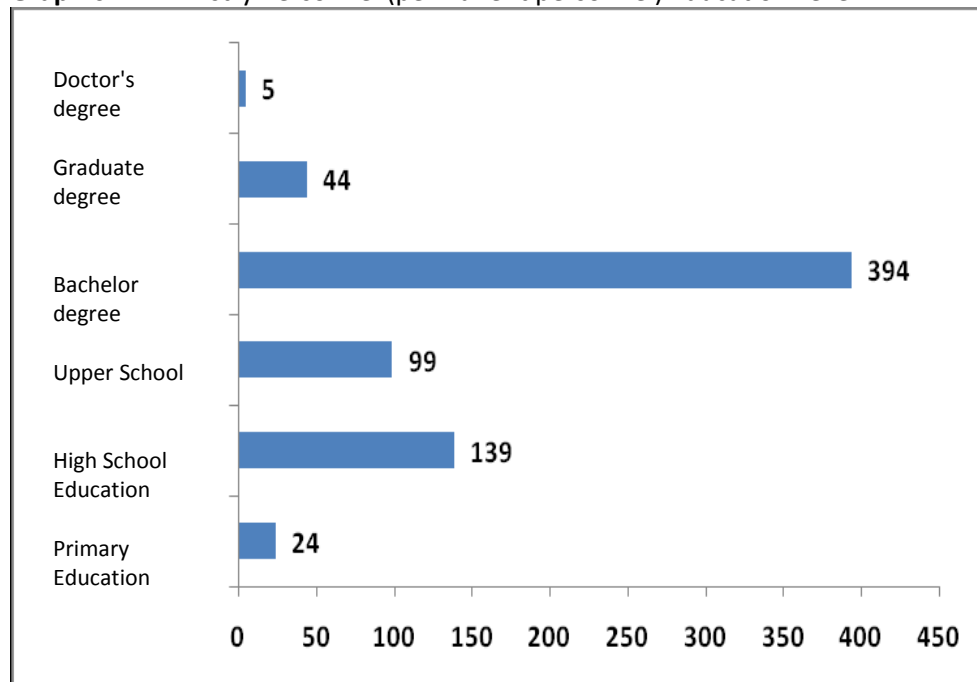
- 1) The required enterprises against the classification of boron mineral as toxic material by the EU will be continued.
- 2) The R&D works for the enhancement of the commercial product range will be continued.
- 3) Studies for increasing the production capacity of the boron chemicals and the market share in an environmentally friendly approach will be conducted.
- 4) Enterprises will be made for increasing the income from the exportation of marble and natural stone.

## Strategic Theme - 5

### Corporate

The services of our Ministry are conducted with a total number of 935 personnel, with 705 of these being permanent and 215 being temporary.

**Graphic 22:** Ministry Personnel (permanent personnel) Education Level



The corporate restructuring targeted within the Plan period and with a career restructuring based on specialization and the effectiveness of management, the provision of the work force needed by our Ministry in terms of quality and quantity, the utilization of our personnel in the most efficient way and the provision of the permanency of the qualified work force within our Ministry are targeted.

## AIM -10

### *Increasing the effectiveness in the management of energy and natural resources*

The organizational structure of our Ministry is necessary with a revision of the organization structure in order for the Ministry to adapt itself to the changing conditions, to determine its targets correctly and its needs in time, develop practicable strategies for reaching its targets, support its strategies

with the focus-oriented methods of doing business, utilize the information technologies for the purpose of making the business processes efficient and effective.

**Target 10.1** By the year 2011, the restructuring works of our ministry will be completed and a career structure that is based on specialization will be adopted.

**Performance Indicator:**

- The completion of the required legal infrastructure studies

**Target 10.2** For the purpose of rendering the structure of specialization and conducting strategic researches in the area of energy, by the year 2015, an “Energy Academy” will be established.

**Target 10.3** By the year 2012, corporate regulations will be made for increasing effectiveness in the license and supervision transactions for mining sector.

**Performance Indicator:**

- The completion of the required legal infrastructure studies

**Target 10.4** By the year 2012, corporate structuring for nuclear regulation will be provided.

**Performance Indicator:**

- The completion of the required legal infrastructure studies

**Target 10.5** By the year 2012, the studies for strengthening the statistics and planning infrastructure in the areas of energy and natural resources will be completed.

**Performance Indicator:**

- Accreditation of statistics and planning system

## **Strategies**

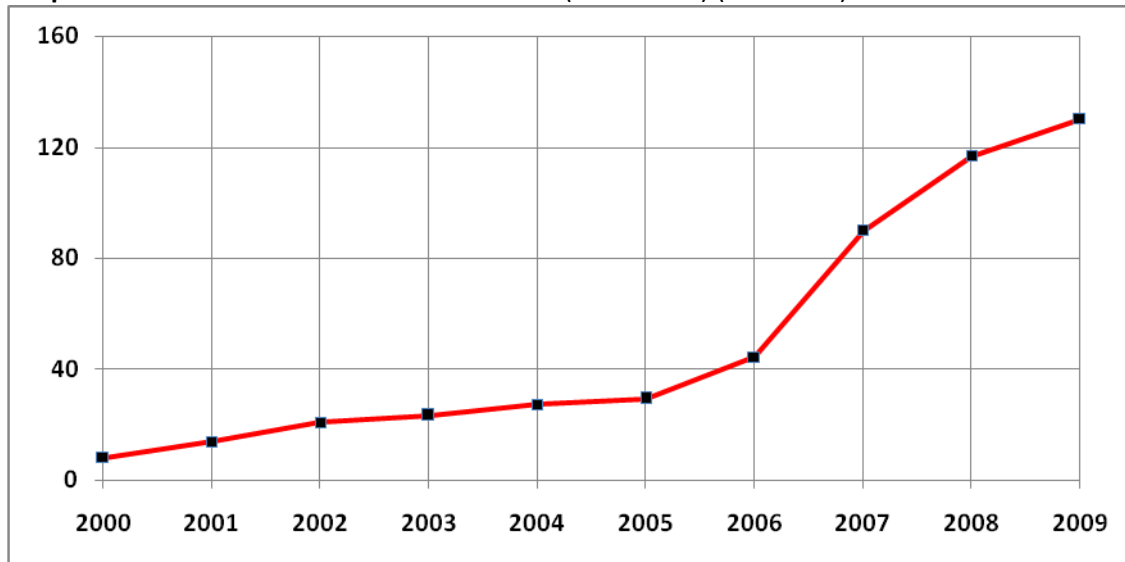
- 1) A career planning based on specialization will be adopted in our ministry.
- 2) The functional effectiveness will be taken into consideration in the arrangement of the units of our Ministry.
- 3) Required studies will be conducted for reducing the bureaucracy in the related and attached institutions, the removal of duty and authorization correspondences and developing the effective coordination mechanisms.
- 4) The existing administrative and human capacity in the related and attached institutions of our ministry will be developed in terms of quality and quantity in line with the strategic management approach.
- 5) our ministry will make an effective human resources planning for making all of the staff working at the related and attached institutions and for their compliance with the changing conditions. With the programs to be prepared within that scope, the employees will be provided with constant opportunities of training, education and improvement.
- 6) The participation of the relevant parties in the legal amendment studies will be provided.

## AIM -11

### *Being the pioneer and supporter of innovation in the area of energy and natural resources*

The total amount of the R&D investments for the period from 2000 to 2009 of the institutions of our ministry such as MTA, TKİ, TTK, ETİ, TEMSAN, EÜAŞ, TAEK General Directorates and BOREN Administration has been shown in the graphic below.

**Graphic 23:** Amount of total R&D Investments (2000-2009) (million TL)



**Target 11.1** In the year 2010, the EN-AR (Energy Researches) Program will be put into practice and by the year 2014, support worth TL 50 million will be supplied.

**Target 11.2** 100 percent of increase in the R&D investments conducted by the related and affiliated institutions by the year 2015, compared to the R&D investments in 2009.

#### **Performance Indicator:**

- The amount of total R&D investments (million TL)

Base Year	Target Year
2009	2014
130	250

## Strategies

- 1) Priority will be given to the utilization of the national resources and different technologies in the energy production planning.
- 2) For the purpose of increasing efficiency and compatibility, the studies required for the designation of the R&D activities in a way to create innovation.
- 3) The required measures will be taken for the development of the production, manufacturing and supply industry to serve for the energy sector.
- 4) The mechanisms supporting the capability of designing, engineering and innovation in the developing energy sector will be improved.



- 5) For the purpose of developing an industry that produces energy equipment, making maximum use of the existing infrastructure and technology capability, a system based on efficiency, supply depending on R&D, acquisition of domestic technology and capability will be developed.
- 6) With the EN-AR Program, the development of the cooperation between universities and industry and the utilization of R&D human resource and infrastructure by the private sector will be supported.
- 7) The capacity of the Technology Development Centers that brings the universities and the private sector together will be utilized and their specialization in the areas of priority needed by the sector will be encouraged and supported.
- 8) Especially with the EU member countries, cooperation activities will be conducted with the countries authorized in science and technology for the purpose of information and technology transfer.
- 9) The new technology development areas such as hydrogen technology will be supported.

### SECTION 3

#### COSTING

During the assessment of the costs, the entire Ministry budget (estimated budget) was distributed according to the aims and targets that are affiliated.

**Table7:** Costing

AIMS	TARGETS	ESTIMATED COST (1,000 TL.)					
		2010	2011	2012	2013	2014	TOTAL
AIM-1	Target 1.1	34,800	38,280	42,108	46,319	50,951	212,457
	Target 1.2	20,880	22,968	25,265	27,791	30,570*	127,474
	Target 1.3	13,920	15,312	16,843	18,528	20,380	84,983
	<b>TOTAL</b>	<b>69,600</b>	<b>76,560</b>	<b>84,216</b>	<b>92,638</b>	<b>101,901</b>	<b>424,914</b>
AIM-2	Target 2.1	21,270	23,400	25,740	28,310	31,150	129,870
	Target 2.2	34,030	37,430	41,180	45,290	49,830	207,760
	Target 2.3	8,510	9,360	10,300	11,330	12,470	51,970
	<b>TOTAL</b>	<b>63,810</b>	<b>70,190</b>	<b>77,220</b>	<b>84,930</b>	<b>93,450</b>	<b>389,600</b>
AIM--3	Target 3.1	39,150	43,080	47,380	52,120	57,330	239,060
	Target 3.2	13,050	14,370	15,800	17,380	19,120	79,720
	<b>TOTAL</b>	<b>52,200</b>	<b>57,450</b>	<b>63,180</b>	<b>69,500</b>	<b>76,450</b>	<b>318,780</b>
AIM--4	Target 4.1	9,280	10,208	11,229	12,352	13,587	56,655
	Target 4.2	23,200	25,520	28,072	30,879	33,967	141,638
	Target 4.3.	13,920	15,312	16,843	18,528	20,380	84,983
	<b>TOTAL</b>	<b>46,400</b>	<b>51,040</b>	<b>56,144</b>	<b>61,758</b>	<b>67,934</b>	<b>283,276</b>
AIM--5	Target 5.1	6,960	7,660	8,430	9,270	10,200	42,520
	Target 5.2	16,240	17,864	19,650	21,615	23,777	99,147
	Target 5.3	16,240	17,864	19,650	21,615	23,777	99,147
	Target 5.4	8,120	8,932	9,825	10,808	11,888	49,573
	<b>TOTAL</b>	<b>47,560</b>	<b>52,320</b>	<b>57,556</b>	<b>63,309</b>	<b>69,642</b>	<b>290,387</b>
AIM--6	Target 6.1	18,560	20,420	22,470	24,710	27,180	113,340
	Target 6.2	6,960	7,660	8,430	9,270	10,200	42,520
	Target 6.3	12,760	14,040	15,450	16,990	18,690	77,930
	Target 6.4	12,760	14,040	15,450	16,990	18,690	77,930
	<b>TOTAL</b>	<b>51,040</b>	<b>56,160</b>	<b>61,800</b>	<b>67,960</b>	<b>74,760</b>	<b>311,720</b>
AIM--7	Target 7.1	8,120	8,932	9,825	10,808	11,888	49,573
	Target 7.2	32,480	35,728	39,300	43,231	47,554	198,294
	<b>TOTAL</b>	<b>40,600</b>	<b>44,660</b>	<b>49,126</b>	<b>54,039</b>	<b>59,442</b>	<b>247,867</b>
AIM--8	Target 8.1	39,730	43,710	48,290	52,890	58,180	242,800
	Target 8.2	21,170	23,300	25,830	28,190	31,010	129,500
	<b>TOTAL</b>	<b>60,900</b>	<b>67,010</b>	<b>74,120</b>	<b>81,080</b>	<b>89,190</b>	<b>372,300</b>
AIM--9	Target 9.1	23,490	25,850	28,630	31,270	34,400	143,640
	Target 9.2	14,210	15,640	17,410	18,920	20,810	86,990
	<b>TOTAL</b>	<b>37,700</b>	<b>41,490</b>	<b>46,040</b>	<b>50,190</b>	<b>55,210</b>	<b>230,630</b>
AIM--10	Target 10.1	37,700	41,470	45,617	50,179	55,197	230,163
	Target 10.2	3,770	4,147	4,562	5,018	5,520	23,017
	Target 10.3	11,310	12,441	13,685	15,054	16,559	69,049
	Target 10.4	7,540	8,294	9,123	10,036	11,039	46,032
	Target 10.5	15,080	16,588	18,247	20,071	22,079	92,065
	<b>TOTAL</b>	<b>75,400</b>	<b>82,940</b>	<b>91,234</b>	<b>100,358</b>	<b>110,394</b>	<b>460,326</b>
AIM--11	Target 11.1	20,880	22,968	25,265	27,791	30,570	127,474
	Target 11.2	13,920	15,312	16,843	18,528	20,380	84,983
	<b>TOTAL</b>	<b>34,800</b>	<b>38,280</b>	<b>42,108</b>	<b>46,319</b>	<b>50,951</b>	<b>212,457</b>
<b>GENERAL TOTAL</b>		<b>580,000</b>	<b>638,000</b>	<b>702,744</b>	<b>772,000</b>	<b>849,323</b>	<b>3,542,067</b>

\*The figures in red highlight show the costs projected to be required due to the fact that the activities for the relevant targets will be continued also in the years following the projected date of actualization for the target.

## **SECTION 4**

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### **IMPLEMENTATION, MONITORING AND EVALUATION OF THE STRATEGIC PLAN**

Monitoring is the systematic follow up and reporting of the implementation of the strategic plan. Evaluation is the calculation of the results of the implementation in comparison with the aims and targets and the analysis of the coherence and appropriateness of the said aims and targets.

The process of monitoring and evaluation will commence immediately after the enforcement of the strategic plan of our ministry.

For an effective period of monitoring, defining the powers and responsibilities for the aims and targets, reporting systematically the advancements in the projects using the project management approach, taking measures timely through the evaluation of the possible drifts from the strategic targets are important for the realization of the strategic management successfully.

In this framework, in line with the implementation, monitoring and evaluation of our strategic plan, the studies for the monitoring, evaluation and the reporting of the activities and projects to be conducted for reaching the determined targets will be carried out with the coordination of the Strategy Development Directorate within the framework of the action plan to be prepared with the affiliated units of our Ministry.

As specified in the Regulations for the Operational Reports to be prepared by the Public Administrations and the Law no 5018, the main document where the results of the implementation of strategic plans are monitored and evaluated is the “Administration Operation Report” prepared on an annual basis. The Operation Reports of the related year are prepared and announced publicly by the end of April in the following year at the latest. Within this scope, the annual application results of the Strategic Plan for the Period from 2010 to 2014 of our ministry and the performance evaluations thereof will be shared with the public opinion both as imprinted and on the website of our ministry via the Administrative Activity Reports to be prepared by the end of April the following year.

## SECTION 5

### STRATEGIC PLANNING PROCESS

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The studies about strategic planning were commenced on October 18, 2006 with the Consent of the Ministry and declared to all units of Our Ministry by the Internal Notice published on the same date. For conducting the forwarding and administration of Plan works, a “Strategic Planning Team” (SPE) consisting of the senior staff of the units within the Central Organization of our ministry, led by the Deputy Secretary has been established, with the coordination of the Strategy Development Directorate (SGB). Additionally, for the conduction of the strategic planning works duly, and the provision of the support needed by the SPE, “Strategic Planning Lower Teams” have been formed within all of the units of our ministry. Attention was paid, during the selection of the members of lower teams within the units, to whether the members have adequate knowledge about the foundation, operation areas and the target audience in context of the operation areas of our ministry.

After the formation of the teams, the procedures and bases of work will be followed by the SPE during the conduction of the planning works. The matters regarding the general working systematic such as the method of taking decisions, meeting periods etc and decision was taken for the implementation of a permanent study instead of making the planning within a specific period and for the regular meeting of the team.

The aim has been for carrying out the strategic plan preparation works at our Ministry in a way to cover all units and functions of our ministry and the scope and method of the works have been determined through natural and greater consideration of “The Regulations on the Procedures and Bases for Strategic Planning in the Public Institutions” and “The Guideline for the Strategic Planning for Public Institutions” and during these works, the other sources on the matter in the literature have also been used.

After the completion of the required infrastructure and information works about the planning, as a first step, the “Preparation Program”, which is the planning of the plan has been prepared and as of December 2006, it was communicated to the Undersecretaries of the State Planning Organization. During the studies conducted according to the work flow plan and work flow schedule determined in the preparation program, the internal structure analysis of the Ministry, environmental analysis, the analysis of the potential developments and the shareholder analysis were made.

Additionally, as projected both in the Public Financial Administration and Control Law numbered 5018, and in The Regulations on the Procedures and Bases for Strategic Planning in the Public Institutions, during the preparation of the strategic plan of our Ministry, the aims, targets, policies and strategies of the 9<sup>th</sup> Development Plan and the aims and policies specified in the Medium Term Program and Medium Term Financial Plan have been taken into consideration, and the potential changes and developments to be experienced during the full membership negotiation process for the European Union have been regarded.

Within the framework of all such analyses, after the clear detection of the existing position of the Ministry, the strategic aims and targets, concrete operations, project and performance indicators of the affiliated units were determined and the strategic plan of the Ministry of Energy and Natural Resources covering the period from 2010 to 2014 has been established.

During the process of planning, training and consultancy services were received in the strategic planning and performance program subjects for supporting the studies.

Our Ministry has found the opportunity to get to know itself as a whole as a result of the strategic planning studies, where participation in them was tried to be as high as possible, and as a by-product of this process, the communication within the institution has improved.