



TURKISH ENERGY SECTOR AN INFORMATION NOTE

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1. Energy Sector Outlook of Turkey

1.1 Energy Consumption Side

Turkey is a net energy importer country. Although Turkey’s southern and eastern countries are rich in oil and natural gas resources, Turkey has little hydrocarbon potential. As it can be well seen from the Table 1 of Energy Balance, Turkey’s net import of energy resources for 80,8% of energy needs in 2015. Natural gas has the highest share in primary energy supply with 30,7% of total, following oil and oil products with 30,3% and 26,3% with imported coal and lignite.

Table 1 Energy Balance Table of Turkey by end of 2015

Energy Resources (Energy Supply/Demand Balance)	Hard Coal	Lignite	Crude Oil	Petroleum Products	Natural Gas	Renewables	Other	Total
Domestic Production (+)	875	11.505	2.641		314	15.381	414	31.131
Import (+)	21.815		26.319	23.782	39.952	614	369	112.851
Export (-)	93			7.467	515	275	2	8.351
Bunkers (-)				4.417		0	0	4.417
Stock Changes (+/-)	-271	110	-946	-675	-101	-7	17	-1.873
Primary Energy Supply	22.326	11.616	28.015	11.223	39.651	16.262	785	129.267
Shares	17,3%	9,0%	21,7%	8,7%	30,7%	12,6%	0,6%	

When we analyze the sectoral breakdown of energy consumption in Figure 1, we see that, almost in equal shares, 75% of energy supply is consumed by energy conversion sectors, industry sector and residential and service sectors. 19,4% of energy supply is consumed by transport sector and remaining 6,2% is distributed around other sectors (agriculture, petro-chemicals).

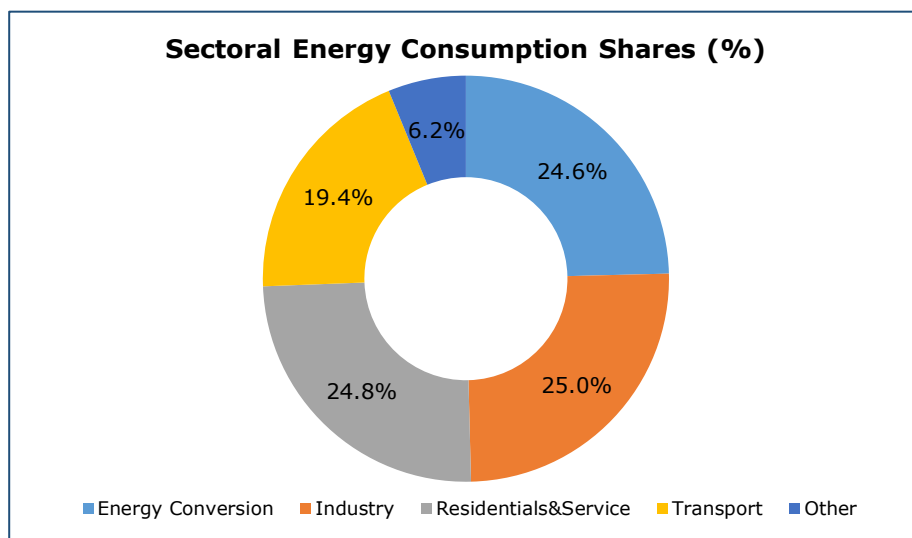


Figure 1 Sectoral Breakdown of Energy Usage Shares in 2015

Being highly dependent on imported energy resources, especially on natural gas for electricity generation and heating, makes Turkish economy vulnerable to demand and supply disruptions. As being experienced during peak seasons of the year, electricity shortages would cause long hour electricity cuts and production halts in factories. Even without any energy supply problems, price increase in oil, natural gas or currency exchange (USD, EUR) deliberately increases foreign trade deficit which in returns negatively impacts economic indicators.

Since the second half of 2014, Brent oil price has decreased dramatically from around 100 USD/barrel to 55 USD/barrel by end of 2016 as shown in the figure below. Thanks to cheap oil prices in recent years, energy import budget of Turkey has decreased by 40% from 60 Billion USD at the end of 2012 to 37 Billion USD by end of 2015 (Figure 2). Energy import costs of Turkey by years are also given below in

Table 2.

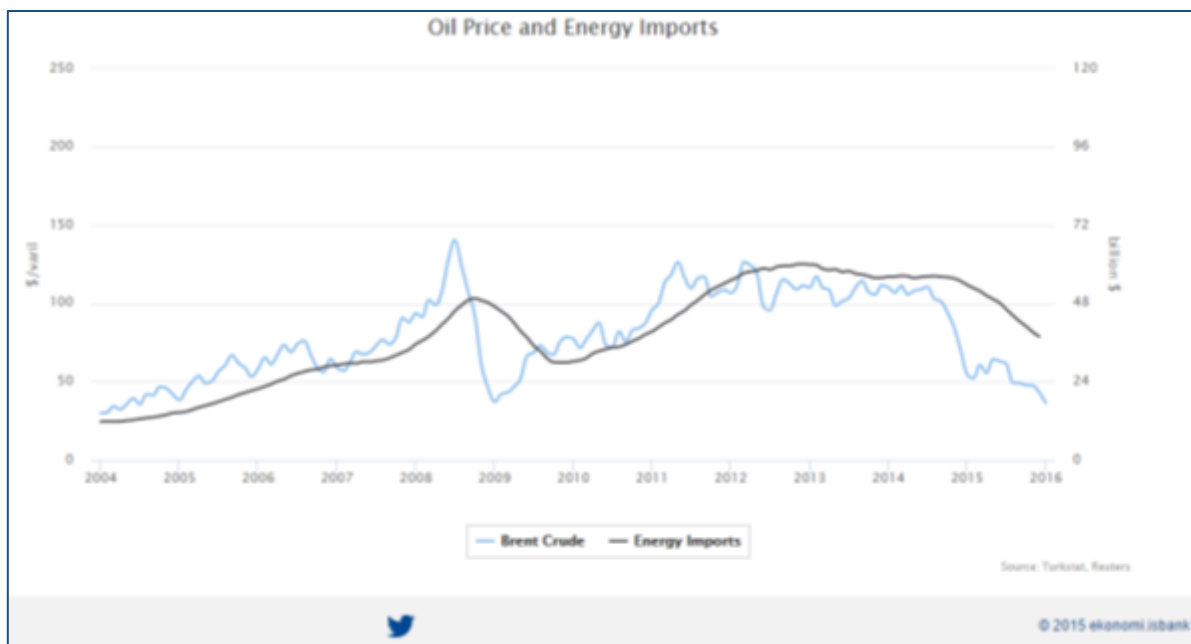


Figure 2 Brent Crude Oil Price vs Energy Imports Budget of Turkey by years

Table 2 Turkey’s Energy Import Budgets by years¹

Years	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Energy Imports (Billion USD)	21,2	28,8	33,9	48,3	29,9	38,5	54,1	60,1	55,9	54,9	37,8	463,40

1.1 Energy Production Side

By the date of reporting, generation amount was not announced by TEAİŞ. Hence to analyze the electricity generation amount by fuel type, we will check the data published by end of 2015. A figure showing distribution of Turkey's gross electricity generation by energy resources in 2015 is also given in **Figure 3**. In this case, the electricity generation is highly depended on fossil fuels

¹ Ref: <http://www.dunya.com/sectorler/enerji/turkiye039nin-enerji-ithalati-azaldi-haberi-305907>

with a 37.9 % of natural gas, 11.9 % of lignite, 15.2 % imported coal. Thus, in total fossil fuel dependency in Turkey is 67.8%

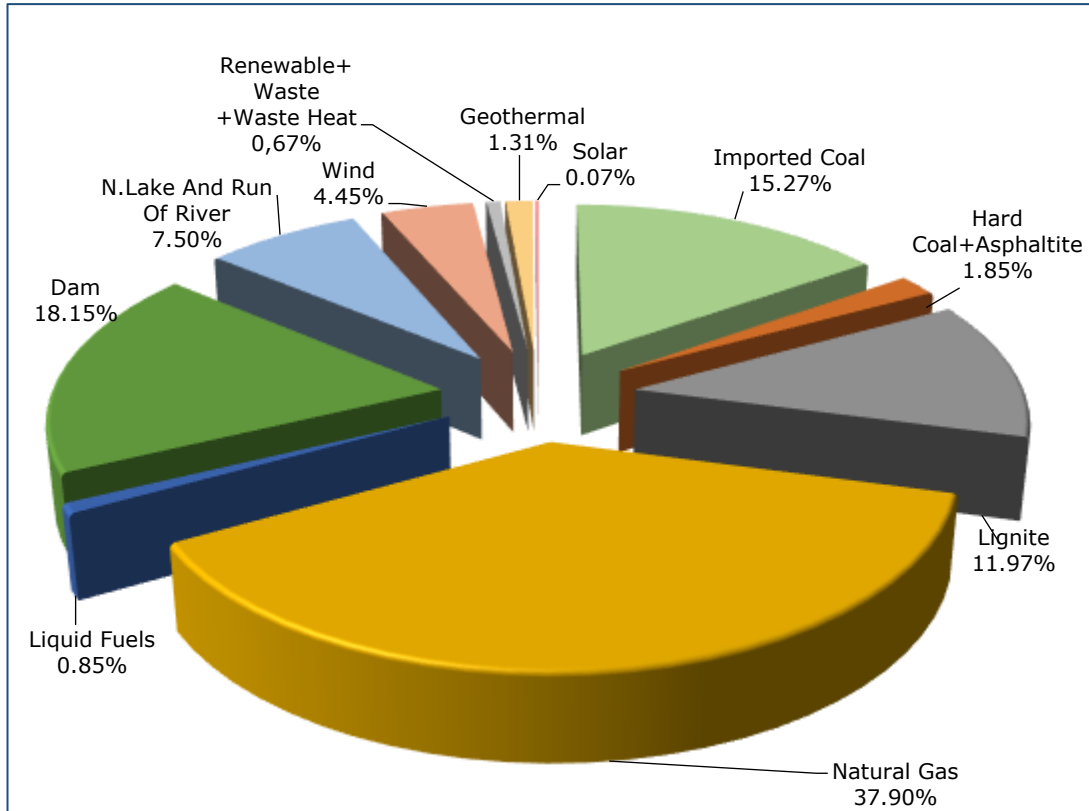


Figure 3 Distribution of Turkey's Gross Electricity Generation by Energy Resources in 2015

As given in **Table 3**, the capacity increase for geothermal and wind power in the 10 year period (between 2005 and 2015) striking. Main reason of this increase is the adoption of Renewable Energy Law, which introduced EUR base and 10 year-long feed-in-tariff in 2015 for the first time. Later, this law is amended to change currency from EUR to USD and to differentiate incentive prices by sources.

Table 3 Comparison of 2005-2015 Installed Capacity by resource type (MW)²

					Unit : MW	
	Thermal	Hydro	Geothermal	Wind	Solar	Total
2005	25.902,3	12.906,1	15,0	20,1	-	38.843,5
%	66,68	33,23	0,04	0,05	-	100,00
2015	41.903,0	25.867,8	623,9	4.503,2	248,8	73.146,7
%	57,29	35,36	0,85	6,16	0,34	100,00

² Ref: [http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2015/kguc\(1-17\)/2ing.docx](http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2015/kguc(1-17)/2ing.docx)

The main reason for installed capacity increase in solar in 2014-2015 is circulation of new regulation, which removes license granting obligation for projects below 1 MW and to be developed for covering own electricity consumption. This regulation was taken as short-cut by project developers, especially for developing new solar power projects, against long and expensive bureaucratic procedures to get license for energy generation activity. However, due to high application (around 6.800 MW project is approved by end of 2016), no new capacity is allocated to unlicensed project since October 2016 by TEİAŞ.

2. National Targets for Electricity Production

By provision of Electricity Market Law, TEİAŞ is responsible from preparing "Electricity Generation Capacity Projection for 5 years". Latest prepared report is for 2015-2019 period and published in July 2015 as presented in **Figure 4**³.

In this report, TEİAŞ forecasts indicators of capacity addition amount per year, installed capacity by end of the year and power generation amount by end of the year, in according to different scenarios. We have taken the conservative scenario (Scenario-2) into account, considering financial crisis Turkey is facing now, which will definitely hinder planned energy investments, and also for better result of this Scenario for estimating actual total installed capacity by end of 2016. Scenario-2 does only considers the projects which have shown progress and/or started construction by 2015.

According to Scenario-2, total capacity additions between 2015 and 2019 will be 17.980 MW and only 35% of this capacity will be Thermal Power Plants. Remaining 65% will come from hydro and non-hydro resources (mostly wind, solar and geothermal). No nuclear capacity addition is anticipated by end of 2019.

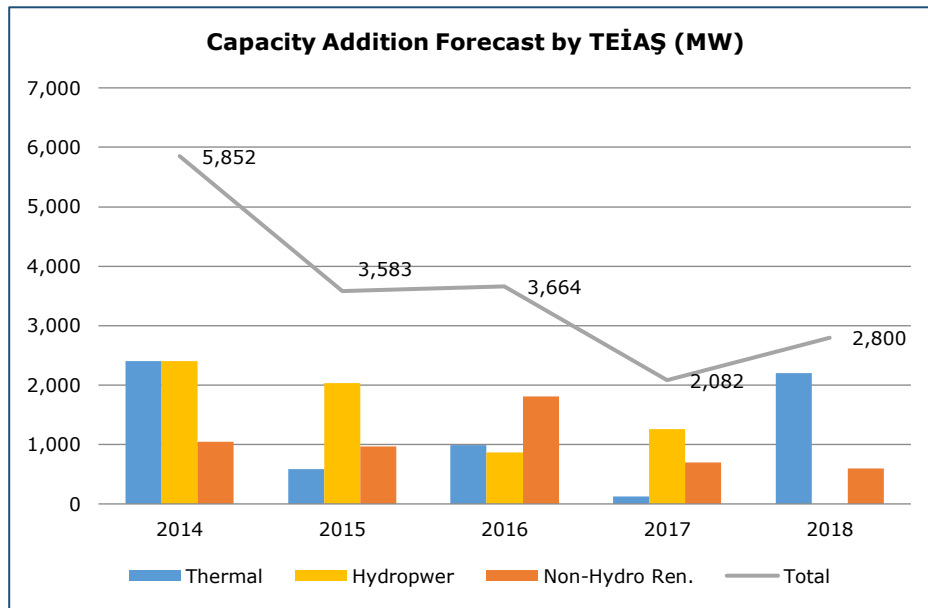


Figure 4 Capacity Additions Forecast by TEİAŞ

Total installed capacity forecast by TEİAŞ is given in **Table 4**. According to this table total installed capacity will reach to 87.500 MW by 2019. And total share of renewables will reach to 44,5% in the same year.

³ See: <http://www.teias.gov.tr/YayinRapor/apk/projeksiyon/index.htm> for all published reports.

Table 4 Installed Capacity Forecasts of TEİAŞ in 2015-2019 Capacity Projection Report (MW)⁴

Years	2014	2015	2016	2017	2018	2019	Share in 2019
Lignite	8.693	8.761	8.761	8.761	8.761	9.961	11,4%
Domestic Coal + Asphaltite	470	1.300	1.750	1.750	1.750	1.750	2,0%
Imported Coal	6.063	6.063	6.063	6.063	6.063	6.063	6,9%
Natural Gas	25.632	27.011	27.134	28.039	28.164	29.164	33,3%
Geothermal	405	561	638	710	710	710	0,8%
Fuel Oil	509	629	629	697	697	697	0,8%
Diesel	11	11	11	11	11	11	0,0%
Nuclear	0	0	0	0	0	0	0,0%
Others	132	143	154	165	165	165	0,2%
Thermal Total	41.915	44.479	45.140	46.196	46.321	48.521	55,5%
Biyogas + Waste	288	306	311	320	320	320	0,4%
Hydropower	23.664	26.068	28.095	28.965	30.222	30.222	34,5%
Wind	3.612	3.877	4.167	5.298	5.398	5.398	6,2%
Solar	40	640	1.240	1.840	2.440	3.040	3,5%
Renewable Total	27.604	30.891	33.813	36.423	38.380	38.980	44,5%
Total	69.519	75.370	78.953	82.619	84.701	87.501	

Energy Targets:

Ministry of Energy and has recently submitted "2017 Budget Report to the General Counsel of Turkish Parliament"⁵. The section 7 of this report gives very recent and comprehensive targets of the state for electricity generation and all other energy market related issues. Targets, related to electricity generation are given in **Table 5**. All targets of the Ministry are provided in Annex of this report.

Table 5 Brief of electricity generation targets of MoENR

Target Item	Target	Target Year
Installed Power	110.000 MW	2023
Total Energy Gen.	400.000 GWh	2023
Nuclear Power Plant No.	2	2023
Lignite+Hard Coal Energy Gen.	60.000 GWh	2019
Total Ren. Installed Power	46.710 MW	2019
Hydro	32.000 MW	2019
Geothermal	1.000 MW	2019
Wind	20.000 MW	2023
Solar	3.000 MW	2019

⁴ Ref: <http://www.teias.gov.tr/YayinRapor/apk/projeksiyon/KAPASITEPROJEKSIYONU2015.docx> (Tablo-34, Page 57)

⁵ See:

<http://www.enerji.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fb%2fB%2fC%2fC%2fA7e%20Konu%2fC5%2fFmas%2fC4%2fB1%2f2017%20B%2fC%2fC%2fA7e%20Sunu%2fC5%2fFu.pdf> (page 111)

When TEİAŞ capacity projection and targets of MoENR on renewable energy is compared, most striking difference is for wind energy installed capacity. TEİAŞ projection by end of 2019 is around 5.400 MW but MoENR's target is 20.000 MW by 2023. And solar target is relatively low. By end of 2016 solar installed capacity is 1000 MW and there is a tender of 1000 MW solar project on Feb. 2017.

3. What Shall Be Done to Improve Low Carbon, Renewable Electricity Generation?

Although Turkey is rich in renewable energy resources, she still cannot utilize the potential as wished. Considering high dependency to imported energy sources and negative impacts to the economic performances, Turkey shall take measures to increase renewable energy utilization for electricity generation as much as possible.

However, there are still many barriers before renewable energy investors in Turkey. Main barriers are listed below:

1) Bureaucratic procedures: In Turkey, permissions/approvals required for renewable energy projects is not clear, frequently changing, lengthy and expensive. As experienced by Life Enerji team during unlicensed solar project development across many cities of Turkey, procedures vary city by city. For example, in some cities, getting "non-fertile land" approval for project land, as required by regulation, is easy but in other cities it is almost impossible to get this approval for similar land with similar soil characteristics. Procedures may vary even by officer in same institutions. Total permissions/approvals required to start construction on site may approach to 50 for single project.

Thus, clear procedures and list of required permission is needed for renewable energy development.

2) Lack of capacity allocations: Project developers can not apply for renewable projects any time they wish as EMRA has identified fix dates (5 days in a year) for license application and limited total capacity to be allocated to each resource type. Mostly total allocated capacity is not enough for all application and applicants in the same city shall enter a tender to get capacity. Due to high amount of application, mostly fierce competition takes place and bidders may offer huge amounts as capacity allocation fee, which then may makes projects unfeasible. This also contradicts with promoting renewable energy projects hence the state gets considerable amount in the end, which in practice works as counter-incentive mechanism.

More capacities shall be allocated to the potential renewable energy investors and cheaper, easier procedures shall be implemented for capacity allocation.

3) Too many changes in regulations: Regulations and rules are changing too frequently which creates uncertainty for project developers. Some changes are understandable and is done to solve problems but most of them again creates new problems. An example, regulation on unlicensed electricity generation projects has amended 5 times in 3 years and most of them are also applicable to the ongoing projects.

More stable regulative environment shall be created an new rules shall be applied to the new projects after introduction of new rules.,

4) Country risk: Turkey is in a high-risk region and prone to potential conflicts. As renewable projects are long-term investments (between 15-50 yrs.), these investments require long-term stability in the country.

5) Lack of financial opportunities: Turkish banks rarely provide project finance to the investors. They generally ask for guarantees matching to the asked credit amount. This requirement is a big barrier for small investors. New supporting mechanisms shall be introduced for financing of small-scale projects.

ANNEXES

a. Who is Who in The Energy Sector?

Ministry of Energy and Natural Resources (MoENR) (www.enerji.gov.tr) is the responsible ministry for all energy related policies in Turkey. **Figure 5** illustrates the organizational scheme of the Ministry of Energy and Natural Resources. Also, the central units, affiliated institutions and related institutions of the Ministry are given in this figure.

Other important energy institutions are given in the list below:

- **Energy Market Regulatory Authority (EMRA)** is an independent body and the Regulatory Authority of the energy market, which regulates, issues licenses and oversees the energy market. EMRA is responsible from Electricity, Natural Gas, LPG, and Petroleum Markets. EMRA was established by Energy Market Law. (www.epdk.org.tr)
- **The Renewable Energy General Directorate** (see below) is under Ministry of Energy and Natural Resources. The Renewable Energy General Directorate is responsible for policy related to renewable energy and energy efficiency. (www.yegm.gov.tr)
- **Energy Exchange Istanbul (EXIST or EPIAS)** is the trading platform for the spot energy market. EXIST which is regulated by Energy Market Regulatory Authority develops and administers the energy market. Electricity generation companies from renewable sources, such as wind, solar, hydro and geothermal, can sell their whole generation to the Renewable Energy Support Mechanism (YEKDEM in Turkish). This mechanism is also being operated by EPIAS, with fixed feed-in-tariffs for ten years. (www.epias.com.tr)
- **Electricity Distribution Companies:** While electricity distribution companies cannot sell electricity, they can only do the maintenance, repair and operation of the network. There are 21 Electricity Distribution Companies responsible for 81 provinces of the Turkey. They were being privatized by transfer of operation rights of each region. They are the monopoly in their regions. Duties and responsibilities of all the distribution companies are the same, so they do not have any hierarchical superiority with each other. General Directorate of Turkish Electricity Distribution Corporation (TEDAS) is the owner of all distribution assets and audits the activities of Distribution Companies. (www.tedas.gov.tr). 21 distribution regions are given in the map in **Figure 6**.
- **Turkish Electricity Transmission Company (TEİAŞ):** By Energy Market law, transmission activity is under state control and has monopoly in Turkey. TEİAŞ is responsible from technical well-being and balance of electricity system and investment on transmission system. (www.teias.gov.tr)

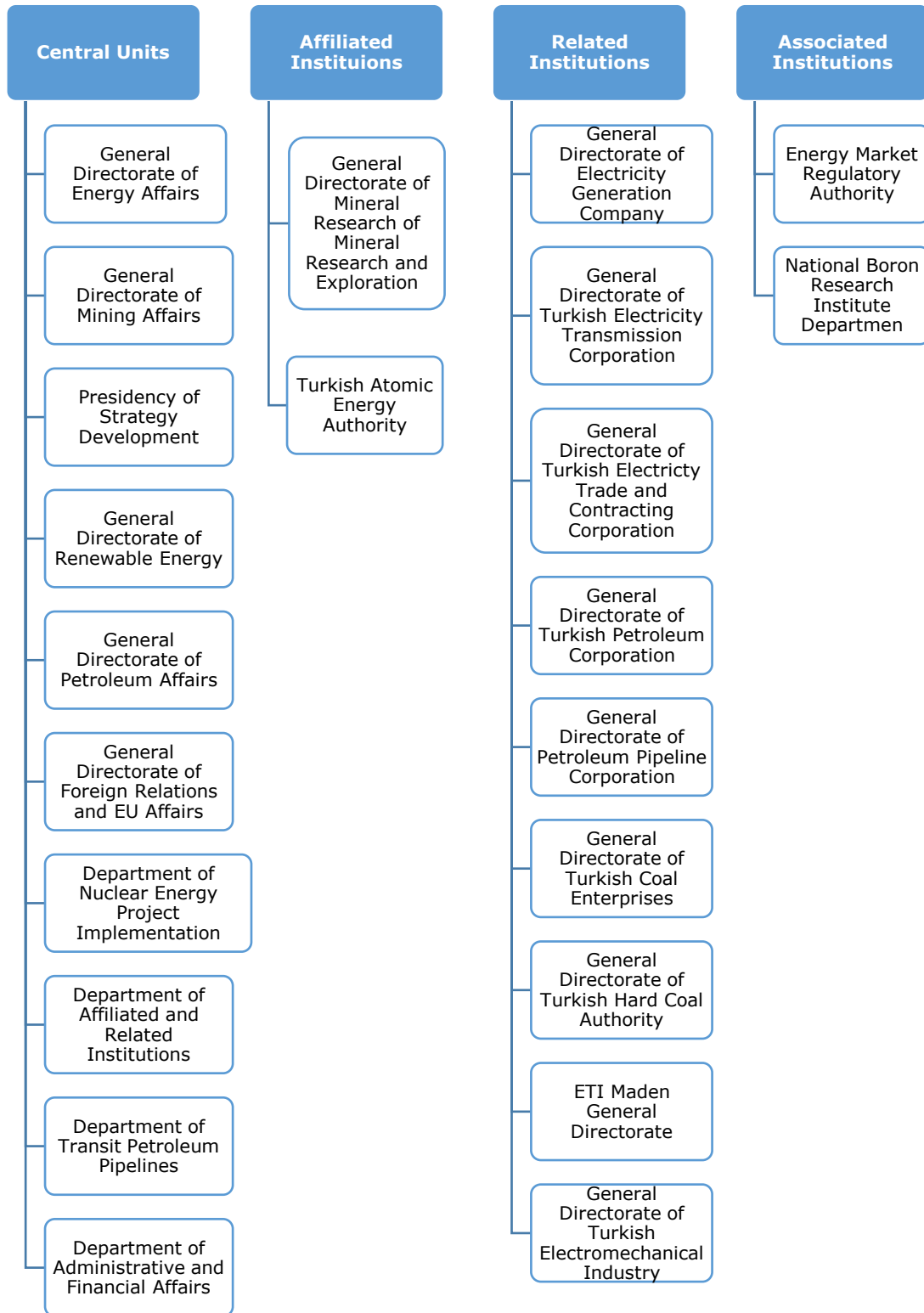


Figure 5: Organizational Scheme of The Ministry of Energy And Natural Resources

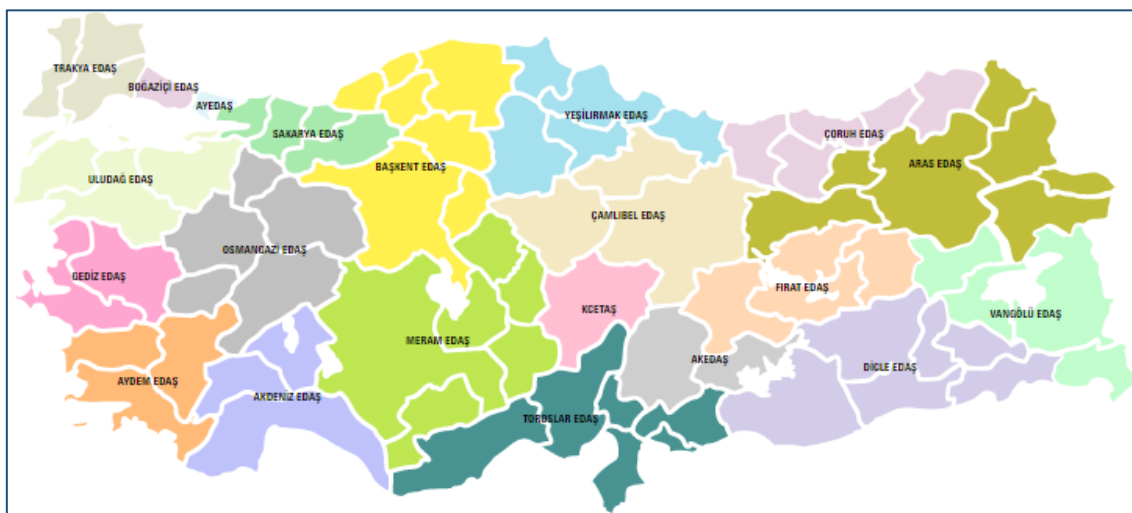


Figure 6 Map of Electricity Distribution Regions of Turkey

b. Main Laws and Regulations of the Energy Sector

In the following Table 6, the summary of the main laws and regulations related with the energy sector in Turkey are listed. Just to mention, all of the laws and regulation listed in the table, except energy efficiency law, issued by The Electricity Markets Regulation Authority, which plays a key institutional role in the market.

Table 6 Main Laws and Regulations in Energy Sector⁶

Electricity Market Law	
Time Frame	2013 and onwards
Objectives	The purpose of this Law is to ensure the development of a financially sound and transparent electricity market operating in a competitive environment under provisions of civil law and the delivery of sufficient, good quality, low cost and environment- friendly electricity to consumers and to ensure the autonomous regulation and supervision of this market.
Coverage, obligated entities and eligibility	This Law covers the whole electricity market. The Law does not define any threshold; it covers all of the actors. In electricity market, there are two types of consumers, eligible consumers and non-eligible consumers. Eligible consumers can buy electricity on wholesale or retail prices where consumers can buy electricity only retail prices.
Natural Gas Market Law	
Time Frame	2001 and onwards
Objectives	This law regulates and governances a transparent, strong and stabilized natural gas market. The purpose of this law is to supply natural gas continually to the consumers with high quality and in an inexpensive way pursuant to the competitive principals without harming the environment.
Coverage, obligated entities and eligibility	This law covers the importation, transmission, distribution, storage, marketing and trading, exportation activities of the natural gas (whole natural gas market). The Law does not define any threshold; it covers all of the actors. In natural gas market, there are two types of consumers, eligible consumers and non-eligible consumers. Eligible consumers can buy natural gas on

⁶ Ref: www.epdk.org.tr

	wholesale or retail prices where consumers can buy natural gas only retail prices. There is certain definition of the consumer types in the law, basically eligible consumers have to buy more than 1 million Sm ³ natural gas in a year for certain activities. Others are non-eligible consumers.
Petroleum Market Law	
Time Frame	2003 and onwards
Objectives	The objective of this Law is to regulate the guidance, surveillance and supervision activities in order to ensure the transparent, non-discriminatory and stable performance of market activities pertaining to the delivery of petroleum supplied from domestic and foreign resources to consumers, directly or after processing, in a reliable, cost-effective manner within a competitive environment. Lastly, this Law sets the rules regarding the license, which is granted to real or legal persons by the Board indicating the permission to operate in the market.
Coverage, obligated entities and eligibility	This Law covers the whole petroleum market. The Law does not define any threshold, it covers all of the actors. In petroleum market there are two types of consumers, eligible consumers and non-eligible consumers. Eligible consumers can buy petroleum on wholesale or retail prices where consumers can buy petroleum only retail prices.
LPG Market Law	
Time Frame	2005 and onwards
Objectives	The objective of this Law is to regulate the guidance, surveillance and supervision activities in order to ensure the transparent, non-discriminatory and stable performance of market activities pertaining to the delivery of petroleum supplied from domestic and foreign resources to consumers, directly or after processing, in a reliable, cost-effective manner within a competitive environment.
Coverage, obligated entities and eligibility	This law covers the importation, transmission, distribution, storage, marketing and trading, exportation activities of the LPG (whole LPG market). The Law does not define any threshold, it covers all of the actors.
Law On Utilization of Renewable Energy Sources for the Purpose of Generating Electrical Energy	
Time Frame	2005 and onwards
Objectives	The purpose of this law is to expand the utilization of renewable energy sources for generating electric energy, to benefit from these resources in a secure, economic and qualified manner, to increase the diversification of energy resources, to reduce greenhouse gas emissions, to assess waste products, to protect the environment and to develop the related manufacturing industries for realizing these objectives.
Coverage, obligated entities and eligibility	This Law covers the whole electricity market. The Law does not define any threshold, it covers all of the actors.
Incentives/targets	The Renewable Electricity Law introduces incentives for domestic energy projects, providing feed-in tariffs for electricity from renewable energy source. Moreover, it aims to: <ul style="list-style-type: none"> -reduce or cancel service fees as an incentive for those willing to build energy generation facilities to meet their own energy consumption needs - incentive investments for energy generation facilities, procurement of electro-mechanic systems within the country, research, development and production investments concerning solar energy units, and research and development investments for biomass energy. - promote the use of geothermal energy where there are sufficient geothermal energy resources. -reduce fees for using public lands for the generation of renewable energy.
Energy Efficiency Law	
Time Frame	2007 and onwards
Objectives	Objective of this law is to increase efficiency in using energy sources and energy in order to use energy effectively, avoid waste, ease the burden of energy costs on the economy and protect environment.
Coverage, obligated entities and eligibility	This law covers principles and procedures applicable to increasing and promoting energy efficiency in energy generation, transmission, distribution and consumption phases at industrial establishments, buildings, power

	generation plants, transmission and distribution networks and transport, raising energy awareness in the general public, and utilizing renewable energy sources.
Incentives/targets	Article 8 of this Law states that energy efficiency implementation projects shall be supported according to the following principles: 1) Those implementation projects which are submitted by industrial establishments to the General Directorate, approved by the Board upon the affirmative opinion of the General Directorate, have a payback period of at most five years, and cost at most five hundred thousand Turkish liras by the project cost shall be subsidized up to twenty percent of the cost. 2) Legal entities with subsidized efficiency increasing projects shall implement such projects in their establishments within two years. Applications exceeding this time limit or implemented differently than the project shall not be subsidized. Implementation reports containing pre- and post-implementation information and images shall be submitted to the General Directorate. The General Directorate shall inspect the implementation results on site. 3) Principles and procedures relating to subsidizing the implementation projects for increasing energy efficiency shall be laid down in a regulation to be issued by the Ministry.
Institutional Set-up	The key ministry in charge of the coordination and implementation is the Ministry of Energy and Natural Resources.
Law on Construction and Operation of Nuclear Power Plants and the Sale of Energy Generated from Those Plants	
Time Frame	2007 and onwards
Objectives	Objective of this law is to provide the procedures and principles for the construction and operation of nuclear power plants and the sale of energy generated from those plants.
Coverage, obligated entities and eligibility	This Law covers the whole electricity market. The Law does not define any threshold; it covers all of the actors.
Incentives/targets	Article 7 (Incentives) of this Law states: 1) The Council of Ministers may provide incentives for investments in technology regarding the power plant to be constructed and the training of operation personnel 2) Should the Treasury be the owner of the premises on which the power plants shall be constructed within the framework of this law or should these be under state authority and administration, the Ministry of Finance can set up a right of access in favor of the enterprise or, should the premises be owned by other public institutions or bodies, the Council of Ministers shall grant the enterprise a license to utilize the premises free of charge.
Institutional Set-up	The key ministry in charge of the coordination and implementation is the Ministry of Energy and Natural Resources.

c. Electricity and Renewable Energy Sector in Details

By 30 November 2016, the distribution of Turkey's installed capacity by electricity utilities is shown in Figure 7. As it can be seen from the figure, the energy sector of Turkey is highly privatized with a 61.2 %. Stated-owned enterprises such as EÜAŞ and affiliations covers only 26 % which in the way to be privatized next years.

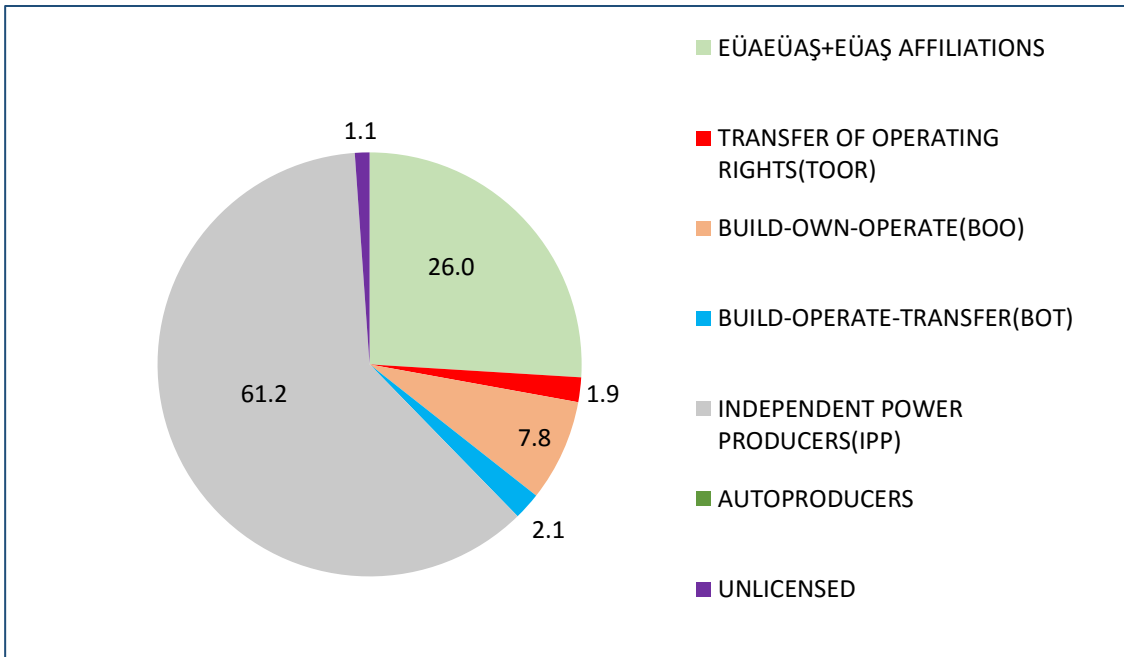


Figure 7 Distribution of Turkey's Installed Capacity by Electricity Utilities in 2016

By 30 November 2016, installed capacity of Turkey is 78.591,8 MW. Distribution of installed capacity by fuel type and shares of each fuel in installed capacity is given in Figure 8. As it can be seen from Figure 8, hydropower (dam and run-of-river combined) has the highest share in installed capacity with 33,7% in total, following natural gas with 28,6% and 22% coal (domestic + imported).

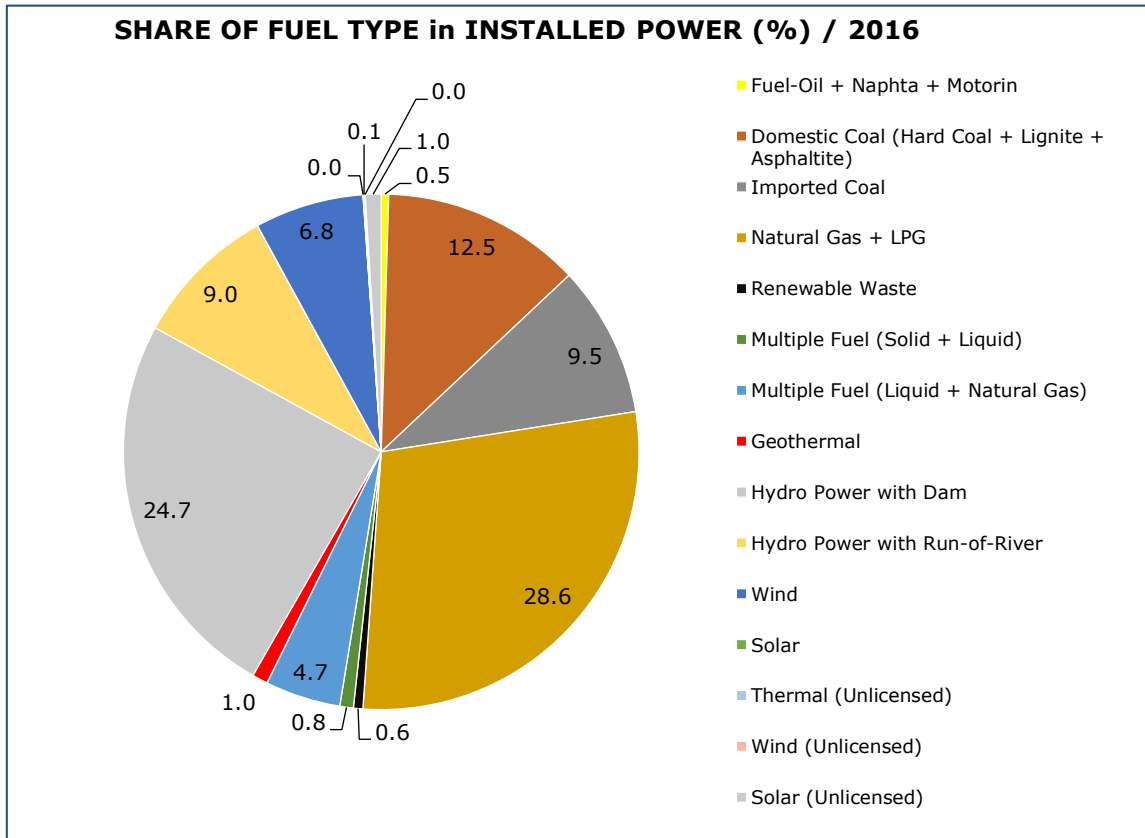


Figure 8 Distribution of Turkey's installed capacity by primary energy sources in 2016 (MW and %)

The distribution of Turkey’s installed capacity by primary energy sources is provided with the **Figure 9**, which shows installed capacity by fuel type. According this figure, the installed capacity of Turkey dependent on fossil fuels by with 57%, while share of renewables has a 43.09% share.

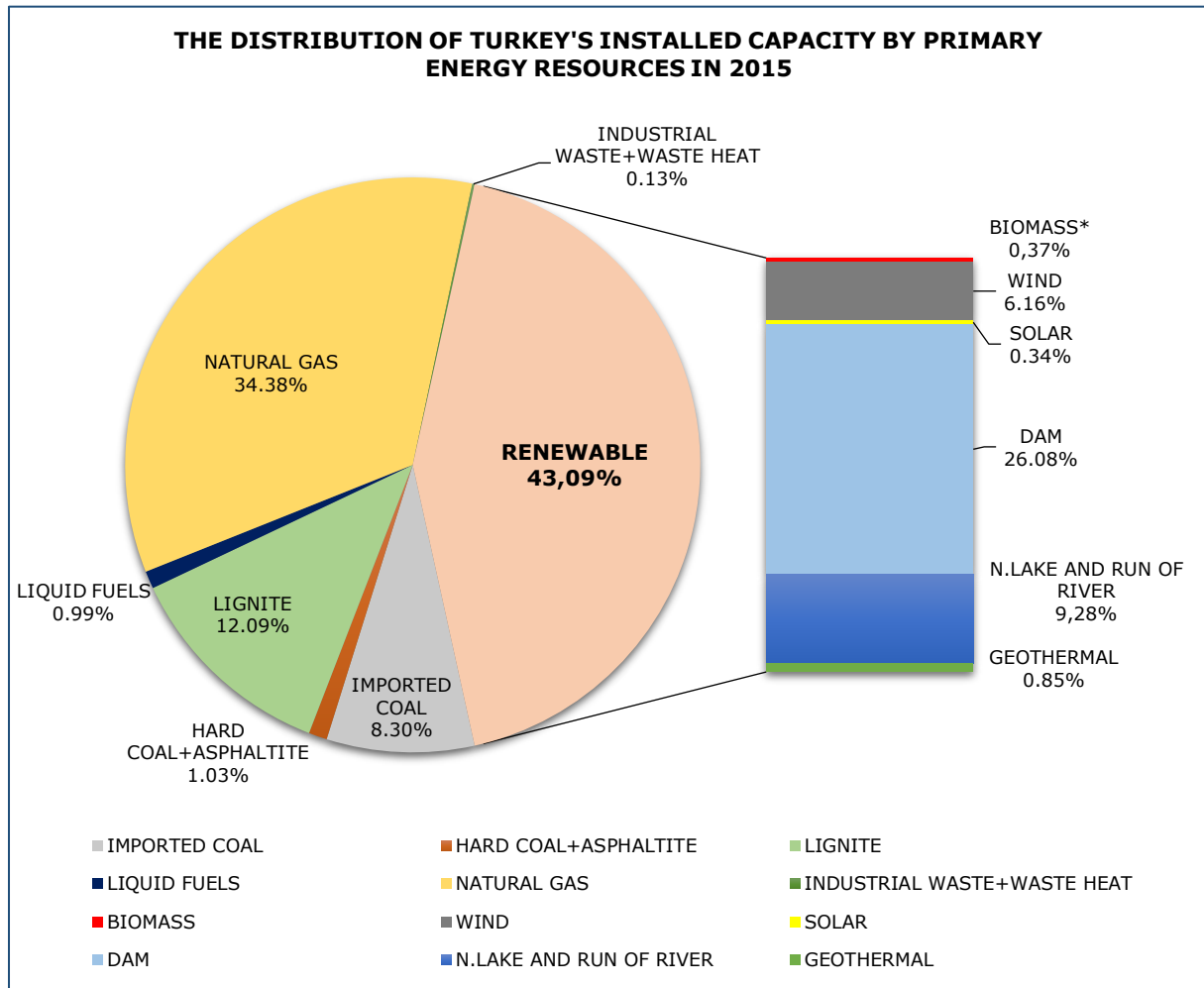


Figure 9 Distribution of Turkey's Gross Electricity Generation by Energy Resources in 2015

Annual development of Turkey's electricity generation by primary energy resources between 1990 and 2015 is shown in **Figure 10**. This figure helps to understand that the dependency on fossil fuel increased over the 15 years’ period, although renewable energy technologies differs between hydro and wind. It can be clearly seen that fossil fuel dependency shift from coal to gas but not to renewable energy.

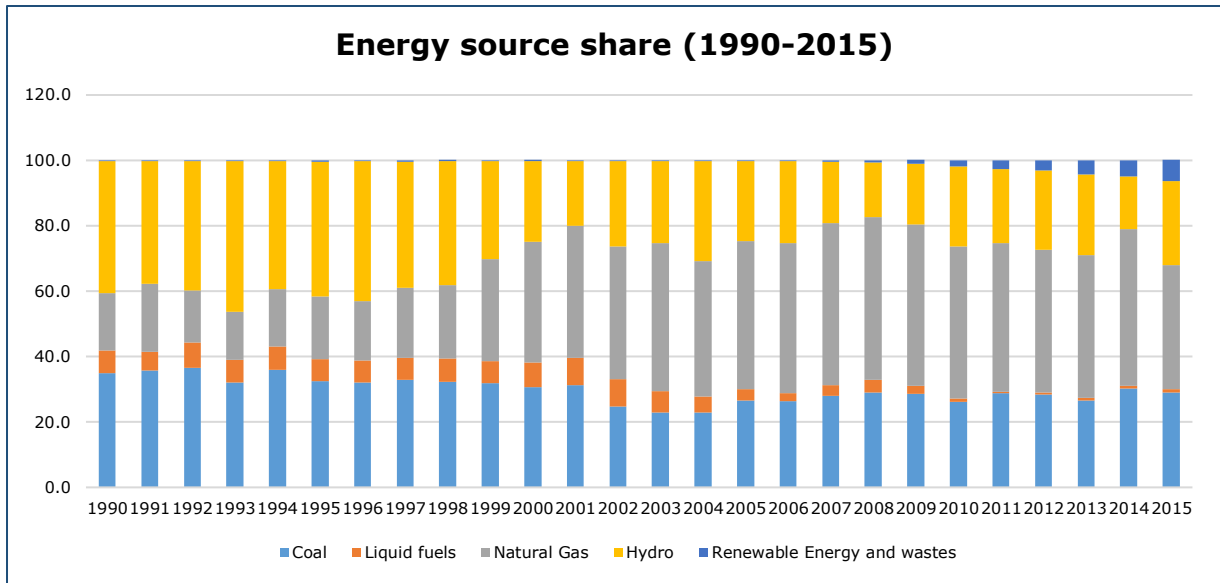


Figure 10 Annual Development of Turkey's Electricity Generation by Primary Energy Resources

Finally, share of Turkey's total electricity generation by fuel types in 2015 is given below **Figure 11**, as it can be seen fossil fuel usage in power generation in Turkey is dominant by 67 %.

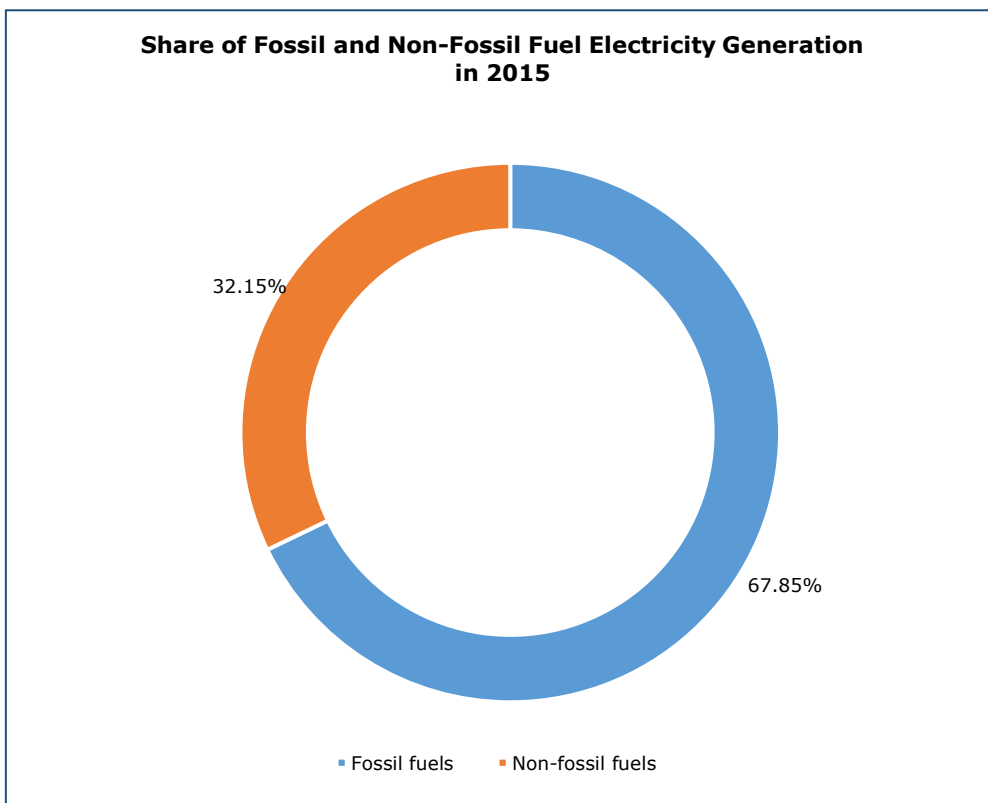


Figure 11 Share of fossil and non-fossil fuels in electricity mix of Turkey in 2015

Finally, the numbers in **Figure 12** shows the breakdown of renewable energy resources in electricity generation which is dominated by dam type of hydro power generation.

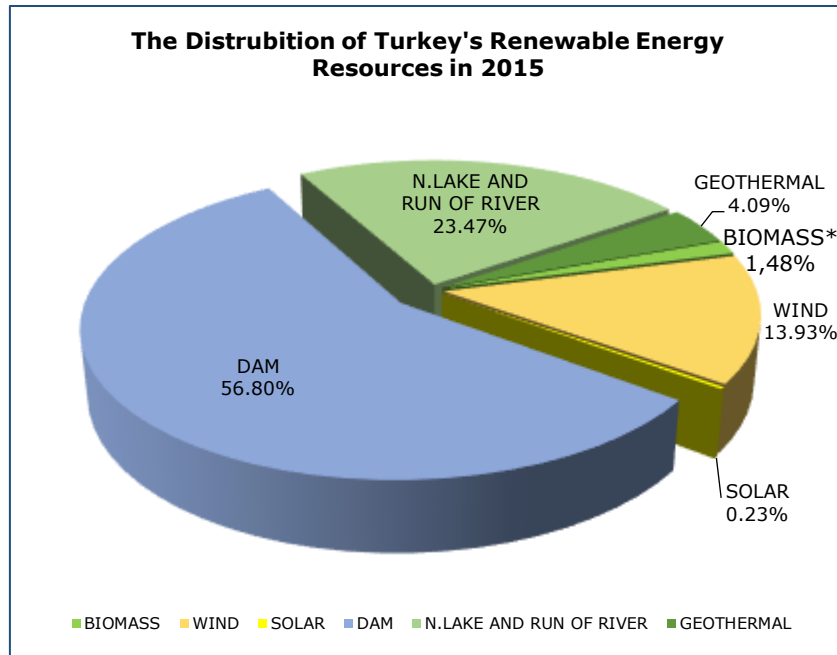


Figure 12 Distribution of Turkey's Renewable Energy Resources in 2015

d. Energy Related Targets of MoENR

Below targets are taken from Annual Budget Report of MoENR.

Energy Security Related Targets;

- Increasing the installed power capacity over 110 thousands MW, total electrical energy generation up to 400 billion kWh levels according to the Reference Demand Scenario in year 2023,
- Taking the whole units of two nuclear power plants into operation and starting the construction of the third nuclear power plant until year 2023,
- Utilization of the all explored lignite and hard coal potentials for electrical energy generation until year 2023,
- Increasing the total natural gas stock capacity to 9.3 million Sm³ and the total back generation capacity to 155 billion Sm³/day until the end of year 2023,
- Increasing the electrical energy amount generated from domestic coal to 60 billion kWh annually until the end of year 2019,
- Increasing the domestic and foreign crude oil generation amount by end of year 2019,
- Putting the demand management mechanisms in electricity and natural gas into practice,
- Setting a smart networks/systems road map in the electricity, natural gas transmission and distribution sectors.

Renewable Energy Related Targets;

- Increasing the share of renewable energy sources in the electrical energy generation portfolio,
- Using the entire hydro potential that can be utilized technically and economically for electrical energy generation until year 2023,
- Increasing the total installed capacity of the renewable energy based electrical energy generation power plants to 46,710 MW until the end of year 2019,
- Developing models, such as pumping storing in hydro power plants, to effectively operate electricity generation installations,
- Increasing the hydro energy installed capacity to 32,000 MW until the end of year 2019,

- Increasing the wind energy installed capacity to 20,000 MW until year 2023,
- Increasing the geothermal energy installed capacity to 1,000 MW until the end of year 2019,
- Increasing the solar photovoltaic energy installed capacity to 3,000 MW until the end of year 2019,

Energy Efficiency related Targets;

- Decreasing the energy amount consumed per GDP (energy intensity) at least 20% in year 2023 comparing to year 2011,
- Reducing the electrical energy transmission and distribution loss rates,
- Completing the maintenance, repair, rehabilitation and modernization activities needed for the state-owned power plants until the end of year 2019,
- Deployment of energy storage systems to facilitate on-site consumption of renewable energy resources,
- Developing the regulatory framework related to energy efficiency and increasing the effectivity of incentives,
- Making changes in the Energy Efficiency Law, other related laws and regulations for reducing energy consumption in the buildings and leading to energy efficient buildings,
- Enhancing public opinion awareness for energy efficiency and savings

Investment Environment Related Targets;

- Accomplishing the infrastructure works so as to natural gas balancing and day-ahead market to become functional within EPIAS,
- Making regulations in a way that the documents requested for license, warrant permit procedures being reduced and not taking the documents that are available in the electronic media from the applicant so as to pave the way for the energy investment process,
- To ensure supply of the raw materials that Turkish industry needs from abroad, conducting studies by ensuring cooperation on project based research, development and investment issues,
- Decreasing the public share within the power generation to 20% until the end of 2019