SOCIAL SCIENCES UNIVERSITY OF ANKARA

INSTITUTE OF SOCIAL SCIENCES

Halil KARATAŞ

THE PLACE OF ENERGY SECURITY IN THE INTERNATIONAL RELATIONS THEORIES ON THE AXIS OF SUPPLY, DEMAND AND TRANSIT SECURITY

Master Thesis

DEPARTMENT OF INTERNATIONAL RELATIONS

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170616011

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TEZ ONAYI

Enstitümüzün Uluslararası İlişkiler Anabilim Dalı Uluslararası İlişkiler (İngilizce) Tezli Yüksek Lisans Programı 170616011 numaralı öğrencisi Halil KARATAŞ' ın hazırladığı "**The Place of Energy Security in International Relations Theories on the axis of Supply, Demand And Transit Security**" başlıklı tezi ile ilgili tez savunma sınavı, Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliği'nin ilgili maddeleri gereğince 04/03/2020 Çarşamba günü saat 16:00'da yapılmış, tezin onayına oy birliği/oy çokluğu ile karar verilmiştir.

Başkan : Prof. Dr. Erdal Tanas KARAGÖL 17/03

Jüri Üyesi (Danışman) : Prof. Dr. Levent AYDIN 17/03

Jüri Üyesi : Prof. Dr. İdris DEMİR 17.03.2020

ONAY:

Bu tezin kabulü, Enstitü Yönetim Kurulu'nun ..07../..04.../2020 tarih ve ..09 sayılı Enstitü Yönetim Kurulu Kararı ile onaylanmıştır.

..07../..04../2020

Prof. Dr. Çetin ÖNDER
Müdür

ACKNOWLEDGEMENTS

This thesis study is one of the most important products of an academic adventure for years. First of all, I present my endless gratitude and thanks to my academic advisor Prof. Dr. Levent AYDIN, who has the biggest share in the process of both the intellectual infrastructure and the text of this study, and to Prof. Dr. Erdal Tanas KARAGÖL who encouraged me to work on energy policies. In addition, I would like to express my gratitude to the KARADUMAN family, my family and especially my grandmother Cemalşah KARADUMAN, have always felt their support throughout my education life. In my master's adventure, which lasted for about 3 years, due to the valuable suggestions and conveniences they provided; I would like to thank all my managers and colleagues, especially İlker BEKTAŞOĞLU, Recep Lemi ÇETİNKAYA, Ali Fuat BİLGİN, Mehmet TİRYAKİ, Mehmet AKTAŞ and Mehmet Şakir TEKİN. Lastly, since the beginning of this work, my friends, who have patiently endured and benefited from their beneficial suggestions; I would like to express my endless thanks to Gökhan KARATAŞ, Esma YÜCEL, Yazgı AKIN, Ömer Faruk ÖZÇETİN, Nisanur TUVANÇ, Erdem TOKGÖZ, Mine SARIKAYA, Hayrunnisa GÜLBAY, Ece KARA, Hatice Kübra ÇELİK and many of my dearest friends.

DECLERATION

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last Name: Halil KARATAŞ

Signature:

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Tez Danışmanı: Prof. Dr. Levent AYDIN

Şubat 2020

Bu çalışmadaki ana amaç literatürde sadece enerji arz güvenliği adı altında incelenmiş olan enerji güvenliği meselelerini; arz, talep ve geçiş güvenliği olarak üç ayrı kolda inceleyip, enerji güvenliği olgusunun uluslararası ilişkiler teorilerindeki yerinin altını çizmektir. Bu doğrultuda çalışmanın giriş bölümünde teori ve pratiğin nasıl birleştirileceği konusunda bazı ipuçları verilmiştir. Girişi takip eden bölümlerde ilk olarak enerji kaynaklarının ve türlerinin tarihçesinden bahsedilmiş olup enerji konusunda bir çerçeve oluşturulmuştur. Daha sonra oluşturulan bu çerçeve enerji güvenliğine dair yapılan tanımlamalar ve enerji güvenliği konseptinin üç ayrı başlık altında incelenmesiyle doldurularak enerji güvenliği konsepti sağlam bir temele oturtulmuştur. Ardından, enerji güvenliği konsepti uluslararası ilişkiler disiplininde yer alan ana düşünce okulları ile bağdaştırılarak, enerji güvenliğinin uluslararası ilişkiler disiplini içerisindeki yeri gözler önüne serilmiştir. Çalışmanın son bölümünde ise enerji güvenliğinin genel güvenlik konseptindeki diğer güvenlik dallarıyla olan ilişkilerine yönelik bazı tespitler ve açıklamalarda bulunulmuştur. Tüm bunlar kaynaklar üzerinde yapılan nitel araştırmaların toplanıp harmanlanması yoluyla yapılmıştır. Bu araştırmaların sonucunda da enerji güvenliği olgusu hakkında yapılan araştırmalarda, sadece arz güvenliği değil talep ve geçiş güvenliği konularının da ayrı ayrı incelenmesi ile kapsamlı araştırmaların yapılmasının mümkün olacağı kanıtlanmış, ayrıca enerji güvenliğinin uluslararası ilişkiler disipliniyle olan teorik bağlarının altı da kalın çizgilerle çizilmiştir.

Anahtar Kelimeler: Enerji Arz Güvenliği, Enerji Talep Güvenliği, Enerji Geçiş Güvenliği, Enerji Kaynakları, Uluslararası İlişkiler Teorileri

ABSTRACT

THE PLACE OF ENERGY SECURITY IN THE INTERNATIONAL RELATIONS THEORIES ON THE AXIS OF SUPPLY, DEMAND AND TRANSIT SECURITY

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MA, Department of International Relations

Supervisor: Prof. Dr. Levent AYDIN

February 2020

The main purpose of this study is to investigate the energy security issues which are examined in the literature only under the name of energy supply security; under three seperate headings supply, demand and transit security; and to emphasize the place of energy security in international relations theories. In this direction, some tips on how to combine theory and practice are given in the introduction part of the study. In the chapters following the introduction, firstly the history of energy sources and types are mentioned and a framework on energy has been established. This framework was then filled by defining energy security and examining the concept of energy security under three different headings. Afterwards, the concept of energy security was harmonized with the main schools of thought in the international relations discipline and the place of energy security in the international relations discipline was revealed. In the last part of the study, some determinations and explanations about the relationship between energy security and other security branches in the general security concept are given. All of this was done by gathering and blending the qualitative research on the sources. As a result of these researches, it has been proved that it will be possible to conduct comprehensive researches by examining not only supply security but also demand and transit security issues separately in the researches on the energy security phenomenon, and the theoretical links of energy security with international relations discipline are underlined in bold lines.

Key Words: Energy Supply Security, Energy Demand Security, Energy Transit Security, Energy Resources, IR Theories

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LIST OF SYMBOLS/ABBREVIATIONS

APERC	Asia Pacific Energy Research Centre
EU	European Union
GDP	Gross Domestic Product
GNP	Gross National Product
IR	International Relations
LNG	Liquefied Natural Gas
OPEC	Organization of the Petroleum Exporting Countries
TANAP	Trans Anatolian Natural Gas Pipeline Project
UN	United Nations
US	United States
USA	United States Of America

CHAPTER 1

1.INTRODUCTION

The international system is a system which hosts many related dynamics. Actually every international issue has a potential to be a dynamic of international system but generally dynamics have been political, economic and ideological dynamics and all of them have some relations with each other. Especially after some important developments the dynamics which are staying in the structure of the international system have became more and more related. This situation is one of the most important results of globalisation. There is a direct proportion between globalisation and the dynamics of international system. The more globalisation increase, the more relations between the dynamics of international system become tight. This proportion determines the structure of international system.

Today's international system has a complex structure which involves many different factors to determine the place of any actor in it. Economic level is one of the most important factors that determine the place of any actor in international system. Actually it is an umbrella for many different branchs. Energy is one of the most important branchs of economy, because today's world production mainly depends on energy so every issues about energy have been deserved thorough examination. This study will approach to the issue of energy in international sysytem in terms of security. If energy taken as a small system that constitutes the economic side of international system, it is possible to say that it has some dynamics in itself.

In terms of security, it is indisputable that energy has a complex structure because it involves the trio of supply, demand and transi security. When this complex structure comes into contact with the discipline of international relations; it becomes a

more complex structure with many actors and events entering the equation. Energy security and the place of energy security in international relations theories will be the main theme of this study. Working on this issue has great importance in many respects; firstly, it is necessary to divide the issue of energy security, which has a complex structure, into sections and conduct a detailed examination.

And as a second requirement should be open to debate the fact that the issue of energy security has a natural connection with the discipline of international relations because of its place in the international system. Finally, it should be emphasized how the energy security phenomenon and the connection between this phenomenon and the discipline of international relations influence the security dynamics in the big picture. This relation has vital importance because it generates another side of our study which is relation between energy security and other security dimesions. We can say that all these requirements have revealed the necessity of doing this study.

Just as all the important factors of the economy are, energy has its own security system which involves the trio of supply, demand and transit security. There are many different definitions of energy security in literature. But we can say that the broadest definiton is done in a study of Kocaslan which is ‘’Energy security is the uninterrupted availability of energy sources at an affordable price taking account environmental concerns and sustainable development’’ (Kocaslan, 2014, p.735). In this definition affordable price represents supply, uninterrupted availibility represents demand and the connection between them represents transit.

As it can be seen from this broad definition, energy security has 3 subdivisions. But in many sources we couldn’t see any seperation between those 3 subdivisions. Even countries cannot separate the subdivisions of energy security as Tippee determines in his article the countries who depends on imported energy resources see energy security on supply security, the countries who sell the energy resources see energy security on demand security (Tippee,2014). On the other hand there are countries between those suppliers and demanders who see energy security as transit security.

This incognizance of seperation of subdivisions of energy security has brought a chaos to energy market. Because of one sided approaches to energy security demand and

supply equilibrium couldn't established by actors and it led to market crisis like OPEC oil crisis 1973. As Andrews stated about oil market in his article ''Demand is unresponsive to price in the short run, yet growth in supply is lumpy and capitalintensive, and hence it is difficult to balance demand and supply. Natural equilibrium is unlikely, so both consumers and producers seek external interventions that improve price stability'' (Andrews, 2015, p.17). This situation brought energy market to have a fragile structure. Especially from mid 1900's this situation has been increased. So the energy market had to be more internationalize and liberalize because as you can see from the information beyond the energy market is involving a great dependency between actors.

When increase in using energy resources has been one of the most important inputs of production the dependency between suppliers, demanders and transporters also increased. So economic development, technological development and GDP per capita of countries have been effected. In study by Ozturk (2014) energy dependency and security, issues has been evaluated in cases of energy efficiency, energy conservation and energy security. According to him the countries who import energy resources are in a bad situation because they coudn't find alternatives but the countries who has two roles in sector, as transporter and demander, are the most advantageous countries because they can be demander, supplier and transporter in same time. So they can also increase their international importance by those roles. This situation is one of the most important eveidences of connection between International Relations (IR) discipline and energy security. Because every issues about international system have some places in IR theories.

In case of international relations theories each subdivision has some meanings in specific theories. The IR theories which have approached to energy issues from different directions will take place in this study. And it should be mentioned that, sometimes different branches of same theory can be differentiate in terms of approaching to energy issues.

Realist theories mainly depends on power and self interests of states. According to Mearsheimer as a neorealist, there is an anarchy in international system and states are selfish, because of this selfishness there is a power race between states so states can use everything to be more powerful (Mearsheimer,2001). So it can be said that as an instrument of economy energy can be used as a tool in order to increase state power. But

every subdivision of realism has different approaches to the energy issue. As Česnakas mentioned in his article (2010) Classical realists have examined to this issue by a state centric approach, neorealists have added international system to the state centric approach and lastly deffensive realism has different approach it takes both state and international system equally but for deffensive realists ‘’more power means more security’’ (Česnakas, 2010, 41).

In case of Liberalism situation is different. According to liberal view the most effective way to achieve peace and security in the world is cooperation, actors should be more cooperative and peaceful, especially in case of economy, because being alone and offensive in international system is equal to being weak (Skekic et al. 2016). So energy as an economic instrument can be used as an effective peacemaker in international system.

Another important IR theory which can be related to the energy security is historical materialism. Actually historical materialism is more an economic theory but international relations side of this theory is important as well. As a sub-theory of historical materialism, the world system theory of Immanuel Wallerstein is the best theory which can explain the energy security with its subdivisions. According to world system theory the world system made up from gruops of countries which are core, periphery and semi periphery those groups are like the Marx’s social classes and the economic relations between them designate the order of international system (Wallerstein,1984). In the case of marxism energy play its role as one of the main determiners between different states.

Another IR theory is constructivism which has some assesments about energy security issues. As Japardize and Roubanis mentioned in their study ‘’Constuctivism approach places an emphasis on the context of the importer-exporter relationship, because natural resources are ultimately the means to a socially defined end’’ (Japardize, Roubanis, 2012, 5). This approach give more importance to transit security and transit countries.

As we can understand from the approaches of International Relations theories, it is easy to find some connections between energy security issues and IR theories. The absence of a work in the literature that can directly link the theories and areas of

energy security is a major drawback. The main aim of this study is concretely show the links between theories of international relations and the subdivisions of energy security by the following forms, respectively: Firstly if realist approaches applied to energy security issues it can be said that the suppliers are using their sources as tools for increasing their power.

Secondly it can be said that application of liberal theories to the energy security issues can be in terms of both trade and peace processes. And it can easily seen, the importance of trasit countries who have chance to be both trade ways and mediators between supplier and demander countries so they can easily create the economic relations and peace by connecting different states.

Lastly application of world system theory as a subtheory of historical materialism to the energy security can be by putting each subdivision to each group of the system. Suppliers are standing on the core, demanders in periphery, and transit countries standing on semi periphery where they are providing the connection between core and periphery. Energy has some direct and indirect roles in both economic and technological developments. The countries who have energy resouces could be rich But it doesn't mean that having energy resouces is being developed it is all about the purpose of using energy. We can see some suppliers as developing countries like Arab countries but some of them are most developed like US, demanders covers all groups that aredeveloped, poor and developing cuntries and most of the transit countries are developing ones (Lloyd, 2017). This situation shows how paralel the using purposes energy with the development rate.

From the mid 1900's till 2019 the structure of energy security has changed many times but none of them couldn't reach the sustainability in energy sector. Because of the changes in both needs and strategies of states. Those changes have brought some moves to world economy which known as liberalization moves because of those moves mass-production has increased rapidly and states have became more dependent to energy sources. Especially the time period between World War II and OPEC (Organisation Of Petroleum Exporting Countries) oil crisis this dependency reached its peak.

After 1973 OPEC oil crisis a new era started for world energy and it continued until the end of Cold War this was another turning point because there were a lot of changes in bipolar world system on that time. Now we are living in age of globalisation and the time situation is same for energy issues in world economy and interstate relations so there should be a sustainable and effective energy sector in order to meet the needs of humanity.

The most proper way to have a sustainable energy sector structure is practically liberalization and theoritically internationalization which can carry the issues of energy sector from local level to international level. This can be possible just after determining each subdivision of energy security separately and related all of the subdivisions with IR theories in order to have some foresights about the strategies of actors of international system in case of energy both in consuming as a source and using as a strategical tool, this is the main contribution of this thesis to the literature.

This contribution will occur by applying following qualitative methodology: In this study firstly we will define, examine and divide energy security and its subdivisions by using some historical and an theoritical sources, secondly we will show the connections between international relations and energy economy both theoritically and practically by using some examples from early practices of world history. As a result of those activites we will find some suitable strategies to apply each of the world's energy rich regions (Middle East, Caucasus, North America, Russian Peninsula). And as a conclusion we will show the connections between energy security with other dimensions of security under the lights of findings.

As it can be noticed from the literature review, energy security is generally processed under the name of supply security and although this phenomenon is close to the discipline of international relations in practice, in theory this situation is not underlined as necessary. On the other hand, the relationship of the energy security phenomenon with other branches of security has not been found to be sufficient in the literature. All these data, previously mentioned as the lack of literature, have been the main source of motivation for the formation of this study. With this motivation, this study aims to examine and elaborate energy security in three different branches as supply, demand and transit security, and after this distinction is made within certain limits, it is

planned to place the energy security phenomenon on the theoretical level in the international relations discipline. Finally, it was envisaged that the relations of energy security with other security branches should be shown. In short, this study, the main motivation of which is composed of three different needs, will be carried out within the framework of a certain methodology and concluded. In addition, some policy suggestions that will be said to be a motivation for the study will be presented in the conclusion part.

After collecting and refining all of the related information about the topic of study, final order of thesis will be as follows: firstly, basic classsification of energy sources and short history of each source. After those historical information the issue of energy security will be explained in details and each subdivision will take part in the study. By giving historical examples and technical definitions the energy security issue will be ready for connecting with international relations theories. Than theories and subdivisions of energy security will be melt in same pot in order to show the effectiveness of energy security in other security dimensions. Finally after showing the place of energy security in other security dimensions the thesis will be end with final findings and foresights about energy issues in the international system.

CHAPTER 2

2.HISTORY AND REVIEW OF RESOURCES

Energy is one of the basic needs for the life. Every living creature needs energy to maintain living activities. So, energy has horizontally developed with the world or we can say that it has direct proportion with technological developments. History of energy sector has all most same lenght with history of humanity. As in history of humanity, from the first time when people used energy till current times many developments have happened in energy sector. Every energy resource has its own journey until the history of humanity.

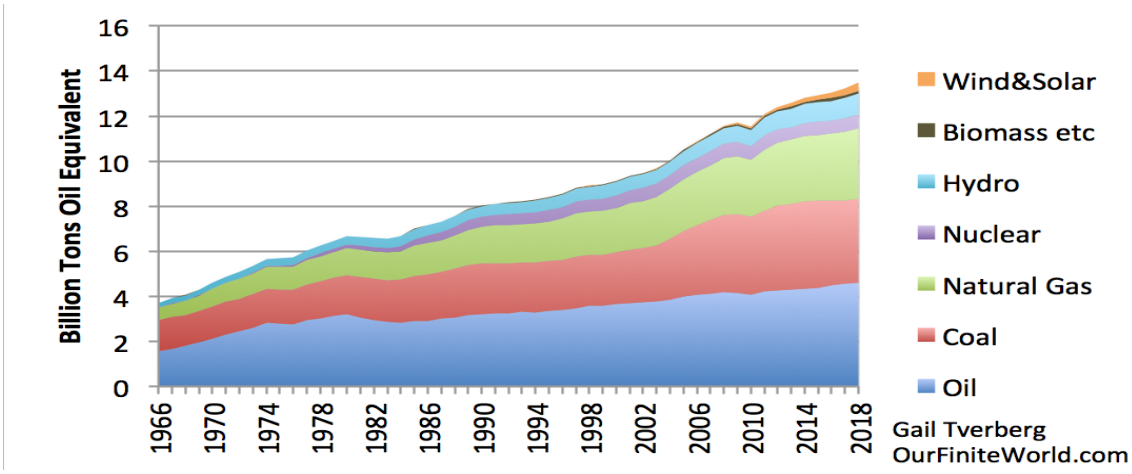
The invention of fire was the most important turning point for the energy sector, even we can say that it was the beginning for the energy sector, because it was the first time when people became aware of burning materials or sources. Fire, as an effective invention has converted people's life to easier status and made the life more comfortable. People began to use fire in daily life and production has started. They have started cooking foods, melting hard materials and cooking mud in order to make some materials for daily use. As Gowlett mentioned in his article ''Fire has underpinned the development of all modern technologies—from ceramics, to metal working, to the nuclear industry''(Gowlett, 2016, p.1). In same study Gowlett (2016) mentioned that first fire tracks have seen arround Kenya and according to findings fire invented arround 200,000 BCE and people have used pieces of biomass like wood and animal remains as their first fuel. So according to this information we can say that wood and animal remains are the first energy sources of civilization.

By the invention of fire production has increased and horizontally the need for bigger and stronger fire has also increased. Even people have began to search for alternative energy sources. As Newton (2015) mentioned in his book, just fire which

burned with biomasses was not enough to meet peoples need so they started to search for alternative ways to meet their energy needs. As he mentioned in his book archeological findings show that passive solar systems have used for heating firstly 500 BCE by Greeks than those systems had spread from Greeks to other civilizations like Romans, Egyptians. Even some of todays solar systems carry some traces from the solar systems that used in ancient times.

Fire and passive solar systems are the first and most basic use of energy sources in world history. But those methods couldn't meet the needs of human society because population has rapidly increased. It means that the search for alternative sources has continued. These early inventions are for using energy sources. After seeing usefulness of energy in everyday life, people have directed to explore new sources of energy. After long research, mankind has reached more effective sources to start mass-production and to live a faster life. It is a fact that will not be discussed at all, all kinds of energy resources have a large share in the technological developments and the process of transit to mass production. In order to make a more detailed examination of energy sector , we will examine the energy sources in sub-headings, including fossil resources, renewable resources, and nuclear energy

Graph 1. World Energy Consumption



Source: BP, 2019

2.1 Fossil Sources

Fossil sources are one of the first and earliest effective sources of energy. Most of the world energy resources are fossil sources. It is an indisputable fact that fossil energy sources are both highly effective and contribute greatly to the development of modern society. Coal and natural gas used in heating our homes today, gasoline and its derivatives used in transportation vehicles, petroleum products used in factories, are examples that can be given to fossil energy sources. In spite of all these good aspects, the environmental damage caused by the burning of some of fossil energy sources cannot be discussed. Although there are various benefits and harms, the place of fossil resources in energy production is very large. As mentioned above, fossil fuels used in various areas of life have been discovered and used cumulatively in different periods of history. As industry evolves and human needs differ, the areas of use of resources have changed and differ depending on these. Human beings have used coal, oil and natural gas as the major fossil energy sources in various fields.

2.1.1 Coal

Coal is the oldest fossil fuel that used by mankind. As Dodson et al. (2014) stated in their article coal firstly founded in the North part of China and the province close to Mongolia. Yet in that time people didn't know how to use it as an energy source. In another study Bronson mentioned about the first use of coal as an energy source. He says according to historical records and findings coal firstly used in blast furnaces at different parts of China between the dates of 200 BCE -AD 9 (Bronson, 1999). Those dates were the periods of bronze age when people can shape metal tools by using fire. By using coal people were burning bigger and effective fires to heat and shape metal tools.

At the beginning coal was just used in China so production which under the effect of discovery of coal was not effective enough because chineese people didn't have enough technology to use coal more effectively. After spread of coal use to other parts of the world there were some developments in effective use of coal as an energy source. People have started to use coal for heating, cooking and feding big fires to melt and shape metal materials. But actually we couldn't see enough effective use of coal in industrial production until the industrial revolution in Britain.

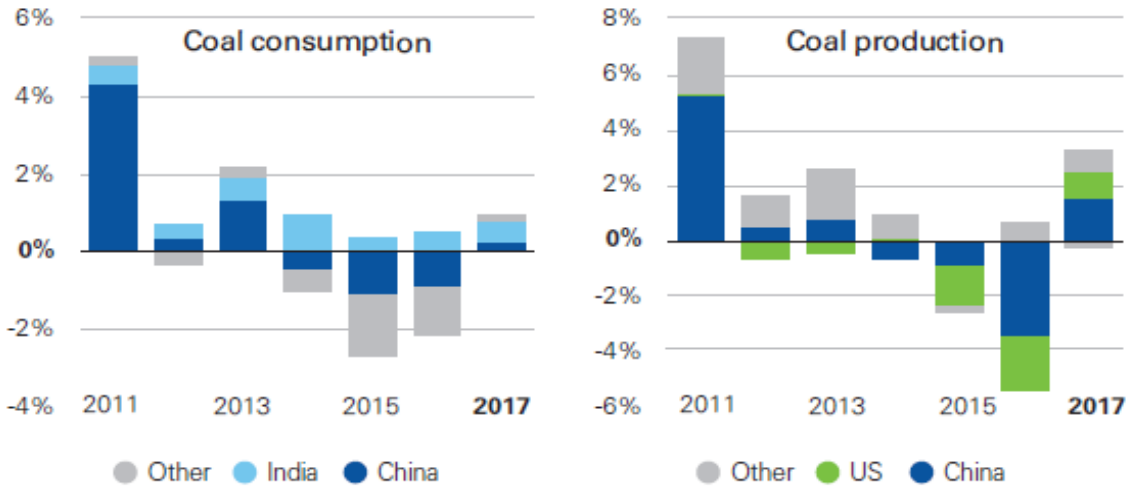
According to sources there is no single event which can seen as the beginning of industrial revolution. But in paralel with the continental developments in europe we can say that industrial revoulution has began to sprout in early 1700s. Population growth has rapidly increased in that time. As a result of this situation the needs of population has also increased. This increase in people needs led to new developments in any sector. But the most significant developments have experienced in energy sector, as it is stated in Oxford Big Ideas Geography/History the developments in the energy sector in that period are respectively as follows: in 1709 Abraham Darby discovered how to make coke from coal which is a more efficient fuel in the production of iron, in 1710 Thomas Newcomen built a steam engine to pump water from coalmines, in 1775 James Watt created an efficient steam engine and as a result of this development in 1779 steam powered mills with automatic wevaing machines began to be built than in 1792 William Murdoch firstly used coal for house lighting (Easton et al., 2013, p.270). Those developments represent the first part of industrial revolution and all of them are due to coal use. Because the common material which used in those inventions is coal.

Those examples are the early examples of the effective use of coal in industry. After the developments in technology and industry coal started to use in every branch of industry. But the real turning point was the invention of steam locomotive in 1804 (Ross, 2007). By this invention coal has started to use in transportation sector so it has gained more importance. Actually in parallel with the developments in undustry importance of coal has been increased day by day. When the industrial development reached its peak at that time, coal could not even meet the energy needs of the industry, and people began to look for new and effective energy sources.

All these developments do not mean that coal has been abandoned; but people began to turn to new sources more effective than coal. Because new technologies and resources are rapidly spreading to meet the needs of industry and daily use more effectively than coal. Nowadays, China, which currently holds 40% of the coal market, is at the top of both production and consumption of coal has began to decrease coal usage. According to 2018 BP statistics, the decrease in the demand for coal in the world, especially the decreasing in coal usage caused by environmental factors, and the developments in renewable and clean energy.

However, if Asian countries, especially India, maintain the same trend in development, it is expected that regional coal consumption will increase and that the region will be the world's largest coal market by 2040 (BP, 2018). Coal is still being used in many fields, although the ever-evolving and changing industrial activities have started to use new sources.

Graph 2. Changes in World Coal Market



Source: Bp Satatistical Review of World Energy, (2018), Pp.6

2.1.2 Oil / Petroleum

Oil is one of the fossil energy sources, although it is a very new energy source compared to coal, it plays a leading role in both production and consumption among fossil energy sources. As Yergin mentioned in his book (2008) the first oil used for commercial purposes was found in Titusville, Pennsylvania on August 27, 1859, during searches to remove kerosene by Edwin L. Drake. However, according to historical sources, this is not the first oil to be extracted. In fact, the use of petroleum, which is almost the same age as coal, has gained importance since the year 1859, when it began to be used in large quantities, since it was being used for commercial purposes through the innovations brought by the industrial revolution.

As Hassan stated in his study, oil emerged in ancient times in various ways and used by people for different purposes (Hassan,2013). The petroleum, which is thought to be used by the Sumerians, Babylonians and Egyptians, is generally used as a raw material

in bitumen production, in the construction of irrigation canals, in the bonding of the materials and in the burning of fire. According to Hassan's researches the first huge oil supply found by Chineese arronund 600 BC. It is thought that this oil found in the salt cave is found by chance. After this discovery Chineese started to use oil in various ways. Unlike other civilizations, Chineese also used oil in the construction of war instruments and in wars. According to some accounts, Alexander the Great learned the use of oil after encountering the Babylonians and the Chinese. (Hassan,2013). In fact, human beings found oil too early, but could not use it. It is possible to link this to technological developments. The lack of adequate technology has prevented the use of oil in the production phase and has only been used to eliminate basic needs such as fire and lighting.

It is an important fact that a significant amount of technology is needed for the processing of crude oil and the production of various products from crude oil. The 1700s, considered the beginning of the industrial revolution, began to signal that human beings would reach this technology. Especially the use of steam power in production and transportation increased the need for new and more potential energy sources. Precisely on these developments the discovery of the commercial side of oil has been a great step for humanity. The importance and value of the oil, which meets new areas of use in sectors such as transportation, industry, construction and chemistry, have increased in a short time. In particular, the invention of oil-powered engines became a turning point for oil, because oil, which had previously been of industrial importance in the first place, began to be more in contact with human life by using these engines in various means of transportation.

The oil, which started to make life easier by means of being used in transportation means, has gained its real role in human life and human history in time. Due to the increase in usage areas and consequently the increase in the need, oil, which is a simple energy source at the beginning, has increased its power and importance in world history. As Vaitheeswaran stated in his article ''Despite years of oil guzzling and countless doomsday predictions, the world is simply not running out of oil. It is running into it.'' (Vaitheeswaran, 2007, p.24). It is very difficult disagree with him because the oil demand of the developed and developing countries has increased day by day and continues to

increase. The increasing oil need had serious consequences for the world, some of which were positive and some of them were extremely negative and destructive.

At first glance it is possible to link the increase in oil demand to technological developments. Although this may seem positive; the negative results resulting from the elimination of the increasing need as a result of accelerating technology have become almost equivalent to the positive reasons that cause the need to increase. The competition between countires, which aroses from the race of eleminating their needs and, envoironmental pollution are just some of those negavite results.

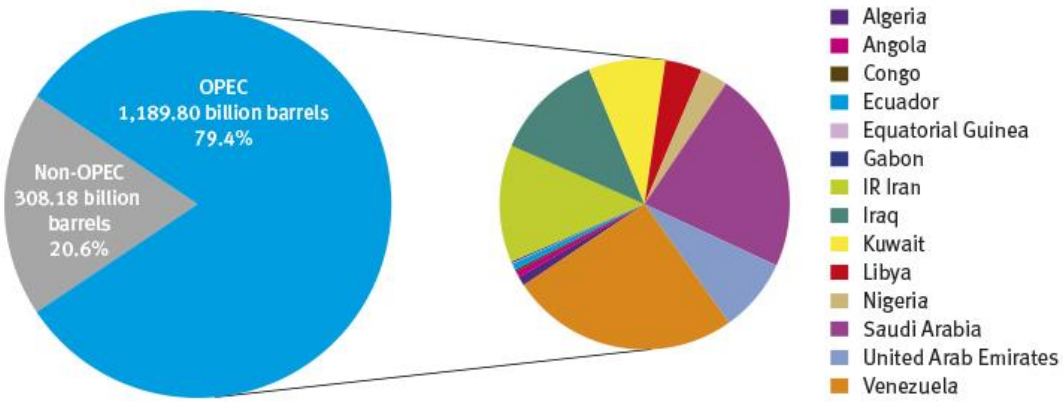
Although the positive and negative aspects were discussed, the necessity of eliminating the oil need was an important fact. It was also a fact that almost all countries in the world were in need of oil, and not all had oil. In this case, the inevitable oil trade started and new developments took place in international order. The beginning of this trade was increasingly fueled by the difference in resource and development between countries with oil and those without oil. After the World War II, the international order gradually became more important and the international institutionalization increased and also the commercial order improved.

These developments, which we can call as global liberalization move, were reflected to the oil market as cartelization and OPEC was established as a result of this response. ‘’The Organization of the Petroleum Exporting Countries (OPEC) is a permanent, intergovernmental Organization, created at the Baghdad Conference on September 10–14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The five Founding Members were later joined by ten other Members: Qatar (1961); Indonesia (1962)’’ (OPEC, 2018).

The countries that established OPEC were the most prosperous countries in terms of oil. They made this move to turn this presence into an opportunity and to dominate the world oil market. This move was a very important move for the future of the oil market because it was obvious that increasing competition and pressure would lead to cartelization in the market. The importance of OPEC in the historical sense is that it will increase the competition in the oil market and lead to cartelization.

Oil has a relatively long history since it is a relatively new product in terms of industrial use; but since it was discovered, it has gained importance in daily life, industrial production and international system. Although it has not been 200 years since it has been used for production purposes; having direct or indirect contribution to the production processes is the best reason fort he rapid gain of importance in industrial sector. When we take production as the basic sector, it is possible to reach a conclusion that oil has a very important place in all the sectors that are connected. This shows the clear impact on supply-demand and transit security that we will see later in the study. It is an undeniable fact that oil has a key role in energy security and it will continue to be because of this importance

Graph 3. OPEC Share Of World Crude Oil



OPEC proven crude oil reserves, at end 2018 (billion barrels, OPEC share)

Venezuela	302.81	25.5%	Kuwait	101.50	8.5%	Algeria	12.20	1.0%	Gabon	2.00	0.2%
Saudi Arabia	267.03	22.4%	UAE	97.80	8.2%	Ecuador	8.27	0.7%	Equatorial Guinea	1.10	0.1%
IR Iran	155.60	13.1%	Libya	48.36	4.1%	Angola	8.16	0.7%			
Iraq	145.02	12.2%	Nigeria	36.97	3.1%	Congo	2.98	0.3%			

Source: OPEC Annual Statistical Bulletin (2019)

2.1.3 Natural Gas

The increase and diversification of industrial production has increased the dependence on energy resources considerably. Depending on this situation, it has emerged as a need to turn to new energy sources. Natural gas is one of these new energy sources. The discovery of natural gas, such as oil, dates back to the ancient ages; but the beginning of industrial use is very new. Although natural gas, which was used for various purposes by the Greeks and Chinese in prehistoric times, was first used for commercial

purposes in the 1800s in the areas such as lighting and heating, it started to be used in mass production processes in the 20th century (APGA,2018).

With the development and diversification of technology, natural gas started to occupy more space in human life. Considering environmental factors and cost benefits, it has become more preferable than coal and petroleum. This has led to more use of natural gas in areas such as heating, cooling and lighting. In addition to these, natural gas vehicles produced in the automotive sector have started to become more widespread (TMMOB, 2018).

With the expansion of natural gas, its commercial value has also increased. Due to the increase in commercial value, natural gas has become a strategic importance like petroleum. The commercial and strategic value of natural gas has increased continuously in Europe and the surrounding region, which started to be restructured after World War II. Especially in 1960s, the industrial moves by the Soviets increased the share of natural gas both in the world energy market and the share of world politics in a very fast manner (Radetzki, 1994).

Natural gas is the last used fosil fuel in mass production processes but it is also the fastest rising fosil fuel. Because of this fast rising the countries which have natural gas also developed faster in terms of economy. Although it is not as much as oil, it is possible to say that natural gas has a very serious economic return. It is not surprising that natural gas, which has started to dominate production processes due to the environmental problems arising from carbon emission, dominates the industry in the future (BP, 2018). When we say that such a fate is waiting for production, it is not possible to deny that one of the most important sources that will determine the future of the international system will be natural gas.

On the other hand, the discovery of shale gas, a different form of natural gas, and its use as a source of energy are also important development in the world gas market. Shale natural gas is organic matter-rich clay and quartz and calcite minerals found in the small pores of the sedimentary rock and can be transported to the ground by horizontal drilling and hydraulic crushing methods, the alternative to natural gas between non-conventional gas energy sources (Hürriyet,2018). Shale gas could be one of the most

valuable energy sources on future. According to the records todays natural gas wealth of the world enough for just 60 years. But shale gas added calculations increased this length to 250 years. Becuase of being one of the best alternatives to the current energy resources some countries like USA and Canada started to invest on shale gas production projects. And some energy rich countries are ready to use their shale gas potential to change world energy market. The best example of this is Russia who has enough shale gas source to change european energy market (Sevim, 2014).

Although fossil energy sources seem to be in place of each other, it is possible to find all of them in production processes and energy production stages in today's world. As human beings change themselves and the environment through new discoveries, they have turned to resources that can generate more energy to meet their increasing needs; however, these orientations had a diminishing effect on the use of old resources but had no destructive effect. Coal is still one of the most important energy sources, although the importance of coal is reduced by the presence of oil. Or the presence of natural gas did not reduce the commercial value of oil. The effects of these resources on each other are only in the areas of use. For example, natural gas and shale gas, which are cleaner and more useful in heating, coal which is cheaper than others uses in electricity generation (Breeze,2010) and lastly petroleum which more accessible and useful has been used in transportation.

As a result, the place and importance of fossil resources in the formation and development of the world energy market is enormous. Due to the technological developments these resources, which substitute each other in fields of use, have been replaced by other sources in various usage areas.

2.2.Renewable Sources

In today's world, where the production structure is constantly changing and evolving, diversification of energy resources has become an important condition for series and regular production. In this context, the processing of existing resources with new methods increased productivity and in some cases facilitated production processes. Renewable energy sources are of great importance at this point. Renewable resources have been used throughout human history because of their easy accessibility and

environmental benefits. As mentioned before, the need for energy sources, which started with the invention of fire, was first met with biomass as one of the renewable energy sources. Then, solar energy, water energy and wind energy are the other renewable energy sources that are being used as a result of increasing and changing needs due to technological and social developments (Bithas & Kalimeris, 2016).

As it mentioned before biomasses are one of the first energy sources of humankind after the invention of fire. ‘’Biomass is a term used to describe all organic matter produced by photosynthesis, existing on the earth’s surface’’ (Sriram & Shahidehpour, 2005, P.1). As can be seen from this definition, biomass is an energy source that is cleaner and easier to find than other energy sources that contain carbon. Biomass is found in five ways in nature: wood and agricultural products, solid waste, landfill gas and biogas, ethanol, biodiesel. These products, which are formed as a result of photosynthesis, are mostly used as alternative energy sources because they contain small amounts of carbon in their structures. Therefore, they are mostly used in the agricultural industry for cooking, for direct burning in heavy industry and for heating in daily life (Türk, Çelik, 2006).

Another type of renewable energy source is solar energy. ‘’Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as Solar heating, photovoltaics, solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis’’ (Barai, 2017, P.1132). As it can be understood from the definition solar energy has been using in various areas of life. Historically it can be said that the solar energy is a old as human being. Because, when the human being is created and sent to the world, the first energy source that it encounters is the solar energy.

Solar energy has continuously contributed to the development of humanity. Firstly it has been used for drying of agricultural products than it has started to use for heating and ventilating of houses. And also it the solar energy has been used for some specific purposes. For example in 214 B.C. Heron of Alexandria has constructed a water pump which running with solar energy and as another example Archimedes of Syracuse used solar mirrors to fire the Roman ships (TOOL, 1990). The use of solar energy has increased nowadays. This type of energy, which has become an important alternative to

fossil fuels especially in electricity production, is demanded more than in the past due to the fact that it does not harm the environment and is completely natural.

As it seen in the examples given earlier, renewable energy sources are all natural sources and have a certain circulation within the natural cycle. Another example of this type of energy sources is water energy. Due to its fluid structure, water contains significant kinetic energy. This kinetic energy is converted into electrical energy by hydroelectric power plants. According to historical record hydropower firstly used in Greeks allmost 2000 years ago. But not as form of electricity (TOOL, 1990). At that time, people used the power of the water flowing from the rivers to turn the mills. They were using this method for grinding wheat.

The first use of hyropower as a source of electricity dates back to the 19th century. ‘’In the late 19th century, the force of falling water was used to generate electricity. The first hydroelectric power plant was built on the Fox River in Appleton, WI in 1882’’ (NEED, 2015). Before that, there were some projects in England, but they couldn't produce energy for more than a single bulb. Hydroelectric power plants have been continuously increasing since the 19th century.

Nowadays, it is possible to see one or more hydroelectric power plants in almost every river with sufficient flow. An important part of world electrical energy production is provided by water power. Although the establishment of power plants may cause some environmental changes, hydroelectric energy is less harmful to the environment than the electricity generated from coal and other fossil sources in terms of being renewable and not causing carbon emissions. Therefore it is preferred.

Another renewable energy source is wind, wind energy is one step ahead of other renewable energy sources in terms of sustainability. Because, from a comparative perspective, the duration of wind utilization is both longer and more permanent than other renewable energy sources. In fact, the wind is the air in motion. The sun does not heat the whole world on the same level.

These temperature differences bring pressure differences. Air flow from high pressure areas to low pressure areas is called as wind (NEED,2016). According to historical records, According to historical records, the first devices in which wind was

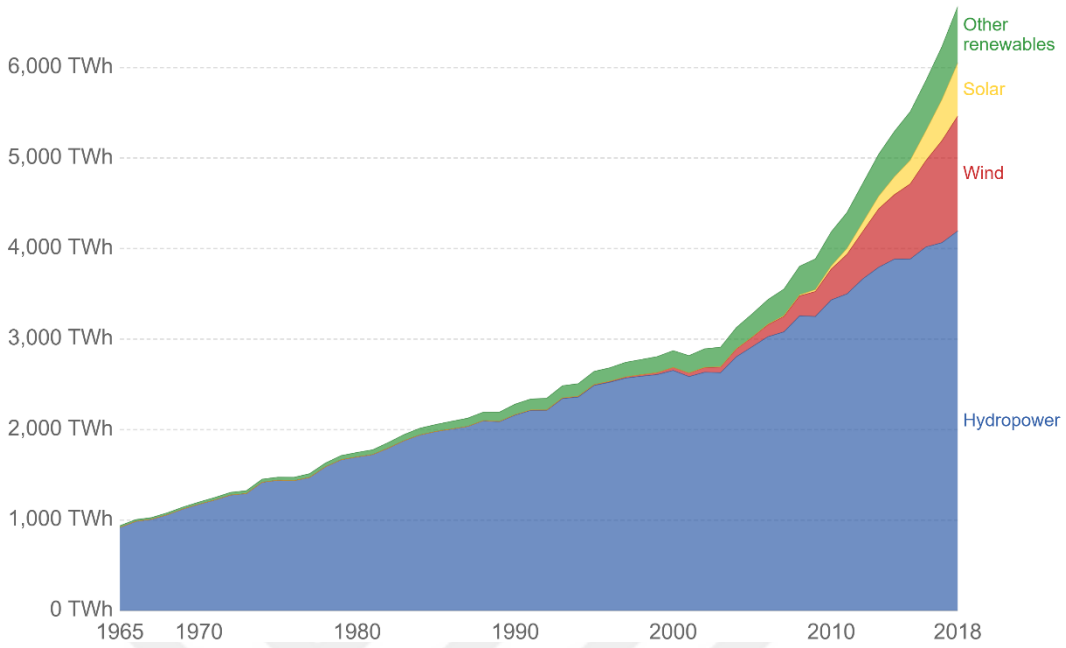
used as an energy source were seen in the basin between Iran and Afghanistan arround 200 BC. Like the mills where water power was used before, wind power was also used through windmills.

The use of wind power has started to increase significantly after this time and it has started to be used in drilling wells in order to pump the domestic water reaching up to the continent. Then in 1888 wind power was developed and windmills evolved into wind turbines. By this means, maximum benefit was obtained from the wind and an important alternative to energy production was revealed (Kaldellis, Zafirakis,2011). Wind energy, like all other renewable energy sources, has started to be preferred today due to its low cost and not to harm the environment. It has become a very important source of energy especially in regions exposed to constant winds due to climatic conditions and landforms. Another feature of this energy source is that no changes in the nature occur in the installation of the facilities required for its use.

There are also different types of renewable energy: geothermal energy, wave energy and tidal energy; however, they do not find much space in the energy market due to their energy potential and address coverage. It can be said that only geothermal energy has an importance due to its connection with the health sector through healing waters. On the other hand, it is used for heating in some regions.

All types of renewable energy, as can be seen from the examples and history, due to the carbon emissions and the low damage to the environment, today began to be more preferred. On the other hand, the classic energy sources: coal, oil and natural gas are starting to decrease in these days so renewable energy has become an important alternative to the world energy demands. Countries that have difficulty in accessing other energy sources have begun to focus on the use of renewable energy sources instead of looking for classical energy resources in their own territories and have started to look for ways to make more use of their potential on renewable energy sources. The results of these searches have led to various developments in the world energy market and have caused various changes in the energy supply-demand relationship.

Graph 4: Total Renewable Power Generation Capacity



Source: BP (2019)

2.3.Nuclear Energy

As a result of the excessive use of fossil energy sources in production and other processes, the world faces two different threats, both economic and environmental. One of the measures that can be taken against these threats is to spread the use of renewable energy sources; The quantitative lack of energy produced by using renewable energy sources has revealed the necessity of supporting this energy production with more intensive resources. In this context, nuclear energy, which is a source of energy, emerges. ‘’Nuclear energy is, energy that is released in significant amounts in processes that affect atomic nuclei, the dense cores of atoms. One method of releasing nuclear energy is by controlled nuclear fission, another method for obtaining nuclear energy, controlled nuclear fusion’’ (Britannica,2018). In summary, nuclear energy is the kind of energy that is the result of revealing the potential energy in the nucleus of the atom as a result of various chemical reactions.

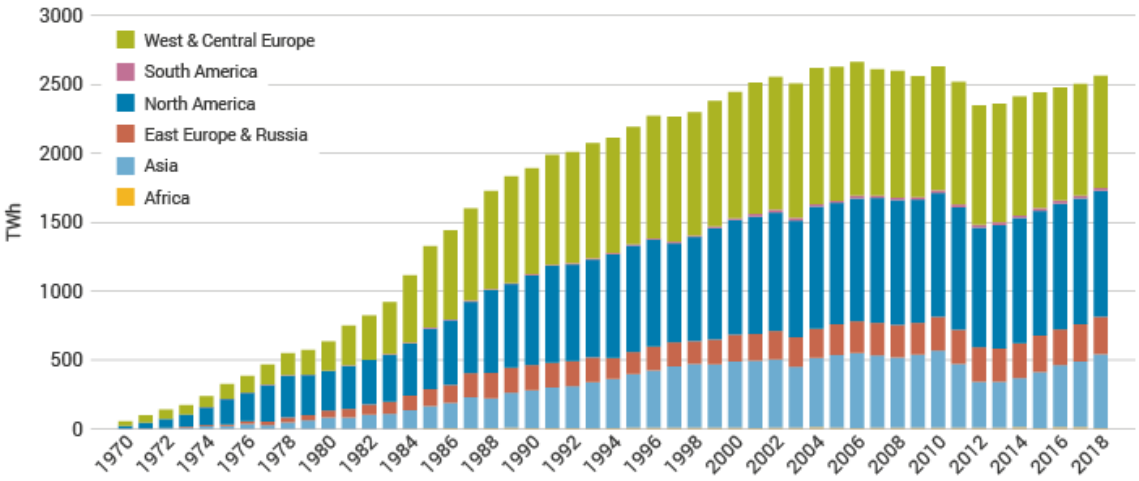
Nuclear energy has a more recent history than other energy sources. As can be seen from the way of obtaining, it is not possible to produce nuclear energy without

reaching a certain technological level. Particularly after the industrial revolution, the rapidly developing scientific world started to work on the atom from the 18th century. As a result of many physical and chemical experiments on the atom, atomic physicists in the early 19th century found that there was a large amount of potential energy in the atomic nucleus. British scientist Ernest Rutherford, who works on atomic physics and is known as the father of nuclear energy, claims that as a result of his long studies, by taking control of the nucleus of the atom, significant energy can be obtained from a small atomic fragment (U.S. Department of Energy,2018)

With these claims, as a result of increasing studies, atomic physics began to develop. Chronologically, first, the physicist Enrico Fermi, in his experiments with the protons in 1934, saw a considerable amount of energy emerge in the nuclear division reaction. Then, in 1945, the United States made the first nuclear weapons test (Nükleer Enerji Dünyası, 2017). With the success of these tests, America used these weapons in the second world war. The nuclear energy sector, which began to develop further, developed during the cold war. At that time, the nuclear energy used for military and security purposes than it began to be used in energy production. The fact that the energy generated by the nuclear activities is significantly higher than the energy obtained from the classical energy sources, has given rise to the production of electricity from the nuclear power plants especially in the countries with sufficient technological facilities.

Nowadays, many developed and developing world countries produce a significant amount of energy through nuclear power plants. The main reasons for this situation are the problems experienced in the supply of classical energy resources and the amount of energy obtained from the unit value in the production of nuclear energy. Nuclear power generation, which has a history of nearly 90 years, continues to be used because of its efficiency despite having serious threats to human and environmental health. In fact, it can be said that nuclear energy is an alternative to classical energy sources before renewable energy sources in most countries.

Graph 5. Nuclear Electricity Production of Continents



Source: World Nuclear Association, (2019), IAEA power reactor information service

Energy phenomenon and energy sources are of great importance in terms of human history. In this long journey, starting with biomass and extending to nuclear energy and shale gas, history has witnessed many events and has recurred for almost every type of energy. In order to meet energy needs of humanity these developments have almost never ceased to exist throughout the history due to technological opportunities and the increasing human needs. This situation has also revealed a constantly changing and developing energy market. The energy market, which was based on regional resource trade in the past, has spread all over the world due to logistic facilities and extreme needs and has gained a global dimension. In particular, the free market economy, which emerged with the development of liberal economies, led to unstoppable mobility in the energy market.

The countries that do not have an energy source have developed various relations with the countries where the resource is located and started to look for ways to meet their energy needs. This situation has also been reflected in global trade because countries that need a lot of energy resources are mainly developed countries in the industrial sense, and most countries that generate income from sales of energy resources are relatively underdeveloped countries. This situation led to the flow of sources from underdeveloped to developed and flow of product from developed countries to underdeveloped countries.

All these developments in the energy sector have transformed the energy trade from being a commercial activity to which all parties benefit, making it a ruthless race where everyone tries to beat each other. Just as the colonial race that started in Europe in the 16th century, there was an endless source race, especially among the great powers. This situation led to various groupings and lobbying activities in the international order. The last 70 years of world history is full of examples of challenge for energy sources. As a result of the need for energy resources, countries with energy sources have started to use these resources as leverage against energy demanding countries. On the other hand, countries in need of energy resources have started to intervene in to the countries who have energy resources, various ways by using their power in the international system. This situation revealed the need of securitization of both energy resources and energy trade in international system.

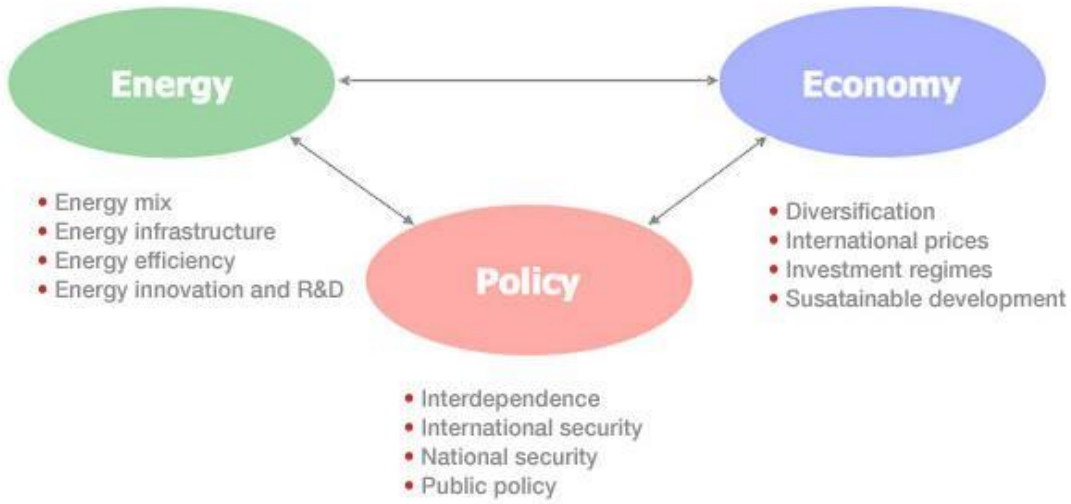
CHAPTER **3**

3.ENERGY SECURITY

Economic growth and development is one of the most important tasks that must be realized by all countries in today's world order, in order to survive in the international system. In terms of economic growth and development, production is a process that must be sustained. There are variety of production processes in todays world industry. Yet, all of them has a common need which is energy, to sustain their activities. This situation is one of the inevitable facts of current economic system. But another important fact of current economic system is that energy sources are not available in the same type or quantity in everywhere. So, the world energy sector has been emerged as a result of this unequality between the owners of energy sources.

The energy sector explained by James Chan in his review ‘’as a category of stocks that relate to producing or supplying energy. This sector includes companies involved in the exploration and development of oil or gas reserves, oil and gas drilling and refining, or integrated power utility companies including renewable energy and coal’’(Chan, 2017, p.1). This definition encompasses only the part of the energy sector related to the production and distribution of energy resources. The sector also has a demanding part, which has a significant volume. In fact, it is also the demanding part that plays a key role in the formation and sustainability of the energy sector.

Figure 1. Relations Between Energy, Economy & Policy



Source: ENERGY SECURITY: TODAY AND TOMORROW- Scientific Figure on ResearchGate.

Briefly summarized, the energy sector is an economic sector composed of three groups of actors and shaped according to the dependency relationships among these actors. These actors are the supply group formed by the energy producing countries, the demand group that has to meet the energy demand from other countries due to lack of resources and the transport group that plays a key role in the transportation of energy resources. The relations between these groups, which are the stakeholders of the energy sector, are of great importance for the future of the sector. Because each is a separate carrier column of the sector. The balance between these carriers and the efficiency and continuity of the sector are directly proportional. Even this balance is so important that any discrepancy between the actors can have the potential to undermine the whole sector.

The continuity and effectiveness of the energy sector is possible by providing several elements: availability, accessibility, acceptability and affordability which are four A's of energy security. When one or more of these elements are disrupted, it is possible to encounter total movements in the energy market (Cherp & Jewell, 2014). At this point, the phenomenon of energy security emerges. Energy security simply can be defined as ''The uninterrupted availability of energy sources at an affordable price taking account environmental concerns and sustainable development.'' (Kocaslan, 2014, p.735). As itcan be seen from the definition, each element within the four A is of special importance for energy security. Similar to the Kocaslan's definition APERC (The Asia Pacific Energy

Research Centre) undermines the 4 A of energy security in its definition. For APERC performance of any economy depends on the strong and sustainable management of those four A's of energy security because energy is one of the most important determinants of economic performance (Hughes&Shupe,2010).

According to Barton (2004) the energy security concept is not well known in litreture and not well understood too. And he defined energy security as "a condition in which a nation and all, or most, of its citizens and businesses have access to sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service" (Barton,2004, Pp.490). In his study he added some solution for the energy security crises on international level in terms of energy efficiency, energy supply, use of technology in energy sector and energy transit. As it can be seen from his definition and suggestions, he is also indirectly determines the 4A of energy security in his study.

As it can be understood from the different definitions of energy security, in the litarature of security studies, energy security is mostly addressed only under the name of supply security. However, this situation prevented a thorough examination and foundation of the subject. So it is beneficial to examine the energy security phenomenon by dividing it into three groups which are supply security, demand security and transit security as a result of blending the definition of energy security and the 4A of energy security. With this new approach, it will be ensured that all parts of energy security phenomenon will be examined and understood separately. So it will be easier to understand the position and function of the energy security phenomenon that is formed as a result of combining these parts, in the global security system.

Energy security is a phenomenon that emerged as a result of the commercial relations between the actors of energy sector. As it mentioned before there are three main groups who have different shares in energy sector and emerged energy security issues because of their bilateral or trilateral relations. Those groups are: Supplier countries, who have rich energy resources and providing huge income from those resources. Demander countries, who don't have enough energy resources for satissfying their own energy needs and have to buy energy resources from suplliers. And the tarnsition countries who are on the route between the suppliers and demanders but in terms of having energy resources

they could have or couldn't have energy resources, because being a transit coutry is about the geostrategic location of this country on the earth surface.

The concept of energy security is a cycle formed by the actors and elements of the energy sector. Although this is the case, energy security is the main factor that should be included in all equations in which the energy source is concerned. Each actor and each element has different place and importance in the scope of energy security. This can be explained by the fact that the behavior of each actor in the sector or system is in the direction of certain elements. At this point, the energy security phenomenon is introduced to explain the factors that provide the sectoral balance in the energy sector. There is a separate securitization process for each of the supply, demand and transit sides of energy trade. This distinction is of key importance for understanding the elements that make up the balance. The establishment and operation of an efficient and sustainable balance is undoubtedly a matter of understanding all the components of energy security. The history of the energy sector is full of cases that prove this situation.

3.1. Determinants Of Energy Security

Security is a phenomenon that all creatures in the world need it to maintain their existence. It can simply be defined as pursuit of freedom from any kind of threat. But this definition is not sufficient to explain the concept of security. In defining the security phenomenon, many determinants must be defined separately. Or it can be said that, there is no one single security definition on the ground because of different determinants (Stone,2009). The same is the case for energy security, one of the sub-concepts of the security phenomenon.

Various definitions are made for energy security. In most of these definitions, previously mentioned 4 A of energy security (availability, accessibility, acceptability and affordability) is common. Almost all of the factors which associated with these 4 A can be determinant factor in energy security. Security phenomenon has a wide range of sectors including political, military, social, economic and environmental security. Basically, it is possible to apply all of the factors that determine these 5 security sectors to energy security. This could be the blending and conceptualization of 4 A of energy security and basic security sectors.

Military security is basically the security sector that expresses power relations. It is more related to defense and attack relations between states. Although there are many actors in the military security sector, the main actor is the state. Sovereignty is an indispensable phenomenon for the military security sector. The direct linkage between the military security sector and energy security is availability. Having any available energy resource to use is a great belessing for any state. Because energy resources are very important resources in all respects, so they are permanent trumps that any state can use for their grand strategies against their opponents. Having energy resources has a deterrent effect, as well as causing attacks or occupations. As examples of this situation, in the early 90s, Gulf wars which were made to have various oil resources in the Middle East and the invasion of Iraq by USA in the early 2000s can be given. These are solid examples of how military security can be associated with energy security in the case of energy availability.

Another important security sector is political security. The political security sector is more concerned with authority and governance status. As in military security in this sector, the state is in the foreground; However, political organizations other than the state and other structures which can be considered as authority are important determinants. The connection of the political security sector with energy security can be easily established through accessibility. Because the energy market actors can use the accessibility of energy resources in order to realize their political ambitions. The most significant actor in this regard is Russia. In recent history, Russia has repeatedly used its natural gas trump card as a political trump card against European states. Russia, which has the potential to stop the supply of natural gas in the event of a negative situation caused by European states, has done so many times before, and has repeatedly interrupted accessibility to energy resources.The third important security sector, the social security sector, is the security sector where the military and political sectors meet at a common denominator. Because in this sector, both the military which is the guarantee of social security and the politics which is a guarantee of the use of social rights and freedoms are together. The main focus of the social security sector is the identity structure that constitutes the consciousness of the society. In addition, everything about this consciousness is part of the social security sector. The relationship of this sector with energy security can also be based on acceptability.

It is possible to explain this situation as follows: There is a continuous trading relationship in energy trade. Although the parties to this relationship are seen as states, they are also societies. In this case, the parties should be accepted by the public in order to establish the trading relationship on the basis of compliance. The most concrete example of this is the energy trade of Islamic countries with Israel. While acceptability is in fact related to the type or quality of the energy source, in this example it has become completely relevant to the identity structures of the parties in the trade.

The economic sector of security, unlike other sectors, focuses on the more concrete matters like money and its welfare. The bond of this sector with energy security can be established directly and steadily via affordability. In basic terms, all actors in the energy sector have to adjust their energy consumption amounts according to their budgets and thus achieve a certain sustainability trend; however, this applies only to the regular and stable market conditions.

The use of energy resources, previously mentioned in the political sector as a trump, is harder and more destructive in the economic sector. The supply crisis created by OPEC member countries in the 1970s is one of the concrete examples of this situation. The economic tension caused by the political atmosphere at that time caused an increase in oil prices up to 500% in one year. This can be the best prove for the connections between economic sector of security and energy security. If there are no affrodable prices, there is no energy trade.

The environmental security sector, which is the last security sector, is related to the environmental factors as the name suggests. Thus, the environmental security sector becomes the most inclusive of other security sectors. In fact, all security sectors bear the marks of environmental security. This makes environmental security simultaneously linked to four of the 4 A of energy security. The effect of the Kyoto Protocol on international security, which was made on the near future, is evidence of this situation. Because these agreements have had a great impact on the military, the politics, the society, the environment and the economy.

The main purpose of these ties established between the sectors of security and energy security is to reveal the determinants of energy security. Energy security, which has been comprehensively structured with 4A of energy security, has been conceptualized in a more concrete way by linking it to the sub-sectors of security, such as politics, economy, society and environmental security. As a result of this conceptualization, the need to examine the phenomenon of energy security in different dimensions has emerged.

3.2.Dimensions Of Energy Security

As in the case of security itself, the concept of energy security has some branches in itself. One of the main reasons behind the emergence of these branches is the energy sector and the actors in this sector, while the other reason is the wide range of academic studies related to security. Especially in a study of Bary Buzan with Ole Weaver and Jaap De Wilde (1998) the issue of security has eveluated in a broader framework. By this study they has been created the concept of securitization over the five sectors of securty which were military, political, economic, social and environmental security. It can be said that this conceptualization has resulted as securitization of different actors in energy sector.

Buzan and his colleagues has developed different kind of security analysis by using the terms; referent object, securitizing actor, functional actor, threats and weaknesses, regionality. In this analysis they used speech act as a political process in order to securitize the matters which are not directly related with military security. The dimensions of energy security are some of the later securitized matters of security. Because supply, demand and transit security are not directly related with military security but directly related with economy. In this case the securitization of energy can be explained by the securitization process of the dimensions of energy security. With such an inductive method, it will be possible to examine the phenomenon of energy security as a whole (Anlar,2017).

In fact, after the emergence of the need to take international measures at the international level for the matter of energy, the process of securitization of energy has started. As before mentioned the method which developed by Buzan and his team can be used for this process but with 4 A of energy security. Melting the securitization method and 4 A in the same pot will be most appropriate methdology to explain energy security

dimensions. As it mentioned the matter of energy security began to develop as a result of measures to be taken against international threats. There have been various forms of measures taken against these threats due to the variety of threats. This situation led to the branching of the energy security phenomenon in itself.

As a result of this the dimensions of energy security: Supply Security, Demand Security and Transit security have emerged. As Anlar mentioned in her study (2017) these three distinct dimensions need to be addressed separately under the titles of: limited energy resources, nationalization of energy resources, regional energy sources, instability, high investment needs, limitation of existing energy regimes and environmental problems. These are the phenomenons that can be encountered in almost every energy security dimension. In this study, these titles will be emphasized according to their importance in each energy security dimension.

3.2.1. Energy Supply Security

Economy is a multi-legged structure formed by the combination of many concepts. The survival of this structure is directly related to the strength of each foot. Supply is one of the most important leg of this structure. Will Kenton defines this concept as " a fundamental economic concept that describes the total amount of a specific good or service that is available to consumers.'' (Kenton,2017, p.1). The concept of supply in the energy economy is exactly as Kenton's definiton. In the energy economy, supply is of great importance because it is not possible to talk about a healthy economic circulation in any cycle where there is no supply or limited supply. Thus, the security of the supply phenomenon, which is of the utmost importance for the energy economy, is also vital.

The supply security in the energy market can be explain as the ability of supply sources to meet the demand of the system with the desired quantity and quality. According to demand and to provide the system requirement of the energy types produced by these sources in a short, medium and long term with continuous and predictable costs, to ensure the stability of the system against sudden changes and to meet the increasing demand (Ekoenerji, 2017). This definition of supply security includes some clues related to two of 4 A of energy security which are availability and affordability.

The availability of any source at the desired time, in the desired quantity, at the desired quality and at affordable prices is of key importance for security of supply. It is possible to see this situation as a valid rule for all energy sources in terms of ensuring maximum performance related to energy supply security. The energy supply security issue, which has experienced many crises since the beginning of the commercial use of energy resources, has great importance in terms of the energy market. The supply of all energy resources from biomass to nuclear energy is very important for the market. Because the total reflections of the problems that will be experienced in the supply of any source in the market will have devastating consequences, as in the past in the economic sense.

Where the source of energy is available, it is possible to mention supply and supply security. The phenomenon of supply security is a security phenomenon that develops due to the availability of the energy source and evolves over time with the affordability of the energy source. Coal is one of the energy sources that can be an example of this situation. Prior to the industrial revolution, the protection and use of coal reserves in the region where coal is used as a source of heating and simple production processes is important for security of supply. In the aftermath of the industrial revolution, the increase in the demand for coal and the efforts to meet this demand from different regions have increased the market value of coal and the coal prices have become an instrument for the security of coal supply.

However, this has not been a major problem for the energy market in terms of coal supply. Because coal is a fossil energy source that has reserves in almost every region of the world. But; it is not possible to say the same thing for other fossil sources, because the reserves of fossil resources, which have been used in the energy market much later than the coal, such as oil and natural gas, have been concentrated in certain regions of the world, which has led to various forms of cartelization in terms of these sources. Has also caused significant problems in terms of global energy supply.

Due to the widespread use of oil reserves in industry and daily life, it has become more and more important. In the last 10,15 years, increasing energy needs, environmental concerns, investment in alternative energy production sources and design costs have always kept the oil related agenda dynamic. As demand increases, the imbalances in

prices and the country's policies are increasing in curiosity for fossil fuels, and despite the increasing tendency for wind, solar and soil energies on the Earth, our largest energy sources still remain as fossil fuels. For these reasons, oil has a serious volume in the energy market. The control of such a valuable source of energy by certain countries in the world has, over the course of history, caused various tensions in the security of supply and appears to continue to exist (Dillinger, 2019). According to the report published by the Energy Information Administration of US in 2017, the table that includes the first 20 countries holding the world's oil reserves can be shown as evidence for this situation.

Table 1. Top 20 Countries according to oil reserves

Rank	Country	Reserve (millions of barrels)
1	Venezuela	300,878
2	Saudi Arabia	266,455
3	Canada	169,709
4	Iran	158,400
5	Iraq	142,503
6	Kuwait	101,500
7	United Arab Emirates	97,800
8	Russia	80,000
9	Libya	48,363
10	United States	39,230
11	Nigeria	37,062
12	Kazakhstan	30,000
13	China	25,620
14	Qatar	25,244
15	Brazil	12,999
16	Algeria	12,200
17	Angola	8,273
18	Ecuador	8,273
19	Mexico	7,640
20	Azerbaijan	7,000

Source: https://www.worldatlas.com/articles/the-world-s-largest-oil-reserves-by-country.html

Most of the countries on the Table.1 are OPEC members. OPEC, founded in 1960s by major oil producing and exporting countries. It has established in order to coordinating and combining the petroleum policies of the member states, to providing exporters with a safe, fair and stable price, to providing regular and economic oil to the importing countries; and to protecting the interests of the capital groups who had invested in the sector. This forum, which discusses oil prices and export quotas of its member countries, has given a very effective example of oil cartel in the past. OPEC, which has become an important actor in price regulation in the oil market, has increased its power day by day.

Many members of the organization are Arab countries, who wanted to use oil as a strategic tool against the West as they realized their growing power by means of oil assets. As a result of the Arab-Israel war that took place in 1973, OPEC decided to use oil as a weapon against the West and caused a huge crisis which known as ‘’OPEC oil crisis’’ in the world energy market. In January 1973, the oil prices, which were $ 2.59 a barrel, rose to $ 5.11 in October 1973 and $ 11.65 in January 1974. These exorbitant price increases caused panic especially in western Europe and Japan. Because there was a huge oil trade between OPEC countries and Western Europe and Japan (Öztürk&Saygın,2017).

This crisis caused significant fluctuations in the world market. The OPEC’s oil embargo, which started with the USA and started to be applied to Japan, caused a significant increase in oil prices, adversely affecting all countries dependent on oil, particularly industrialized countries. 400% increase in oil prices is reflected in product prices so that profits and wages do not fall below the actual values. The increase in product prices as a result of this reflection also affected the oil dependent economies negatively by causing high inflation. The fact that most of the purchasing power of oil-dependent countries was absorbed by oil due to high prices also reduced the demand of these countries for other products, which led to both direct and indirect jobs and economic downsizing (Öztürk&Saygın,2017).

Some systemic changes caused by this situation caused significant awareness in the world market. First of all, the perception of the market on oil has changed and the importance of this resource has been registered. The importance of the petro-dollar index in the world market has been revealed by the bitter experience of oil-dependent countries.

The level of deterrence and self-confidence of oil-rich countries has increased. In short, the oil crisis created by OPEC has displaced many stones in the international system in the economic sense.

Natural gas is another of the critical slopes in terms of supply security in energy markets. Especially after ‘’the 1973 oil crisis’’, all the global actors have realized the power of global energy sources. The fact that the demand for natural gas, which is now seen as an alternative to oil, increased in the global sense strengthened the possibility of a similar supply crisis in natural gas. This situation is evidenced by the reflection of Russia's political or diplomatic problems with the European Union (EU) on natural gas supply, which continues to exist in the world energy markets as an important natural gas-rich country. On the other hand, the fact that the crisis between Russia and Ukraine reached the level of armed conflict seriously threatens the security of natural gas supply especially for European countries.

Table 2. Evolution of Marketed Gas Production By Region

	2016	**2017**	**Annual Growth**
North America	938.1	942.7	0.5%
C.I.S.	789.6	843.2	6.8%
Middle East	610.0	635.2	4.1%
Asia Oceania	546.5	569.0	4.1%
Europe	244.8	249.5	1.9%
Africa	211.2	229.4	8.6%
South &Cemtral America	167.6	167.8	0.1%
World	3507.6	3636.8	3.7%

Source: CEDIGAZ (2017) Natural gas market fundamentals exceeded expectations in Report

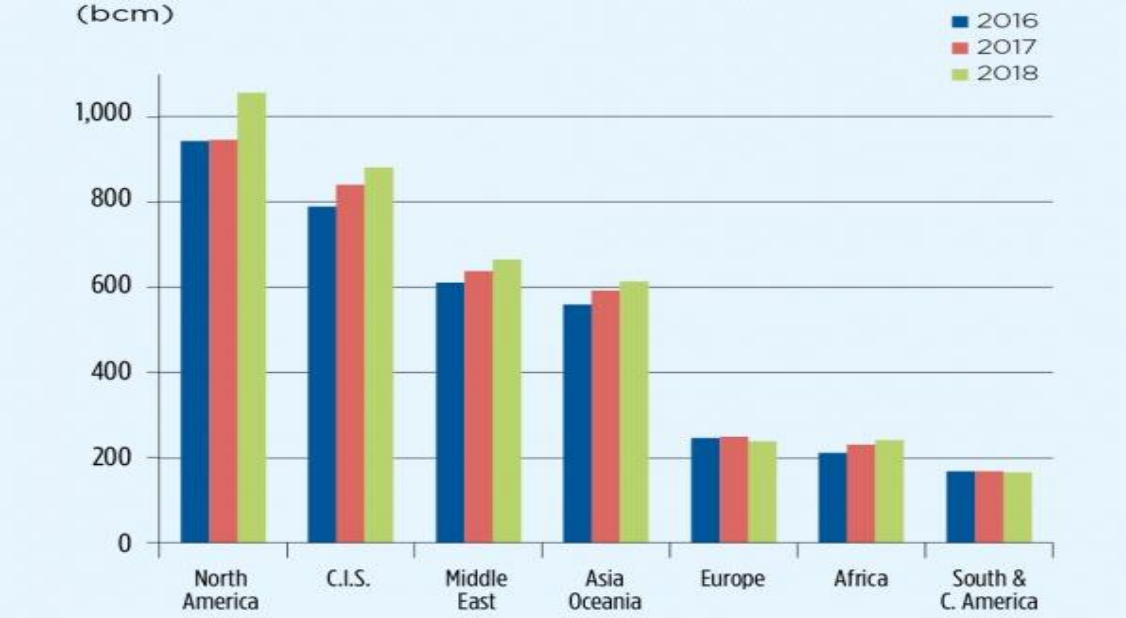
Natural gas has become a more and more demanded source of energy on a global scale because of being an important alternative to petroleum and causing less damage to the environment; However, due to some technical deficiencies related to storage, the

countries importing this source prefer direct transmission via pipelines which are lower cost, although they have an alternative such as liquefied natural gas (LNG). In this case, the power and importance of the countries with a significant natural gas presence in the market is increasing. For example, Russia, which is one of the closest sources to the European market, has the power to keep the European countries dependent on natural gas in a continuous diplomatic tension, and from time to time can use this power as a diplomatic weapon. The continuation of this attitude of Russia has led the countries that are dependent on Russia to seek different ways of supply. And for some reason, the countries that have not yet been fully effective in the natural gas market; like Qatar and Iran has led to become active by the market. These alternative energy routes, which will be discussed in terms of energy transit security, have led to a decrease in the share of Russia in the market and the increase in the share of other natural gas-rich countries (Erkan,2014).

Although Russia is faced with demand losses from time to time due to the tensions it creates in the market, natural gas production continues with an even higher potential every year. The fact that the United States, the largest producer of the world natural gas market, is shifting its axis towards shale gas can be considered as an important opportunity for Russia to become a sector leader in the future, although not in the near future. In addition, natural gas, which is a resource that America does not use too much commercially due to both its geographical location and its own needs, provides a great advantage for Russia both in terms of its proximity to the demand centers and the production which is overwhelmingly more than its need. In this regard, the use of natural gas as a strategic weapon has the potential to affect Russia in the economic sense; but when considering the strategic part of energy supply security, situations where natural gas or another energy source can be used as a strategic tool or even as a weapon by calculating the opportunity costs can be manifested. In this context, the strategic importance of supply and supply security in energy security is also emerging. In the decision-making processes to be examined in the theoretical review section, the above mentioned opportunity cost calculation is different for each country an even for every micro actor.

The availability of the energy is related to the presence of the energy source as well as to the owner of it, because the energy source does not make sense if the owner of it does not present it to the market, no matter how it is found. Or with a different experssion the availability of any energy source in the market can be directly related to the presence of the actor who has it in the international order.

Graph 6. Natural Gas Producer Regions



Source: CEDIGAZ (2019) Natural gas market fundamentals exceeded expectations in Report

Nuclear energy also has an important role in supply security; However, since it is an energy source which is not widely used due to technological opportunities, raw material and development level, it will be better to evaluate the status of nuclear energy in supply security with availability and production process. In order to obtain this kind of energy, which is formed by various chemical reactions of Uranium and Thorium elements, it requires converters which require advanced technology called nuclear reactors. Nuclear energy, which is a result of a two-stage process, is preferred in order to obtain a high amount of energy from the material and to cause less damage to the environment than other sources during the energy production. Nowadays, it is thought that this energy obtained by the technologies of certain countries can be an important alternative to fossil energy sources in the future. Although there is little damage to the environment at the end of the production process, both the disposal of the wastes after the

production and the risk of leakage in the production process as well as the radiation occurring during the production have serious safety risks. For these reasons, nuclear energy production is a process that needs to be extremely careful and only countries with sufficient technology and security capacity can use this type of energy. While the world leader in the production of uranium, the raw material of nuclear energy, is kazakhstan, the country that produces nuclear energy with 104 power plants is the United States (Naser,2015).

In order to produce nuclear energy, high technology and adequate security measures should be provided besides raw material. Therefore, although a high proportion of energy is obtained from the raw material, countries that do not have sufficient level of development cannot produce and use this energy. In short, the situation related to nuclear energy supply security is two-dimensional. The first is the dimension related to the availability and accessibility of uranium, and the second one is the size and technology required to transform this raw material into energy and supply it to the market. If the first of these two dimensions cannot be provided, production cannot be mentioned, and in case of failure of the second one, it can cause serious accidents. Chernobyl and Fukushima nuclear accidents in the past are the most striking examples of this situation (Squassoni,2009).

The importance of energy resources in the world is increasing day by day and this importance is becoming more and more strategic. This situation makes energy sources not only an economic value but also a strategic value. Thus, the place of energy resources and energy production in the countries' grand strategies is increasing. This is why energy supply security is of paramount importance. Market availability and pricing of energy resources are directly related to energy supply security, and other economic, political and geographical factors affecting energy supply security are of great importance in terms of the strategic situation of any energy source.

The strategic value increase and pricing movements, which underlie the crisis and security risks mentioned previously in the energy supply security section, have seriously emphasized the importance of the phenomenon of energy supply security in the world energy market. It is unlikely that the supply security problem, which starts with coal and continues until nuclear energy, is unlikely to be solved all over the world in the

short term. In fact, it is possible to define this problem as a common problem of all countries of the world, because it is impossible for any human system to operate in today's world without energy production (Erdal,2015).

From the past to the present, it is connected to the production of alternative sources to ensure the security of the energy supply in the age of technology where the crises are experienced in different sources or the risk of the crises to be experienced again in the same sources. Extending the use of non-widespread energy resources such as renewable energy can be a bit of a solution to this situation. Considering the fact that the crisis in the past has been largely discharged by countries with energy resources, the reduction of dependence on foreign energy resources through the use of renewable energy can be instrumental in minimizing the impact of a large scale energy crisis. As an example, Japan, one of the countries most affected by the OPEC oil crisis, can be shown. Japan survived the oil crisis in 1973 by paying extremely heavy economic costs. With this crisis, Japan has turned to many alternative sources of energy, especially nuclear energy and renewable energy. And by this occasion, despite the increase in the need for energy resources compared to the past, the foreign dependency has succeeded in reducing significantly (Erdal,2011).

It is possible to say that the energy supply security, which is the most inclusive branch of the energy security phenomenon, has reached the level to move the stones in both the political and economic sense in the international system; however, it is important that the arms, such as energy demand security and energy transit security, which will be discussed later in the study, are within the equation so that they are in parallel with the energy supply security without being eliminated. Because, in order to be able to talk about security of supply, the existence of demand and connections between an existing demand and supply is important.

3.2.2. Energy Demand Security

Demand is ‘’ a kind of desire for certain good or service supported by the capacity to purchase it (Demand, 2019, P.1).’’ The purchasing capacity mentioned in the definition of the demand phenomenon emphasizes the purchasing power, and goods and services emphasize supply phenomenon. This is an indication of the existence of a complementarity between supply and demand. But in fact demand is independent from supply; It is clear that price, income, population and personal preferences are the main factors that make up the demand. It is an undisputable fact that some of these factors are influenced by supply.

Actually, some factors constituting the demand are independent and some of them are under the effect of supply, this situation necessitated the establishment of a balance between supply and demand. In any market where there is no equilibrium between supply and demand, it is not possible to talk about an effective economic management. For an efficient and flexible market environment, the balance between supply and demand must be ensured (Dinçer,2017).

Energy markets are markets where supply-demand balance is more difficult to establish than other markets. The main reason for this is the fact that energy sources, which are mentioned in the section of supply security, become increasingly strategic weapons. Due to this situation, it is possible to say that establishing equilibrium in energy markets is more dependent on grand strategies of states. In a globalized world where almost every commercial product is strategically important, the importance of energy resources is a bit more, since energy resources are key sources in initiating and maintaining production processes (Biçen,2016).

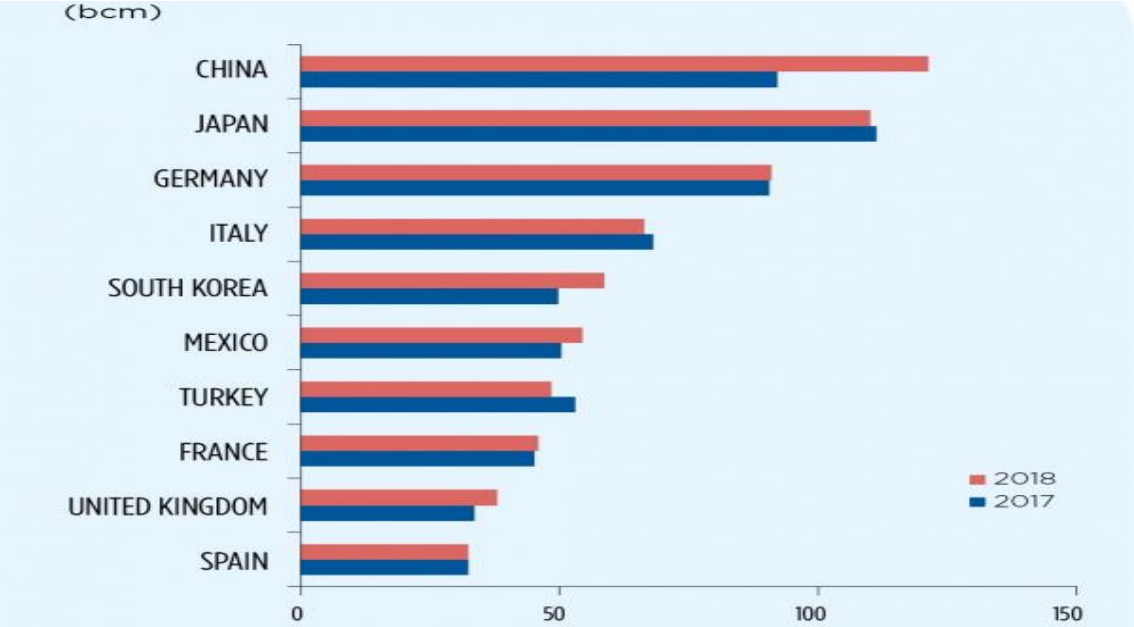
The supply-demand balance in the energy market is as sensitive as it is difficult to achieve. To achieve such a difficult and sensitive balance is possible only with equal weight on both sides. Therefore, demand security is as important as supply security. Although it has been examined under the name of supply security, it actually covers different phenomena, concepts and actors in energy security. In a simple way, it is possible to say that the security of supply is about the flow of resources from the producer to the consumer and the security of demand is about the flow of the desire directed from

the consumer the producer. These two directions of securitization constitute a large part of the energy security. This is exactly where demand security and supply security are separated. Since they explain the securitization status of the different actors and objects, the examination of them separately will make a greater contribution to the phenomenon of energy security.

Energy demand security can be defined as ensuring the continuity and availability of demand for energy resources (Atlam&Rapiea,2016). The emphasis on continuity and presence in the definition of energy demand security refers to 4 A of energy security. However, since the concepts of continuity and presence here are related to the consumer, it is necessary to underline the accessibility and acceptability portions of 4 A of the energy security. Because, in terms of energy resources, as well as all commercial goods, access to resources and the acceptance of resources by the consumers are the factors that trigger the demand. In fact, it is possible to say that the accessibility of energy resources triggers the demand more than any other factors, because the importance of geographic proximity, in terms of resource costs is enormous (TPAO,2016).

In the global energy sector, a wide variety of energy sources and geographically dispersed has increased the importance of accessibility. As mentioned before, due to the negative effect of the proximity to the resources to the costs, it is seen that the actors, who are in the political or military struggle in the sector, are able to trade energy source with each other. The reason for this is not the professional approach of the actors during the energy trade, but the necessity of the resource costs. The close diplomatic relations that Japan is trying to establish with OPEC countries during the OPEC oil crisis are among the most important examples of this situation. When this example is examined, it is clear that the supply crisis caused by OPEC is also manifested as a demand crisis. The surge in oil prices and the reduction in oil supply have made oil supply impossible for the countries demanding oil, and consequently reduced demand. Therefore, it can be said that affordability has an indirect effect on demand security. Another and more recent example of resource costs, which can be used to mandate the demanding countries, is the natural gas trade between Europe and Russia (Korteweg,2018).

Graph 7. Top 10 Natural Gas Importers

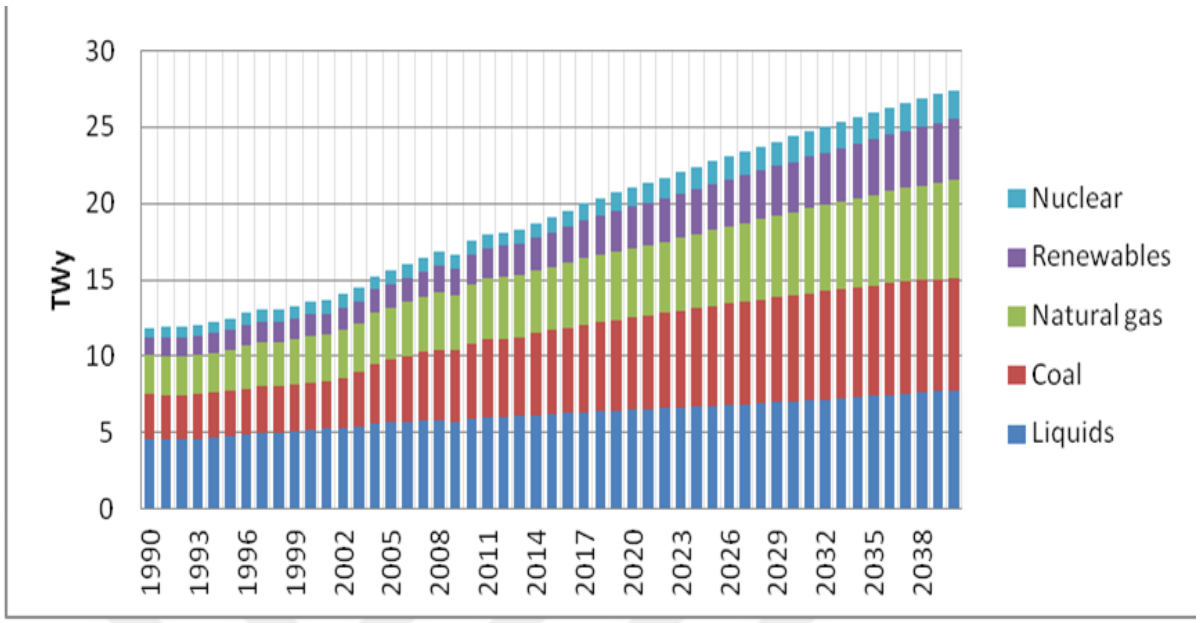


Source: CEDIGAZ (2019)

European countries have been tasting most of the natural gas they need from Russia. Political or diplomatic tensions with Russia in the past have caused Russia to make a gas outage and the security of natural gas supply has been seriously shaken. As mentioned earlier, even though Russia has used this situation as a diplomatic starter, Europe has put the demand from a big market at risk. In this case, demand security is also shaken. As a result, while European countries started to focus on supply alternatives, Russia has made various efforts to prevent these alternatives (Korteweg,2018).

These quests on both sides are reflected in the world energy market in various ways. It is obvious that the troublesome processes initiated by the supply crisis will lead to significant developments in the energy market in terms of energy transit security, while it may turn into a demand crisis for Russia due to the presence of possible demand alernatives.

Graph 8. World Energy Consumption By Fuel Type



Source: IEA (2018) (Energy Information Agency)

In summary, demand security problems caused by the disruptions in supply security problems affect the energy market more qualitatively rather than quantitatively. Because the energy sources mentioned in the given examples have old or new alternatives. As stated in the first parts of the study, energy sources are like each other as a top version of each other. Although the specific importance of some energy resources and the enormous resources of some energy cartels, the demand for energy in the world market has increased day by day and cannot be prevented and new alternatives have become mandatory. In short, as the production processes continue, the demand for energy will never disappear, it can be substituted even if it decreases despite various supply crises.

3.2.3 Energy Transit Security

The global economy is becoming more and more active day by day with all its stakeholders offering various contributions. Due to this development trend, new sectors and concepts take their place in the global economy one by one. The economic order, where the main concepts are supply and demand, and the main actors are the producer and consumer countries, as it develops and grows, has made a place in many intermediate actors and concepts in itself. The concepts of supply and demand still remain the main

concepts at the micro and macro levels; but the importance of the connection between the supplying actor and the demanding actor is too great to be ignored. In today's economic order, a number of concepts have been developed to complement the economic activities between the supply and demand authorities in order to realize the economic activities between tehese two authorities.

One of the important concepts that is complementary to the concepts of supply and demand is the transit / transportation in the global economy. In fact, since the beginning of the trade, existing transport activities have gained more importance with the fact that the economy has reached these dimensions. It is possible to list the main reasons for the transportation activities to reach this level as developing technology and increasing opportunities. As the technology developed, transport activities were developed and the distances between supply and demand agencies were shortened, so that goods and services were moved from one place to another in a shorter time and with less damage. This situation allowed all kinds of products and services to enter the supply chain and indirectly diversified the possibilities. Due to this diversity, increased opportunities have led people and the market to always demand more. Thus, the economic sectors developed with technology demanded the development of technology, and technological developments started to follow this direction. From this point of view, it is necessary to underline the positive and enhancing effects of the technology and economy as it has mentioned in the first parts of this study.

In the global economy, the transport business and the transportation sector have been an essential part of the economy due to its role in the production of goods and services. Transportation has many benefits to the economy as well as economy has many benefits to the transportation. Thanks to the transportation activities, it has become possible to reach the same goods or services in two different geographies with the transportation of economic activities varying from region to region. In addition, the positive impact of transportation on the gross national product (GNP) is also acceptable. The variety and amount of economic activities are also seen in the transport business. In today's world order, it is possible to analyze the economic diversity of countries by looking at the diversity and amount of transport activities (Çancı&Güngören,2013). This situation is directly related to the accessibility phenomenon, which is also mentioned in

the previous chapters. The higher the level of mobility and accessibility of goods and services, the greater the economic efficiency.The development of transportation has been parallel with the developing technology from the industrial revolution to the present. The transportation, which is in constant development in order to meet the unlimited human needs in the definition of economy, has reached a very serious development level today. It is obvious that the transportation concept developed in the context of the previously mentioned concepts of mobility and accessibility will develop further in line with sectoral demands.

Transportation, which has made significant progress in the cross-continent with geographical discoveries, has reached a different dimension with the introduction of the steam locomotive which came with industrial revolution. Following these developments, the transportation sector has literally jumped by the presence of oil and oil-powered vehicles in the 1800s. The sector, which has reached an important level in terms of mobility, has managed to meet the demands of the economy to a large extent and has been diversified seriously. This diversity in transportation has made a significant contribution to the access of goods and services to disadvantaged countries and a very important step in accessibility. Especially the use of petroleum-powered vehicles in the transportation sector has been a major development in terms of delivering goods and services to land parts that are not connected to sea or rail (Nistor&Popa,2014). This development of transport activities facilitated access to undeveloped land and human communities and allowed new markets to emerge in the global economy.

The main factor that triggered all these developments related to transportation is the fact that the energy resources are used more effectively in the production processes as can be seen from the previous sections of the study. It cannot be argued that energy resources play a key role in production processes. In terms of transportation, energy and energy resources are in two different ways.

The first of these is the direct effect of energy resources on transportation. In today's world, the transport sector is directly dependent on fuel as energy source, since there can be no such situation as the use of sailing ships or carriages. In this context, it can be said that the sectoral links of energy and transportation sectors are also clearer than other sectors. In other words, it can be said that the direct relationship of the energy sector

with the production sector is similar to the transportation sector. The second relationship between energy resources and transportation sector is directly related to the transportation of these resources. As in all kinds of goods and services, energy resources need to be transported from one place to another in a variety of ways. This requirement is critical to production processes.

The transfer of energy resources from the region where they are produced to the region where they will be used can take place in many ways. As long as transportation and transportation facilities are sufficiently adequate, it is possible to use all means of transport in transporting energy resources; However, transportation costs are taken into account in transporting energy resources as well as in all commercial goods. Therefore, it is paid attention to use the least cost transportation methods that are provided by the facilities. So , it is possible to observe different shipping modes for each energy source (Başlangıç,2015). This situation sometimes changes due to geographical conditions, sometimes transportation opportunities and sometimes security related problems. It is possible to analyze all these problems under the heading of energy transit security.

As the energy resources are transported, technical, natural and human factors may cause problems. While technical problems may be problems related to transportation vehicles or transport systems, the problems caused by natural factors are usually physical damage that occurs in the transportation route as a result of natural events. The problems caused by human factors are the problems caused by the interventions made by the humanitarian elements to the transport vehicles, transport systems or to the carried material. All these problems can lead to some shortcomings in both supply and demand security of energy resources. Therefore, it is good to say that energy transit security is key to both supply and demand security.

Energy transit security problems due to technical and natural factors cannot be said to have the potential to deeply affect energy security as they are relatively easy to overcome problems; however, it is not possible to say the same for the problems caused by human factors. Today, energy transportation is mainly carried out in two ways: These are pipeline transportation and tanker transportation (Başlangıç,2015). The fact that resources such as oil and natural gas, which are widely used, are liquid and gaseous have made these two types of transportation convenient.

Both the tanker and the pipeline transport are used for the transportation of oil. The geographic location of the resources and the changing costs depending on the type of transportation are the main factors determining the mode of transportation. In recent years, due to increasing environmental problems and security problems in the seas, oil transportation through pipelines has become more widespread. Nevertheless, important energy importers such as the EU and Japan supply energy resources by sea due to their geographic location (Apicorp,2016). Considering that these importing actors supply their resources from the gulf countries, it can be said that transportation modes are more economical in terms of costs.

As with oil, both tanker and pipeline transportation methods can be used for natural gas; but tanker transportation is not preferred unless required. Because it is necessary to liquefy natural gas to make it suitable for tanker transportation and to be re-gasified for use at the destination. Since such operations will increase the resource costs, natural gas is usually supplied through pipe lines. However, Liquified Natural Gas (LNG) is an important alternative to natural gas trading. In the past natural gas supply crises, countries that demand a high amount of natural gas have moved towards LNG and have overcome the crises a little.

The closest example to such crises; Russia's natural gasflow cut over Turkey and the European Union countries. Especially in the post-2010 period, Russia started to use the energy resources in its hands as a serious strategic weapons. Russia's energy sanctions because of; political, economic and military reasons, to Turkey and the European Union countries have turned the way of these energy importers to Qatar, Northern Europe and US (Apicorp,2016). This caused a big change in international energy market especially in terms of natural gas.

Countries that have become energy centers or countries that have this potential are of great importance in terms of energy transit security as they have an important role in the transportation of energy resources even if they do not have any resources. These countries are concrete evidence that they can have a say in the energy market without actually having a source of energy. Countries, which are the main route used to transport energy resources in the regional sense or in the global sense, assume serious duties in energy transit security.

Although the transit countries do not have energy resources, there are many countries of great importance due to the transit of energy resources in the global energy market. These countries have become important because of their being the doors to the continents, their being at the exit points of the energy resources and their infrastructure investments. Turkey is one of the most concrete examples that can be given to these countries. Being bridge linking three continents, having Bosphorus and Dardanneles as strategic straits and acting dynamic role in the energy market let Turkey to earn this feature. Due to dense population and emerging economic activities of its market, Turkey's energy demand is increasing day by day but this increase is not just in case of national energy market.

Turkey also has strategic place in the international projects which are about the intercontinental energy transit. As it has mentioned before because of geostrategic place of the country Turkey keeps a great trump card in terms of energy security (Karagöl et al .2016). This situation will give more advanteges to Turkey in international politics because of emerging trend of energy security. Turkey, as an important energy transit country has been using its advantages, that gained becase of several reasons, in order to be a core country in terms of energy security issues in World Politics.

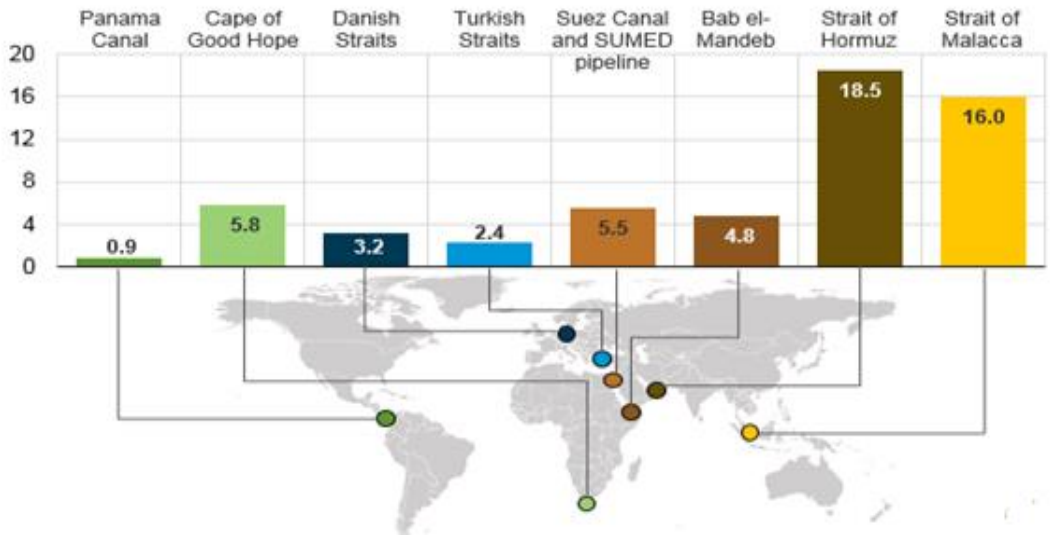
Some projects in which Turkey takes place as the main actors has the potential to deeply affect the world energy market. Some of these projects are TANAP (Trans Anatolian Natural Gas Pipeline Project) and Turkish Stream projects. A variety of supply centers will be provided with the transportation of the Azerbaijani gas to the European market with TANAP, and the delivery of the Russian gas to the European through an alternative route which is Turkish stream. If these projects are realized with full success, the potential energy supply or demand crises will be prevented due to the precautions taken regarding the energy transit (İlter&Kınık,2016).

As a result of these projects Turkey will probably gain the identity of a semi-supply country in energy market without having enough energy resources to supply to the market (İlter&Kınık,2016). But in order to realize this Turkey should increased its security measures on energy routes and should increase its storage capacity. Especially the problems of security and its threat against pipeline routes is the one of the biggest problem of the country in terms of security of energy routes. Because of this the cost of

ensuring energy security for Turkey has increased although having strategic position and having neighborhood with energy supply countries.

In conclusion, considering all energy strategies, it is possible to say that the concept of transit security has a very critical meaning in terms of energy security. As mentioned above, energy transit security is not only meaningful in itself but also occupies an important place in energy security systematics because it is closely related to other energy security phenomenons which are demand and supply security. And also it is possible to say that the energy transit security can directly affect all of 4A of energy security. Because all those terms which are availabilty, affordability, accessibility and acceptability directly related to transportation of energy resource from a place to another place.

Graph 9. Daily transit volumes through world maritime oil chokepoints



Source: U.S. Energy Information Administration

CHAPTER 4

4.ENERGY SECURITY IN INTERNATIONAL RELATIONS THEORIES

Energy sources have an important place in the history of the world in terms of both their formation and usage as seen in the previous parts of the study. Since the past, these sources have been continuously used for different purposes and in different ways. While these aims and ways of use were simpler and superficial in the early ages, they changed and developed due to the increasing energy demand due to technological progress and population growth. These developments have led to the debate on the security of energy sources and have even created the aforementioned phenomena of supply, demand and transit security.

The change and development of the uses of energy resources have affected the international system in many ways. Firstly, these developments, which had some consequences in the economic field, spread over time to the political and military wings. Efficient use of energy resources due to technological developments has increased the demand for resources, increasing demand for resources has pushed countries with resources to increase the amount of supply to meet this demand, and has made some attempts to ensure the connection between the actors connecting the supply and demand authorities and to ensure continuous connection. This process has continued in this way since the industrial revolution. Normally, this process has begun economically and has affected and continues to affect almost every aspect of life.

All these changes have been felt both nationally, regionally and globally. Through the use of energy resources, serialized production processes have developed economies, the needs of developing economies have increased, and the increasing needs have accelerated and accelerated the global circulation of both product and labor. Since

the share of energy resources in the accelerated economic growth process since the 1800s has increased gradually, the interest in energy resources in the international arena has increased in this direction. This is one of the main factors in the formation of the energy security phenomenon mentioned in the previous parts of the study. Increasing interest in energy resources has led to the aggression of international actors in need of energy and the actors with energy have become more protective. Thus, it can easily be said that a new era has started in the international system.

These developments and changes in the international system were an indication that the phenomenon of international relations should take its place in the academic platform as a discipline. Especially the international disorder and chaos that had reached the end of World War I proved this need. Thereupon, in the early 1920s, international relations began to emerge as a discipline on the academic platform. This development has been an important source of hope for the establishment of an order among the actors in the international system. The academic formation of this discipline laid the foundation of a scientific approach to the relations between international actors. This discipline, which initially developed academically useful but insufficiently practical theories, gradually gained the potential to influence the dominant views and actors in the international system. Particularly in the post-World War II period, the discipline of international relations has developed at a level that will fully describe the international system (Knutsen,1992).

Although it is a new discipline, many theories have been developed in order to explain the international system and to shed light on the problems of the system. Although each theory has specific concentration points, each theory has taken care to address all issues related to the international system at certain rates. The discipline, which has witnessed certain discussions in certain periods, has reached the maturity to explain the international system through various processes. In the discipline of international relations, respectively, Idealism-Realism debate in 1920s and 1930s, Traditionalism-Behaviouralism debate in 1950s and 1960s, Neorealism-Neoliberalism debate in 1970s, Positivism-Postpositivism debate in 1980s theoretical debates took place. And these discussions have formed units of analysis and levels of analysis. Thus, the theoretical explanation of the international system has become more systematic (Singer,1961).

With this systematic system, the theories which were developed at the beginning and then put forward were able to reflect on the same level and on the same subjects. In fact, thanks to this systematic, modern versions of classical theories have emerged. The energy security phenomenon, which is the main subject of this study, is directly related to the economic and security issues which are mentioned by almost all international relations theories. In the following sections, how energy security is evaluated and interpreted in the light of theories in the discipline of international relations will be emphasized and some necessary distinctions will be emphasized by making some necessary distinctions that have not been emphasized before in the literature.

While idealism (liberalism), which is one of the fundamental approaches of the discipline of international relations, has approached the energy security phenomenon in terms of international cooperation and economic development, realism, another fundamental theory, has made evaluations on the balance of powers and hegemony related to the energy security phenomenon. On the other hand, historical materialism (Marxisim) which is the economic approach that predominates in international relations, has evaluated the energy security phenomenon in terms of class differences between international actors. The theories of international relations in the modern era have contributed to the discipline of international relations by interpreting the concept of energy security through new approaches.

4.1. Idealism & Liberalism

The first years of international relations as a discipline coincided with the end of the First World War. In those post-war years, international actors sought a total peace because they were tired of war. The League of Nations established in accordance with these efforts aimed at creating a total peace environment. At the time, the idea that the new international order to be established through the League of Nations would be an important move both to reduce the impact of the past and to create an ideal political environment prevailed. At the time when this and many other similar views prevailed, the dominant view in international relations emerged as a new discipline was idealism.

The place of idealism in the discipline of international relations has been evaluated in two ways as broad and narrow. While the broad view of idealism encompasses both

the systematic and political ideals of the international system (anarchic international system, world peace, international cooperation, etc.), the narrow view argues that idealism is a school of thought that dominates the discipline of international relations only in the period between the two world wars. Therefore, although there is no clear definition of idealism, it can be described as a school of thought that advocates the idea that all problems can be solved in peace and cooperation in the international order where there is no hierarchy in general. The explanation of the new international system to be established in the light of the principles of American President Wilson, in particular, proves the dominant presence in the interwar period, which is also mentioned in the view of narrow idealism (Wilson,2011).

Idealism, in other words, is a school of thought that draws attention to the importance of concepts such as human rights, equality, freedom and cooperation in the discipline of international relations. In fact, this style of thought, which coexists with the existence of human beings, has started to take place in the world public opinion and be discussed with the French Revolution. The liberal views that have influenced international relations in this period have been discussed more clearly in the period when international relations emerged as a discipline. As mentioned before, it will not be wrong to say that the ideology constituting the motto of the search for peace in the post-World War I period is liberalism.

The liberal school of thought, which is critical for the discipline of international relations, has produced important ideas in the field of economy as well as concepts such as human rights, equality and freedom. Liberalism's view of the economy is an important point of contact between energy security and liberal theory. In terms of energy security, there are also liberal interpretations of other security elements, such as collective security and arms control.

Since the 1800’s there have been many development in energy market as it has mentioned before in this study. Especially after the technological developments the need of energy sources has increase too. But there were some cuts of energy supply because of political an economic issues. Although, there were some issues in world politics and international trade, the need for energy sources has been increased day by day and to satissfy those needs, researches for new sources has increased. Some people have found

new ways for trade of energy sources and liberalization of energy trade have been an obligation for the international system because especially the north-south gap and the distribution of income between international actors push the system to change. North was rich but has no source vice versa South was poor but has many sources so the trade of energy sources has been inevitable. For the economic side of liberalism the situation is that, this situation is logical for international trade and distribution of sources arround the world but in some cases this has been the main reason for the gap between rich and poor countries in international system.

Liberalism is a school of thought that emerged long before the discipline of international relations. The collapse of the imperial powers especially after the Treaty of Westphalia in 1648 and the fact that the nation-state began to strengthen in the international system led to a significant increase in the number of actors in the system. The exchange of all kinds of commodities between these actors brought about liberalization both politically, economically and intellectually. Without liberalization, it is unlikely that the sharp borders in the international order will disappear. The fundamental propositions of liberalism which are justice, freedom, equality and basic human rights had profoundly influenced political and economic order, and intellectual thoughts (Schmidtz & Brennan, 2010).

These basic views of liberalism, which began on an actor basis and influenced the overall system over time, predicted that it would be beneficial for the international order to use organizational movements and liberal institutionalization to ensure international peace in the early years when international relations emerged as academic discipline; but for that period it was often interpreted as a rejection of reality. Even E.H. Carr In his book The Twenty-Year Crisis, writes that these views are utopia on purpose in terms of the current international order, and that the utopian wants to dominate his own utopia instead of reality by more or less rejecting reality (Carr, 1946). Given that these ideas coincided with the period between the two great world wars, it is possible to say that Carr had a fair share. Because even the international economic order required to meet the most basic needs of humanity has not been fully established yet, it has not been seen that liberal values have been brought to the fore as real or rational.

With ‘’the United Nations (UN)’’ stablished after the Second World War, the values advocated by liberalism began to be discussed again and liberal values began to be underlined, especially in the formation of economic order. As international trade started to develop in the new order, especially capital, labor and product mobility increased, international communication and value sharing also increased. Due to this increase, people's relations with each other have increased and a new era has started in terms of sharing human values due to economic developments. The liberal view, which was revised as neoliberalism on this occasion, actually turned to its foundations and turned towards liberalism which Adam Smith described in his economic order in his book The Wealth of Nations (Smith, 2000) This is in fact proof that liberalism is a school of thought that mostly concerns the economic aspect of international relations.

The connection between liberal theory and energy security mainly can established arround three main concepts which are collective security, arms control and international organizations. Those three concepts play critical role in establishing connection between energy security an IR in terms of liberalism. According to liberal theory there are natural connections between those three concepts. Although these three concepts seem fundamentally different from each other, they actually play a direct role in the existence of each other. In simple terms, armament must be under control to ensure collective security, and international efforts should be made to control armament, and this effort can be demonstrated through international organizations. These three concepts are reflected in this way at the macro level, while at the micro level they appear in a similar way. The issue of energy security is one of the micro international issues in which these reflections are seen in a similar way.

If energy security issues are to be explained through liberal theory, the first thing to be addressed is collective security. The issue of collective security is an idea that dates back centuries. The alliance forms that different nations come together are among the first examples of collective security. Although the concept of collective security has not been put forward as a concrete idea in the early days, it has been developed since the years when the international system began to develop. As a concept, collective security issues, which started to take place in the literature after World War I, are of great importance for international security (Bloomfield et al.,1993).

Collective security is critical to the international system as it has the potential to fulfill its prevention and deterrence missions. These missions are of great importance in terms of security in general terms, and they are of great importance in terms of energy security in particular. Energy resources are of great strategic importance since they can be used for protection and, where appropriate, as a deterrent factor. From this perspective, it is possible to see that any actor with energy resources is free to use its energy sources to provide protection for his own security or to use them as a deterrent factor against possible external attacks. The history of energy in the international system is full of examples where energy resources are used as actors in the hands of actors. In the liberal perspective, this protection or deterrence is more about economic than military. One of the most striking examples of the use of energy resources as an economic weapon is the oil embargo imposed by OPEC in 1973 and the resulting oil crisis.

In 1973, as a result of the shortage of oil supply by OPEC member countries, a crisis that would cause a shaking in the world oil market broke out. Although the main reason for this crisis is seen as the American support for Israel against Arab countries in the Yom Kippur war, it is possible to say that the economic expectations in the oil market have caused this crisis (Yılmaz & Kalkan, 2017). Because it is obvious that if the OPEC member countries did not use oil, which is the only source of income, at that time, would have a profound effect on these countries economically. Especially for Iraq and Iran, which took serious steps towards nationalization of oil at that time, it is possible to say that economic reasons rather than political reasons prepared the ground for creating this crisis(Yılmaz & Kalkan, 2017).This crisis has had many effects on the international system in a liberal sense. First of all, due to the exorbitant increase in oil prices, the western countries and Japan, which use oil as their main energy source, have had a negative impact on productive terms. This crisis, which has some political consequences, has led to the reshaping of alliances for energy and energy resources and the questioning of energy supply security at an international level. The fact that there is a monopoly on a strategic issue such as energy, and that even the slightest disagreement of production is endangered is a strategically important deficit in the international system. In terms of collective security, it is a situation that would jeopardize the safety of the whole system in relation to energy security. With the outbreak of the oil crisis, there have been many liberal developments in the international system in relation to energy security.

Primarily, the logic of control of arming has been taken and measures have been taken to prevent the use of energy by some monopoly powers as a strategic weapon. In this context, many improvements have been experienced in organizational sense. While the International Energy Agency was established immediately after the crisis and aimed to play a decisive role in terms of international energy policies, organizations such as the World Bank and the European Commission have started to give a wider place to the issue of energy security in their programs (IEA,2019). Those are some proves of increasing importance of energy sources in the strategies of international actors (Yergin, 2008). Of course those developments are not only developments in the case of energy security. After that time there have been many organizational and strategic developments in order to have strong structure of energy market.

As one of the founding schools of the discipline of international relations liberalism, and the modern state of this view, neoliberalism, can be associated with energy security in many ways. Liberal views, which play an important role in the development of the international economy and trade, are also critical for energy security as energy resources are one of the most important commercial instruments of international trade. In fact, considering the production processes, energy resources are the sine qua non of international trade. In this case, supply security, demand security and transit security, which are the branches of energy security, are considered in terms of liberalism: in order to maintain these three security branches in a healthy way, under the conditions and rules, under the supervision of certain institutions and under the auspices of certain actors trade in energy resources is an important step towards achieving maximum benefits, both globally, regionally and actorly. In particular, the fact that the strategies for maximizing profits advocated by neoliberal thinking become a sustainable policy in the international system by considering liberal balances is of great importance for energy supply trade and indirectly for energy security.

4.2. Realism

There are fundamental differences in the discipline of international relations that distinguish schools of thought. These differences are related to the issues discussed, the issues underlined, the way in which the propositions are obtained or the areas of investigation. In short, the differences between units of analysis and levels of analysis are

the main factors that determine the direction of schools of thought or in other words theories. Realism is one of the theories in which these differences can be seen most sharply. Realism is a school of thought in which the boundaries are drawn very clearly and, the actors and decision-making mechanisms are almost constant and the objectives are clear.

This clarity makes realism extremely hard and sharp in terms of theoretical character and analysis. For this reason, realism is seen by some circles as a school of thought that has been an instrument of pessimism and interest-based policies. In fact, the main reason for this situation is that realism is not based on what is supposed to be, but on what is. When discussing liberalism, instead of the ideal of reaching the ideal mentioned, in realism; rather, the existing theoretical conditions are evaluated and specific theoretical implications and plans for them occupy a significant place (Waltz,1979).

While realism is a philosophy that examines the existing and produces future projections, it has become a theory since it is defined by positivist science. For this reason, it is not possible to see very big differences between the oldest and the most recent of the intellectual views directly or indirectly put forward about realism (Waltz,1979). For instance, although there are significant differences in time between the definition of power by Niccolo Machiavelli in his Prince and the definition of power in Carl von Clausewitz's On War, it is not possible to observe large differences in meaning. It is possible to come across the footsteps of realism, even though liberal views are dominant at the time when international relations emerged as discipline, since there is an undeniable chaos reality in the post-1919 period, even though the ideals of international actors are discussed.

The assumptions of realism are usually based on state, power and anarchy. The realist tradition that produces theoretical approaches on these three elements makes evaluations based on concrete or existing events and facts. Realists, who see the state as the sole and absolute actor in the international order, define the existing international order as an anarchic order and argue that the main element to be able to continue the survive in this anarchic order is power. Therefore, according to realism, it is an important

requirement that the state, which is the primary actor in the international system, should be strong or make efforts to maximize power. As Morgentau (1973) state in his Politics Among Nations, " International politics is a struggle for power as all politics. "

Realism has clear propositions about the place of state and power relations in the international system. According to realism, the only actor in the international system is the state, although there are some non-state actors, the quarterback in the system is always the state. The system in which the state is located, namely the international system, is defined by realism as a natural anarchic system. In this system, which is naturally dominated by anarchy, there is no international structure or institution capable of preventing international conflicts or strife. In such an order, the sole purpose of the state is to maximize its military and economic power in order to remain in the game. The state completes the parts that it lacks in this order by forming a balance of powers by making some mutual agreements and forming alliances. These alliances should generally be alliances for protection against oncoming attacks or for the purpose of attacking the other party. Because there is no such thing as cooperation in the international system, the reason for this is the fact that states should never trust each other as independent actors. Finally, according to the realist tradition, the sole purpose of the state should be personal interests and mobilize all opportunities to achieve national interests (Snyder,2004).

Realism, which defines the state as the main actor of the system and proposes propositions such as a guide of behavior, has also changed according to the changing conditions of time. Although there are no fundamental differences, the notion of structural realism or neorealism, unlike classical realism, has added some kind of wealth to the realist tradition. According to Waltz (1979), there are two types of realist approaches, the first is offensive realism, which tends to use brute force to retain power and sovereignty, and the other is defensive realism, which is more moderate and prone to engage in strategies and strategies for security and power maximization. This softening of the realist tradition can be attributed to re-reading the changing world order, especially after the Second World War. Organizational and institutional changes after the 1950s have led to major changes in various fields, particularly in the political and economic order in the world, and have pushed approaches in international discipline to make some intellectual changes in this direction.

The concept of hegemony in the international system and the change of some developments in practice have caused some stretch in theory in terms of realism.The development of the relationship between energy security and the realist approach was similar to that of the realist tradition. Energy resources, which are always an element of power, have been used to realize different strategies at different times. For example, in times of classical realist approaches, energy resources, which were used as a rigid force or even a weapon, were used as a trump both in the hands of the mediating countries and as a strategic move in order to balance the powers. Energy resources are strategically key because they have the potential to be used by the same actors at different times for different purposes in the international system. Especially after the transit from the classical realist approach to neorelist approaches in the 1950s, energy resources were not only strategic tools representing hard power, but in some cases they were used as diplomacy or soft power tools (Nye, 2004). The main reason for this situation is the institutionalization of the international system and the sensitization of the commercial relations that develop accordingly.

In a system with such delicate and strategic relations have gained great importance as any actor, no matter how strong, cannot show a body because of the resources or opportunities it possesses. While it was important to have an energy source and use it as a direct power, alliances or partial alliances with actors who own or have a say in the trade of energy resources have gained importance too, especially with the international system becoming more strategic. Already one of the small differences between classical realism and neorealism, the possibility of cooperation has emerged with this tendency. As mentioned before, according to the classical realist approaches, since every actor or basically every country struggles for their own personal interests, the idea that no actor or country should be trusted in the international system has become a cooperation with the neorealist approach due to commercial and political relations. Here too, it is observed how the economy plays a unifying role in world politics, especially in the theoretical sense. Neorealism, like neoliberalism, has blunted the sharp edges of theoretical planning and made certain views and approaches more soft and shapable.

The transit from classical realist approaches to neorealist approaches was observed at the theoretical level as well as in the practical field of the international system. Joseph Nye's findings on this subject are extremely important. According to Nye, power is a concept that should be evaluated differently. Nye, who claims that power is no longer a monopoly and has changed dimensions, either through power transmission or power distribution, is fully consistent with energy security. This is more evident when case studies of supply, demand and transit security issues are made. According to Nye's thesis, the spread of power from states to non-state actors also transits from west to east (Nye, 2004). This is one of the important points to be mentioned about energy security. This is because the diversification of energy resources and the breaking of the monopoly on energy are among the main factors that provide concrete examples of these power transits.

The changes in power in the area of Energy Security are often processes that develop through polarization or grouping. As long as the system allows, alliances developed in line with the national interests of the states or polarization strategies established in the direction of national interests are the processes that have taken place since the beginning of the use of energy resources in mass production. In fact, in the cases of hegemonic stability, multipolarity or bipolarity in certain periods, energy related issues have a great place. International issues related to oil, natural gas and nuclear energy from the past to the present day are sufficient to provide evidence for this phenomenon. The discovery of oil in the United States has been a major source of wealth for the United States; however, the economic and political power provided by the oil, with its presence in the Caspian Basin and Russia, especially in the Middle East, has not ceased to be a monopoly of the United States of America and has caused the sharing of power by allowing various new actors to enter the energy market (Yergin, 2008).

By this means, the oil-owning states have become economically strengthened and it is inevitable that the countries in which the industry develops have alliances with them or at least have friendly relations. This is because the interruption of the supply of energy resources means that production stops. The previous OPEC oil crisis example is one of the most important evidence of this.

Another important source of energy that leads to a change in the use of power due to energy sources and the change of the status of actors within the system is natural gas. Since natural gas is a resource with huge reserves in certain regions of the world, it is possible to say that the natural gas market is dominated by a group of countries. Russia, which plays a dominant role in the world natural gas market, is the most influential of these countries in the international system. The United States also has a considerable natural gas reserve; but America uses its natural gas more to meet its own needs.

Other important actors of the world natural gas market are the countries gathered in a certain basin such as Iran, Qatar, Turkmenistan and Saudi Arabia, which are also mentioned under the heading of natural gas (Hassan, 2013). This situation increases the dependence of the world market on natural gas in a certain region and creates certain levels of sensitivity in the supply of energy resources. Considering that these countries are also rich in oil, it cannot be ignored with a neorealist approach that these principles can use their own resources as soft power elements and that other countries should establish strong diplomatic relations with the geography.

In addition to having a natural gas resource, it is also critical to convey this resource to the point of need, so other actors in the market are gaining great importance in the natural gas trade. While these actors are generally the countries on the transit route, it is seen that other non-state actors can also take part in the equations. Companies such as Gazprom in Russia and Socar in Azerbaijan are among the important examples that can be given to teh non-state actors in the natural gas market. In the market, one of the countries that provide significant benefits from transit is Turkey. Because of being closer to natural gas-rich basin, and have a bridged geopolitical location between 3 continents have made Turkey a player who has a major role in energy supply, demand and transit security by just having some strategic advantages (Karagol et.al. 2016).

Nuclear energy is one of the sources of energy that is used as a direct power element with the classical realist mentality and even has the potential to be one of the most important examples of hard power. The atomic bombs thrown by the United States to Hiroshima on August 6, 1945 and Nagasaki on August 9, 1945 were the first examples in which an energy source was transformed into a different form and used as a direct weapon. This situation has brought the energy security phenomenon to a very different

dimension. This phenomenon, which manifests itself as the real practice of arms control, supported by liberal logic, is one of the most obvious examples of what kind of strategies energy can actually be an instrument. In addition to causing a major change in world politics, this event has been a move that greatly changes systemic balances. The establishment of the United Nations, the continuation of the American hegemony by riveting, and the European restructuring are the events that happenede in the continuation of atomic bomb incident, there is some evidence that the serious consequences of an energy-based development.

When the realist approaches to energy resources and energy security are considered cumulatively, it is possible to see that both theoretically the realism and practically the concept of energy security are subject to periodic changes. Since the effective actors of world politics have to act critically against the actors acting with the classical realist mentality due to the acceleration of liberal developments and the increase in institutionalization, the actors producing the policy with the classical realist approach are pushed out of the system if they are not strong enough.Iran is one of the most important actors in this regard. Although it has a very important position in terms of energy resources and political strategies, Iran did not take much place in the organization of the international system as a founder or manager. In spite of this isolated situation, Iran has continued to work insistently on the nuclear program, and because of this insistence, Iran has not only suffer from reactions because of nuclear program but also lost the other benefits from other energy sources (Bilgin, 2016). From a realist perspective, the attitude towards Iran is the product of another realist policy; but in the most realist way, it is normal that the most powerful is the party that determines the policy.

As a result, although the realist approach has lost its apparent influence, it is possible to see traces of realism in all liberal policies. This is also the case with energy security. Since the dependency relation between supply, demand and transit security is very high, it is difficult to understand the realist perspective clearly because there is a kind of liberalization and the necessity of staying in the relations within the framework of liberal approaches. But considering that the aim of almost all policies produced in the international arena is to maximize power, whether or not the realist perspective appears to have a certain effect it has remarkable place in any equation.

4.3. Historical Materialism

The discipline of international relations, as seen in liberalism and realism, is not only related to interstate political relations, but also about economic relations. In this respect, the school of historical materialism was an important contributor to the discipline of international relations, because historical materialism created various propositions by evaluating states and international actors not only through their economic or political relations, but also through their historical and sociological ties. This situation can be considered as laying the ideological foundations of the interdisciplinary structure of international relations.

The ideas developed by historical materialism have the potential to lead to different consequences at different periods in political, economic and social terms at international level. The idea of historical materialism, which is basically shaped on Hegel's dialectics, has evolved over time into different forms (Hegel, 2011). Eric J. Hobsbawm (2005) evaluated the period between 1789 and 1848 as age of revolution, the effects of which will continue for many years on social and economic developments. These developments have had a great impact on the public, and Marxism, which we can say emerged as a result of those effects, has become a kind of expression of historical materialism, and even has a "frightening diversity" as it comes into contact with too many ideologies (Barret, 2000, p11).

Hegel's dialectical philosophy, which constitutes the basis of the ideology of historical materialism, is more related to the idea, so there are some aspects that he lacks in touching with social reality. Hegel, who considers thought as the basic principle, has made an important breakthrough in the philosophical sense with his dialectical philosophy on the way to reach the object by thinking and even mentioned the continuity of the method of reaching the object with the concepts of antithesis and synthesis (Hegel, 2011). This method, although philosophically satisfying, was practically manifested by Marx's interpretation of Hegel's ideas. By materializing Hegel's ideas of thought, Marx created his own ideas and created a turning point for the school of historical materialism (Hilav,2012).

Marx somehow materialized the dialectical method and practiced historical materialism by making some comments on the economy and social structure. To put it more accurately, he took an important step to embody the abstract part of Hegel's philosophy (Rıdenour & Ruth, 2014). It is precisely at this level that the philosophy of historical materialism or narrowly Marxism comes into contact with the discipline of international relations. Since facts such as analysis units and levels of analysis in the discipline of international relations are evaluated through concrete units, Marxism, which is the embodiment or more materialized form of Hegel's ideas, is a school of thought that is important for the discipline of international relations because of the social and political cases it comes into contact with.

In Marxist philosophy, there is a constant effort to materialize. Using dialectical methods as a way out in these materialization processes, Marx, through the dialectical processes he produced in social and economic issues, addressed all aspects of the international system and succeeded in creating a remarkable ideology by developing a different approach from other schools of thought. Marx's critics and interpretations of economics have also laid the groundwork for many new schools of thought. In addition to being a very old idea, Marxism had a great impact on almost all social disciplines due to its social base and contact with society (Barret,2000). Marxism was complicated by the fact that it was an ideology with such a large influence and scope.

The most important theory to be examined in terms of Marxism in the context of international relations in general and international security in particular is the theory of class struggle. Karl Marx and Friedrich Engels' contributions to this theory constituted the framework of the theory. According to the theory of class struggle, society has been divided into social classes voluntarily or involuntarily for various reasons. There are differences between these classes in various fields, usually economic. These differences are shaped according to the needs and interests of the groups (Marx&Engels, 1998). In the last analysis, there is a struggle between the groups formed according to the conditions and this new phenomenon continues within the framework of a dialectic. Marx and Engels classified society as economically based and examined them in two main groups: the bourgeoisie and the proletariat, the bosses and the working classes. These classes are the

groups that have huge differences between them in the economic sense and the inter-class struggle is at an extreme stage (Mc Lelland, 1977).

Marxist views play an important role in the discipline of international relations in the philosophical sense. Marxism, which is an important school of thought both in terms of its interpretations on international economic relations and examining the formation of classes in the system at macro level, has a lot of importance related to the structure of the system. Based on these facts, the marxist view, which keeps the themes concerning all international actors such as labor, capital and labor on the agenda, has made some classifications among the actors of the international system. In doing all this, marxism brutally criticized capitalism, which it has seen as the main reason for the formation of social classes. The theoretical reflection of marxism, which is basically an economic theory, to the discipline of international relations coincides with the after 1960s. The underlying reasons for this can be shown as the periodical dominance of the liberal and realist views previously examined over the discipline and the capitalist western-centered discipline. It is possible to base this on a realistic view of the logic of the powerful governing system. In fact, it is not said that marxism is too much accepted since it is an opinion that opposes the hegemon and its order (Hoffmann, 1977).

The real intersection of Marxism, which is a school of thought mainly related to economy and social structure, with the discipline of international relations, is on the state of modernization and dependence. One of the main reasons of this situation is the changes in world politics, especially after the second world war. Movements towards modernization and decolonization, which began at that time, began to form a new class consciousness among states, as well as alliances for a new world order were formed, and the polarization in world politics increased as almost all of the international actors had to choose sides (Handleman, 2006).

The bipolar structure, especially during the cold war period, and the non-aligned bloc that does not want to be in this structure is one of the clear evidence of the grouping that started in world politics. Marxism's propositions about this new order have been linked to dependence and class struggle in the newly formed economic order through

newly developed theories. It is possible to say that the new theories that emerged under the influence of marxism establish direct theoretical ties with international relations.

The new shape of world politics after World War II prepared the ground for the change of many phenomena in both theory and practice. In the context of international economic relations, the independence of some colonies and their democratization process, based on these gains, completely disrupted the plans of the former ruling powers and made both economic and political situations tense. The gap between the north and south has also become more pronounced here. The fact that the north, which ruled the south, lost some of its dominance over the south caused important developments in world politics and international economy (Gilpin & Gilpin, 1987).

These developments have led to changes in economic systems, exchange rate fluctuations and market instability. This situation led to the emergence of new actors in the international system and these actors brought new problems. At this point, international security issues have reached an extreme level and the system has become more complicated as security measures have increased.

These changes in the international system have had direct implications for international security in general and for international energy security in particular. The aforementioned north-south gap and decolonization processes have greatly changed the actors that dominate energy resources, allowing new actors and new security problems to enter the energy market. Changes in the Middle East and Africa, in particular, have led to fluctuations in all aspects of the international economy in terms of energy supply security and energy markets. In terms of energy security, dependency equations have changed accordingly.

Although not directly related to energy security, the most comprehensive explanation of the new system and classes related to dependence is the theory of World Systems developed by Immanuel Wallerstein (2004). Although not directly related to energy security, the marxist approach that most extensively describes the new system and classes related to dependence is the World Systems Theory developed by Immanuel Wallerstein. In this theory, Wallerstein analyzed the world system and adapted Marx's class struggle between the bourgeoisie and the proletariat to the international system.

As a result of this adaptation, he mentioned two main groups as core and periphery countries and semi-peripheral countries which are a transit between these two main groups. In economic terms, he claimed that the dominance is central and the core is fed from the periphery in terms of resources and there is a continuous mutual capital-resource flow between the core and the periphery (Wallerstein, 2004). When the process starting from World War II to the dissolution of the Soviet Union and even after the dissolution of the Soviet Union is observed, it can be seen that this claim fully reveals the system.

Wallerstein made this determination long before the developments in the field of agricultural production and industry, and hereby highlighted the international class struggles (Wallerstein,1979). Considering the distribution and use of energy resources in the world, it is possible to say that the same applies to the energy market and indirectly to the security of supply and demand and transit. If the same model is applied to the energy market: The countries in the core are highly developed countries with high welfare levels such as the United States of America, China, Germany, Japan and the United Kingdom, which are highly developed in industry, have high production potential and are constantly in need of energy resources. These countries have to supply their energy needs through certain actors directly from the periphery or semi-periphery. While most of the countries with energy resources are located in the semi-periphery, some are in the periphery group. Generally speaking, there is a continuous flow of capital-resources between these three groups.

Since the periphery and the semi-periphery are underdeveloped, the periphery countries obtain the monetary resources to convert the investment by selling the resources they own or providing the transmission between the resources and the countries in need, and core countries procure the necessary energy resources for their industries and ensure the continuity of the production processes. Thus, in the energy sector, Wallerstein's theory becomes interclass cooperation rather than interclass struggle. This situation continues as long as economic relations go well; however, if any security problems arise, the system can shift to a complete conflict order. Therefore, security measures must be taken very strictly for long-term stability.

The approach to the security equation in the world energy market with the propositions of world systems theory seems highly logical and applicable due to the phenomena of dependence and modernization. However, since the sudden movements of some actors in the system or the disruptions created by the newly emerging actors will lead to the complete collapse of the system, in practice, rather than a fully clustered actor structure, actors exhibiting more individual behavior are encountered. The friendly attitude of Japan towards the OPEC countries is remarkable when the supply of energy resources suddenly reaches remarkable levels during the 1973 OPEC oil crisis.

In conclusion, although Marxism, which is essentially a sociological approach, and a more economic-oriented version of historical materialism, cannot be the main theory of the discipline of international relations, it is essential that some ideas developed within this axis be directly involved in the discipline. The world systems theory that emerges on the axis of interdependence and the approaches developed in this way are directly related to international security in general and energy security in particular. A descriptive and remarkable approach, such as the theory of world systems, is particularly critical for energy security. This theory is of great importance in the international sense as well as in the structural sense in the international system. One of the most important reasons that encompasses the theory of world systems in terms of energy security is that it is able to exhibit a total approach in terms of incorporating realist and liberal actors as well as actors with different orientations.

4.4. **Other IR Theories Related To Energy Security**

Security issues, which are becoming more and more involved in the international system, inevitably continue to be included in the theoretical dimension of the discipline of international relations. This is the case with the new theories that emerged in line with the newly produced ideas as well as the mainstream theories. In fact, it is not wrong to say that there is no theory that does not produce any ideas or interpretations about international security, which is one of the main themes of international relations; however, it is necessary to say that each theory also does case assessment and case analysis according to its own principles. In other words, on the basis of theories, the discipline of international relations resembles a puzzle, each theory makes a comment or inference related to its field; Every new idea that comes out forms a part, and the assembly

of the parts forms the whole. The resulting set of ideas expresses a wide range of disciplinary assessments of the subject matter. If energy security is considered as a subheading of international security issues or as a part of international security puzzle, the implications of each theory are the building blocks for the formation of this part.

Almost all of the theories other than mainstream international relations theories have an interpretation or conclusion about international security and indirectly energy security which is a part of international security. More precisely, it is possible to relate the inferences of these theories to energy security. Modern theories of international relations are often new forms of thinking that have emerged under the influence of mainstream theories such as realism, liberalism or marxism. Methodological or approachual differences have led to the formation of these forms of thought as new theories, since these theories are a kind of blended view of the mainstream. Modern theories as post-structuralism, social constructivism, feminism and green theory, are the main examples of these approaches. Although these approaches do not have direct implications for energy security, they have implications related to international security and the implications that can be associated with 4A of energy security, making these international relations theories important for energy security.

The first theory to be mentioned among modern theories is ‘’Social Constructivism’’. Because social constructivism is a view that rejects the materialism and individualism of rationalism as a discipline of international relations. According to social constructivism, concepts such as power, alliance, sovereignty and national interests discussed in the discipline of international relations and in the international system are not entirely stable social constructions. On this occasion, as Wendt (1992), one of the pioneers of the social constructivist view criticizing the phenomenon of anarchy, 'anarchy is what makes of it,' anarchy is not something that has emerged spontaneously in the natural order, but a new artificial phenomenon that occurs in the international order of artificial and materialistic state structures. In this sense, the social construction theory's perspective on security has been mostly on the social level. Although social constructivist security does not reject issues such as arms race, interests and power balances, which are the issues of international security, since it finds materialistic, it has adopted an attitude towards evaluating the security concept through norms and actors (Wendt, 1992).

This is related to the social acceptability, which is one of the 4A of energy security previously referred to. Although energy resources and energy security are important for the welfare of the society, the social acceptance of the works on those issues have become important elements. The place and importance of social acceptance in the determination of energy alliances, antiquities and even transit routes is of great importance. There are many examples of pipelines or energy transit routes that can be given to this situation. Due to social and political concerns, many countries have been bypassed on these lines or the security measures taken on the lines have been upgraded.

Map 1. Trans Anatolian Natural Gas Pipeline Project

Source:www.tanap.com/medya/basin-bultenleri/trans-anadolu-dogalgaz-boru-hatti-tanapprojesi/

Another modern theory of international relations that can be associated with energy security is ‘’Poststructrualism’’. The poststructuralism proposition which was theoretically structured in the period when the positivism-postpositivism debate reached its peak was formed by concepts such as knowledge, power, discourse, genealogy, deconstruction and double reading. Poststructuralism, which emphasizes sovereignty and state discourse, has serious propositions about international security (Hansen, 2006). The security awareness of the poststructuralist school, which was developed under the influence of the Copenhagen School, was conceptualized as securitization under the leadership of Barry Buzan and developed into a more detailed international security concept by approaching traditional security methods from a whole new perspective (Buzan Et Al, 1998).

The securitization, an important concept developed by the Copenhagen School, which adds a new vision to the traditional security studies, under the poststructuralist theory, has provided the sub-headings of the concept of international security. This school, which emerged in the period when human security and social security concepts started to develop, underlined that politics and security are directly related concepts and that the politicized is securitized at the same time. In this conceptualization process, the state's perception of security or insecurity comes to the forefront. According to this approach, securitization policies of the state are predominantly shaped according to perceptions of threats. Accordingly, the state's main security actor is the army, but the media and other functional channels can also play the role of security (Miş,2012).

The analysis of energy security in different areas as supply, demand and transit security is an important example of post-structural approach. Indeed, any actor in the energy market tends to enter a process of securitization in which direction the threat is perceived. For actors such as Saudi Arabia and Russia, demand security is important because there is a constant demand for rich energy resources. On the other hand, supply security is also important for Europe because a continuous supply of energy is required in order not to interrupt production processes. Finally, for the important actors as Turkey on the issues of energy transit security, the important securitization issue is security of energy transit lines. As a result of all these inclinations, it is critical to examine energy security under three separate headings.

In the discipline of international relations, there are some modern approaches to national security and indirectly to energy security with purely social and environmental concerns. These are the theoretical approaches that have made it a mission to keep gender and environment related problems on the agenda, feminism and green theory. These approaches are in fact not a theory in their own right, but are reactive approaches that claim to solve problems. Feminism's approach to national security is usually based on militarism and gender equality (Moon,1997). In this context, it is possible to associate feminism with the phenomenon of energy security within the scope of 4A of energy and to say that it has important social propositions about acceptability. This is because feminism's empirical research on subjectivity, sovereignty, and security has attempted to show that international security theories are not only based on politics, military or

economics, but also on objective thinking methods based on gender (Moon,1997). From this point of view, the propositions of feminism cannot be ignored in order to address important social issues regarding energy security. The presence of international sensitivities on this issue reveals the seriousness of the situation.

The same applies to the green theory. The green theory, which approaches the issue of international security in real terms, has developed propositions related to the formation of environmental regimes in the neoliberal sense and the establishment of environmental sensitivity in the international system. In developing these propositions, the green theory, which uses concepts such as high politics and low politics, actually acts with the aim of establishing a political environment regime. The practical aim of the green theory is to establish the balance between man and nature through social radicalization on the environment. According to the green theory, it is an important requirement that both states, supranational international bodies and non-state actors work together and produce policies in order to achieve success (Heywood, 2013). This again requires the coordinated sensitivity of international actors. It is also important to underline that energy security is directly related to environmental security.

Although the discipline of international relations is a relatively newly added discipline to social sciences, it is a productive discipline that has managed to form many propositions on political, social, economic and other related fields in a short time. The theories in the discipline also suggested new and useful ideas in many fields. In almost every theory, from idealism to green theory, it is possible to come across interpretations or determinations at different levels of analysis of the problems of humanity and the international community. The discipline of international relations has been able to contribute at least theoretically to the solution of the common problems of mankind because of the fact that it is extremely suitable for interdisciplinary studies. In almost every theory of the discipline that focuses on international security issues as seen in the previous parts of this study, there is a suggestion or idea about this subject. The intersection of the energy security and the theories that have the potential to be one of the sub-headings of international security is also critical in terms of both the explanatory of the discipline of international relations and the place and importance of energy security in international politics.

Figure 2. Place of 4A of Energy Security in IR Theories

	Availabilty	Affordability	Accessibility	Acceptability
IDEALISM & LIBERALISM	Sustainable peace due to sustainable economy.	Cooperation because of effectivetrade.	Flow of sources and funds.	Full size trade and cooperation.
REALISM	Consolidated power.	Power with appropriate prices	Easy acces to Interests.	National insterests.
HISTORICAL MATERIALISM	Easy transit between classes.	Fair World order in terms of prices.	Classless international order.	Operability of World system.
SOCIAL CONSTRUCTIVISM	-	-	-	Social acceptance
POSTSTRUCTUALISM	Consolidated security.	Security with appropriate prices.	Succesfull securitization.	Security risks
GREEN THEORIES		E N V I R O N M E N T A L C O N C E R N S		

CHAPTER 5

5.RELATIONS OF ENERGY SECURITY WITH OTHER SECURITY DIMENSIONS

The concept of security is a broad concept with many different arguments. Security, which has an important place in human history, has been provided and hit in many different ways throughout history. It is also possible to come across time intervals when it occupies the agenda alone in certain periods of history. The concept of security owes its existence to the existence of the struggle. In any case, a threat or at least one threat perception must be formed in order to be able to talk about the security phenomenon, and the threat or threat perception is the result of any struggle or conflict of interest. In this case, when approaching the security concept, it is also necessary to take into account threats, threat perception and conflicts of interest.

Although theoretically appears to be the subject of more realistic views, the concept of security has more or less a place in almost all theoretical approaches to human production. Security is one of the main issues in the discipline of international relations as seen in the theories of international relations mentioned earlier. The fact that all approaches to international relations are directly linked to security is indisputable. The difference between the approaches is a referent object because the security understanding of each theoretical approach has emerged and developed through a different phenomenon. The concept of security, which started with Thucyidides on the axis of reelpolitics and developed with the contribution of theorists such as Machiavelli, Hobbes, Morgenthau and Carr, developed and took its present form by including different visions due to critical developments in the 20th century (Sandıklı,2012).

There have been many developments in terms of the transformation of the 20th century security concept, which Carr (1946) described as a ‘’century of depression’’ in his Twenty Years Crisis book. As a result of these developments, a very broad and conceptual security concept has been formed. It can be clearly seen that classical realist security approaches alone are not sufficient to explain the system. Today, the concept of security cannot be explained only by classical realist views, because there are serious differences between the conditions of the day in which classic realism produces its propositions and the conditions of today. In the past, state security was placed above all else and propositions were developed in this context; however, the changing conditions and developments of the age, have added the state security related instruments and even the facts that are not related to the state security to the agenda of security. In summary, the deductive security methodology evolved in the form of inductive methodology and continues in this respect.

Practical developments in the security concept have also been seriously reflected in the theoretical dimension. The concept of human security that emerged in the post-Cold War era, when the discussions on security and security concepts reached serious dimensions, led to the beginning of a new era in security both in theoretical and practical terms. The concept of security that has begun to develop in this context has brought the security of not only the state or its subordinate elements but also the security of non-state elements and even individual to the point of discussion (Collıns, 2010). The early 1990s, which could be regarded as the opening of a new era in the field of security work and coincided with the end of the Cold War, was the period when new concepts and philosophies related to security began to be produced.

In this new era of security, referent objects and their securitization have been considered instead of generalizations about security, and studies have proceeded in this direction. Now the logic of securing everything with the state's securitization has gradually been replaced by the idea that each object should be securitized separately, which is true. Because, although the state is a structure that includes all the elements, it does not have the ability to control these elements from a single center. This classic realist logic dates back to ancient times, when the state was simple. New state orders are more complex and difficult to manage (Collins, 2010). As mentioned before, the continuation

of the movement in social sciences and the continuous application of additions or subtractions according to the requirements of the era in both practical and theoretical terms have also been manifested in the security concept. In the changing and developing world, the formation of the philosophy related to security studies did not take long.

Theorists such as Buzan, Weaver and Wilde at the ‘’Copenhagen School’’, where the concept of securitization is produced in an intellectual sense, have found it useful not only to examine security as a whole but to evaluate it through referent objects in order to create a more effective and understandable framework, both in terms of explaining the general security theory and concretizing international security. In this context, these theorists continued their studies, especially in the post-cold war period; they have introduced a new and detailed security approach by taking into account the human security factor which has gained importance in addition to the reasons such as the change of enemy definitions of the great powers, the change of polar structure in the international system and the integration of new international actors into the system (Buzan, 1998). The basic logic of this approach is that any object at national or international level can be subject to security. This approach to the security phenomenon has made the place of referent objects in the concept of securitization even more important.

According to this new security approach developed in the Copenhagen School if anything is to be included in the process of securitization, that is, if a reference object is to be made in any security equation, it should be raised and discussed by the political elite, where there is a threat to its existence, and the threat is politicized. In the second stage, a public opinion is established that the referent object is a really important fact that should be maintained, and if this is achieved, the securitization process will be completed successfully and the phenomenon is now securitized (Collins, 2010). At the end of this process, the secured item has now become part of national and international security strategies. With this strategy, the Copenhagen School examined the security and security phenomena under 5 main headings and tried to explain in detail the problems that a state may face regarding security. According to this security approach developed by Buzan and his colleagues, national security is composed of 5 different security phenomena: Military Security, Regime / Political Security, Societal Security, Environmental Security and

Economic Security (Buzan, 1998). With the merger of these parts, the phenomenon of security has been carried to the international dimension through globalization.

All of these branches of security, which are created under the security concept, are linked in various ways to energy security. When the fundamental logic of these connections and the unshakable ties of these security branches with energy security are analyzed, the fact that energy security should also be included in this categorization with a separate title will be revealed. Hereby the security concept will be deepened and expanded.

5.1. Military Security

The complement of security in the mind is usually the weapon. One of the principles of the security concept is that the weapon or the existence of the weapon is the most important factor in ensuring security. This view, which advocates classical realism, is also one of the cornerstones of the military security concept. Military security is of great importance both for the security concept in general and for other sectors of security in terms of the beginning and sustainability of the security phenomenon. Because, regardless of the security value of weapons, soldiers and the army can not be discussed. In this respect, it is possible to say that the most inclusive and valuable sector for the security concept is the military security sector.

The place of military security in the security concept has gained greater importance with the deepening of the relationship between power and political objectives. Particularly, the gains of the military power towards having a say in world politics reinforced this situation. Especially the military and political developments in the 20th century can be shown as evidence. It is clear how changes in the level of military power change the balance in the first and second world wars, and even in the course of polarization during the cold war period, the fact that the actors are positioned according to their military power levels is a serious proof of this situation.

The purpose of military security is to ensure the security of citizens at the outset and thus national security. This all-round approach is one click above classical realism, since in classical realism national security is always at the forefront; but the importance of human security, which gained importance especially in the early 1990s or in the end

of the Cold War, made the security of each citizen a goal for national security. Because the security of each citizen plays an important role in the formation of a total security concept for the nation. In this context, if the internal security, which is suggested as the prerequisite of foreign policy, is ensured, the state's maneuvering area in the international arena will increase. In other words, it can be assumed that a state capable of ensuring the security of each citizen has solved the problems of internal security and provided an important basis for decision-making processes in foreign policy. In short, national security is critical for ensuring both political and military security in the international arena (Buzan, 2008).

Military security is essentially a branch of security that encompasses military measures taken to perceive an existing threat. As mentioned before, military security, which is one of the important elements of national security, has been built on different perceptions of threats from history to today and has gained the complex structure of today. Since the perception of threat is different in every period, the elements of military security have also been different in each period. During the times of hegemony, the existence of powerful armies and powerful weapons was the basis of military security, while in the period of multi-polar balance of power, diplomacy and international politics became instruments of military security (Buzan, 2008). The phenomenon of military security developed by this and similar developments has directly and indirectly affected the concept of energy security in many ways.

Energy security and military security are two separate security concepts that interact with each other and have some kind of direct proportion. Military security in general is more inclusive; however, its relationship with energy security has increased due to technological advances and quantitative increases in military security techniques, so military security and energy security have become more intricate. While the military ensures the security of energy resources and energy trade as well as everything else, it receives the reward of this security in the form of the use of these energy resources in the production of weapons and ammunition to the army. This is the most fundamental relationship between energy security and military security.

This relationship has become extremely complex today due to the increase in the use of energy resources and the developments in military security. World history is full of examples where energy affects direct military security and military security affects direct energy use. One of these examples is the US atomic bomb attack on Japan for certain military reasons. Although this is not entirely related to energy security, it is an important evidence that any energy source can have a direct impact on military security. On the other hand, I. and II. The Gulf Wars show both the importance of energy security testing by Gulf countries and the importance of energy resources in the perception of threat in military security.

The fact that military security is in such an intricate relationship with energy security is due to both the 4A of energy security and its direct relevance to the branches of energy security. The military stability of the countries is of great importance in ensuring the security of energy supply and demand, because the stability in military security is directly reflected in the stability of all areas of that country. For example, the military instability that emerged after the American occupation of Iraq has caused deep security dilemmas in Iraq and the supply security has been compromised for the countries providing energy resources from the rivers, increasing oil prices have caused a partial fall in demand in the oil market, thus both energy supply security and energy demand security has been adversely affected by the deterioration or failure of military security. The theft of oil from pipelines by the new terrorist groups that emerged after the occupation and their actions to damage the pipelines are also examples showing the negativity in terms of energy trasition security. This situation is extremely negative impact on the energy delivery is provided via Turkey (Akbaş & Ürün, 2016).

The relationship between military security and energy security is an important aspect of general security. Providing military security is of critical importance in terms of providing energy security as in all matters, while providing energy security is of great importance in terms of preparing technical and economic ground for military security. This interaction demonstrates the importance of the two security branches (Samaras et al, 2019). As a result, providing military security is important both in terms of providing 4A of energy security, affordability, accessibility, acceptability and availability as a whole,

and to ensure that the synchronization between supply, demand and transit security, which are branches of energy security, can be maintained consistently.

5.2. Regime / Political Security

The state was defined by George Jelinek as ‘’a unity of nation, which was originally equipped with sovereign power and settled on a certain piece of land’’ (Jelinek, 1911, p.296). From this definition, it will be useful to analyze the concept of sovereign power and how this sovereign power evolved throughout history, in order to understand the security of the regime. The concept of the state, which we can say that emerged with the existence of humanity, has changed and developed with humanity. This concept, which initially emerged as a small group of people gathered together by a small number of people, has gained its present form in time through social and economic changes and developments. Although there are differences in level of development and consciousness, the fundamental similarities between Akkads, the first known state in the world and the United States, which is now a superpower, explain the state philosophy of existence; these are: the common interest and the existence of sovereign power. Over time, studies and interpretations on the concept of state and sovereignty have made this concept more mature and made it take its present form.

The concept of state, which has been continuously developing from prehistoric times to the present day, has been explained by the thinkers like Machiavelli and Hobbes, based on sovereignty. These views, which form the basis of classical realism, saw the state as a mechanism established by people gathered around common interests and presence of a sovereign power governing this mechanism. This was the case for feudal Europe, where sovereignty was ensured with brute force, and the state structure and the attitude towards the state changed by Westphalia.

The concept of the nation-state, which emerged with the Westphalia order, has led to diversity in the sense of the regime, and changes in the concept of the state have begun, starting from Europe. In addition to common interests and sovereign power, the concept of nation-state has made the concept of state and regime more complicated by introducing common concepts of religion, language and race into the concept of state. Because, in

line with this understanding, a new and minimal understanding of the state emerged as the major empires were torn apart (Roberts,1997).

These developments, which led to the breaking of the dominant power in Europe, led to greater changes with the revolution in France in 1789. The idea of democracy, which came with the revolution, created an alternative definition of national sovereignty to Machiavelli and Hobbes. Democracy was quickly accepted by society as it was a regime that prevented a person from dominating the whole state and allowed the people to choose their own rulers (Roberts,1997). This was precisely the liberal revolution of Locke and Rousseau against the classical realism of Machiavelli and Hobbes. At this point, the issue of regime security comes to the fore. Because, as in almost all cases, in the regime there will be the constant return effort of the old regime and the self-preservation effort of new regime.

All states in the international system are experiencing conflicts over the regime. These conflicts are seen as the return of the old regime or the struggles of different ideas within the new regime to rule. Huntington's (1991) counter-waves in his study of democratization are examples of this. Because, especially in the third world countries, the movements towards the return to the old repressive and dictatorship regimes are very common. These developments in regimes, especially regimes that changed with the waves of democratization in third world countries and the struggles experienced, brought the issue of regime security in practice after the 1960s and finally, in the 1990s, in the ‘’Copenhagen School’’, according to the studies carried out by Buzan and his colleagues (1998). It was entered literature in theoritical terms.

Regime security can be defined as roughly maintaining the functioning of the existing regime and taking measures against threats against it. These measures may vary depending on the type and functioning of the regime. For example, in repressive regimes, the military elite is of great importance, and in such regimes, regime security is ensured by a consolidated command and a powerful army. In the case of democratic regimes, the situation is different, and the ruling party seeks to secure its regime through sustainable policies. Regarding the regime's credibility and security, there are many ways to ensure security in democracies in the form of elections, referendums and measures to be taken by a parliament of elected persons. In short, it can be said that the regime should be

basically consistently safe; but it is always a threat, whether oppressive or democratic. Therefore, the ruling elite must carefully determine the form of governance and the means of securing the regime (Collins, 2010). At this point, it is extremely important that the regime uses the commodities it owns and how it uses them.

The point where energy security and regime security can be related is exactly the concrete possibilities of the regime. In this context, governments or regimes should be evaluated according to their position in the energy market. Regimes in energy-supplying countries should produce regime-oriented policies for the continuity of energy supply, because securing energy supply is important for the sustainable economy, and sustaining the regime is directly related to cash flow, and maintaining the economy through sustainable policies is key. The most important example of this situation is Saudi Arabian, the oil-rich Saudi Arabia's mutualist relations with the great powers provide the basis for both regime security and a continuous cash flow.

The relationship between the regime and energy in the countries that demand energy is different. In countries with high energy demand, the regime is taking measures that can sustain the flow of energy resources falling on energy. If this expectation is not met, it is normal for production processes to fail and economic difficulties begin. In order to prevent this possibility and to have a continuous supply, the regimes of such countries have to provide various demand guarantees to supply authorities through long-term energy agreements. Agreements with a length of 30 or 50 years, which are frequently seen in the natural gas market, are examples of such measures.

The regimes of the countries, which play a key role in the security of energy transit, have a greater role in energy security. Because the measures that these countries' regimes will take to ensure stability should be based on both supply, demand and transit security principles. Regimes of countries with responsibility for transit security have a more complex structure than the other actors. Because, in some cases, it is necessary to provide energy transfer between two countries with two different economic and political regimes and to act according to the two. This means a kind of extra mediation role. In fact, this provides various advantages for countries that are responsible for transit security in terms of regime security through energy diplomacy. TANAP 's (Trans Anatolian Natural Gas Pipeline Project) both economic and political and diplomatic advantages that

it provides to Turkey, an example of this situation (Karagöl et al, 2016).As can be seen from the examples, the relationship between energy security and regime security is based on the economic and strategic interests of the regimes in the energy sector. In terms of regimes, energy resources are important both strategically and economically. In this context, it is an indisputable fact that energy supply, demand and transit security are important determinants of the regimes' security future.

5.3. Societal Security

The concept of social security is the simplest form of human security examined on a society basis. In this context, all assessments of human security are actually related to social security. As mentioned before, with the conceptualization of the human security issue which started to gain importance in the early 1990s by Buzan (1998) and his colleguaes, the social security sector, which is one of the security sectors, has emerged. The phenomenon of social security is a scope formed by the concepts of belonging, such as religion, language, race, identity, which are basically related to society. In fact, society is a structure formed by gathering individuals who have some common points in terms of these concepts. The emergence of societal security in the early 1990s is not a coincidence in terms of these concepts, because perhaps the world history has entered one of the biggest process of social fragmentation and new identity construction, with the disintegration of the Soviets (Herd, Löfgren,2001).

In the last years of the Cold War, the differences between the nations under the soviet union became more evident, increased the struggle between these communities and various disruptions in identity. More precisely, the fact that these communities are on the same roof is not dependent on any emotional or blood ties, but entirely on the sanctions of the state mechanism. In other words, the idea of bringing together a homogeneous nation structure by bringing together the groups of people without any national ties made in a sense with the logic of the Soviet Union has been one of the triggering factors in the emergence of societal security. Bringing together communities that have failed to agree on common elements has actually been a risk for them to engage in a conflict with a sudden spark (Herd, Löfgren,2001).

When this happens, an event that allows the rupture has brought along a chain of ruptures. In terms of suitability, although the Soviet Union is exemplified, the social fate of such compulsory coexistence has always been and will be similar.On the other hand, it can be said that societal security is a source of all security dilemmas as it is formed with suspicions of human security and it also keeps people in focus. The basic case here is that the referent object is the human community. Considering the referent object in other security sectors, there are always siatematic phenomena; however, the situation in societal security is different. This situation raises the relationship between societal security and other security sectors at every point of contact with human and human values. In short, any safety equation that makes direct contact with people in any sector can be directly associated with societal security.

In terms of energy security, it can be said that societal security situation differs from other sectors. Because the energy security phenomenon has a variable characteristic due to market conditions and the value of the commodity it contains. It is possible to relate the concept of energy security, which cannot be directly related to the phenomenon of Societal security, to societal security by contacting people through different phenomena. As mentioned before, if the concept of acceptability, which is one of the 4A of energy security, is taken into consideration, the relationship between energy security and societal security can be easily established.

In terms of acceptability, it will be easier to relate societal security to energy security. The concepts of religion, language, race and customs in the Societal security concept are the concepts that societies approach with emotional ties. These emotional ties are normally reflected in all dimensions of society. In short, if a society will engage with another society, it will tend to engage in a socially similar society. This is a social, economic, political and even diplomatic concern. The biggest example of this is the European Union. The EU is the most concrete example of how economic concerns can create a social and cultural community of countries. On the other hand, the Organization of the Islamic Conference is similarly an important example of how various concerns can unite countries, which differ in different ways in terms of identity, through the single common point of religion. It is possible to talk about the place and importance of the economy indirectly and energy trade in the relations of the members of these affiliation

organizations both with each other and with the outside. Although social ties come after interests in economic and political terms, the first thing that comes to mind in terms of social acceptability is the ethnic and identity ties established with the actors in contact. This can be exemplified for all three sectors of energy security. During the oil crisis in the 1970s regarding the energy supply security, the fact that most of the OPEC countries are developing countries and that they were advantageous in terms of acting in line with common goals and making quick decisions at some points caused them to reach their goals rapidly at various points.

On the other hand, the fact that many energy sources are at the highest level in Islamic countries, both in terms of reserves and quality, has paved the way for Islam to remain as a uniting identity element in the energy sector. Or the ethnic and cultural ties between some countries have created positive situations in terms of security of supply in terms of these countries' access to alternatives more quickly and easily. The energy trade between Azerbaijan and Turkey and the identity side of this trade can be an example for this situation.

In terms of demand security, the Turkeys’s energy trade with Iran and Iraq can be an important example. Turkey is a regular customer of Iran and Iraq in terms of energy resouces even if the political unstability in Iraq and ambargos applied against Iran by west. Both geographical and identity proximity are causes of this situation. The energy security sector, where societal security is reflected in energy security and energy market in the most concrete way, is energy transit security. Because, as has been mentioned many times before, the security of energy transit includes all actors who are related to the path between supply and demand authorities. In this sense, the length of the energy transmission path and the fact that it passes through a route where many different actors have a say have many meanings in terms of societal security.All kinds of energy transmission techniques (tankers, pipelines, roads etc.) can be given as an example. More recently, ethnic and identity dimension of the attacks on the Iranian-flagged oil tanker in the Red Sea, 1980s to this day, ethnic and historical dimension of terror threat against the oil and natural gas pipelines of Turkey's east side, are some of the most concrete examples in which energy security can be associated with societal security. There is a social pressure both on the infrastructure and practices of all these examples and.

Given all these examples, the economic impact of societal security in the energy sector and the consequences of this impact cannot be denied. It is no coincidence that both in practice and in theory, the period in which the philosophy of constructivism has recently emerged and the period in which the societal security concept was introduced into the literature are almost identical. This coincidence is a kind of proof of the reflection of the emphasis placed on the identity and belonging by the philosophy of construction to the practice of international security.

5.4 Environmental Security

Environmental security is more inclusive, complex and conceptually older than other security sectors. This security sector focuses on the potential threats posed to the environment by any economic, political, military or even humanitarian event on earth. In short, the referent object of this sector is environment, surrounded by its all aspects. It is possible to say that the first movement in environmental security started with the industrial revolution. Since the beginning of the 1800s, when coal was widely used in energy production, carbon emissions into the atmosphere began to increase and have continued to the present day, and still continue. Since then, both the development of the industry and the high level of carbon-containing materials such as oil and coal are the raw materials of the industry, increasing environmental pollution and consequently increasing concerns about environmental security (Collins, 2010).

Although the use of carbon-containing substances in the industry poses an environmental hazard, it is only a part of the threats to environmental security. Wastes from economic activities, carbon dioxide emissions from the use of motor vehicles, and all kinds of waste left by nature pose a threat to environmental security. Although environmental safety measures are aimed at mitigating this situation, they cannot provide a serious solution, because full environmental security means the end of many production or consumption processes in the world. Due to the awareness of the impossibility of such a target in terms of environmental securirty, security is constantly being sought with measures to reduce pollution and the effects of pollution (Treut Et al, 2017).

The links between energy security and environmental security are extremely tangible and visible. The presence of energy resources both in the production and

consumption processes, as well as the extraction, transportation and storage of these resources constitute an important part of the environmental security threats. In this context, it is possible to relate environmental security to both supply, demand and transit security activities. These concrete ties between energy security and environmental security mean that any change or development in any of the two sectors is reflected directly to the other sector.

Energy security, or rather the relationship of the energy sector with environmental security, firstly begins with the environmental effects that occur during the extraction of energy resources from underground. When the environment is mentioned, it is not possible to distinguish between these three phenomena as a whole formed by the combination of both underground, earth and atmosphere. Some of the natural elements of environmenst which are underground water sources and gases suffer from the effects that caused from the extracting energy resources from the underground, possibility of earthquakes increase as well (Treut Et al, 2017).

While this is the case with the threats to energy supply, there are some environmental threats to demand and transit security. With regard to demand security, there is a risk that supply authorities may ignore environmental factors or make mistakes in order to accelerate the process of energy resource processing in order to meet increasing demand. In addition, the negative effects of energy types such as hydropower and nuclear energy used to meet domestic demand on the environment are undeniable. Nuclear leaks, radiation and environmental impacts generated by hydroelectric power plants are examples of these risks and adversities.

Although supply agencies engage in mass production processes in order to maintain demand, it is not acceptable to ignore environmental impacts. Therefore, in order to ensure environmental safety, especially in the international arena, important documents have been issued including some measures for the processing and use of energy resources and various commitments have been made by the actors. ‘’The 1997 Kyoto Protocol’’, which includes basic measures and measures for the emission of greenhouse carbon-containing gases and ‘’the 2015 Paris Agreement’’, are important examples of commitments to international environmental measures (Treut Et al, 2017).

Another energy security element that poses an environmental threat is energy transmission lines. The negative effects that may occur during the transfer of energy sources along these lines are also reflected on the environment. Damages to agricultural areas and topsoil, leaks to the seas in tankers transported in the construction of pipelines, or the environmental consequences of accidents in any transport method can be serious. In this respect, it is important to increase environmental protection measures, especially in terms of security of passage. Because these potential negativities have the potential to affect the whole line between the actors who are party to energy trade, not specific locations like supply and demand security (Treut Et al, 2017).

The concrete links between energy security and environmental security in the context of sectors show how much the environment is affected by energy trade and how much it can be affected in the future. Especially after the 1990s, the environmental phenomenon, which started to gain an important place in the literature, has become a subject that should be mentioned in almost all social sciences. Within the discipline of international relations, it is obvious that the environmental issue in the school of thought known as green theories contains some kind of activism.

In addition to occupying an important place in the literature or an important source of inspiration for the social sciences, the environment is a phenomenon that must be taken to protect the environment from this day in order to prevent any irreversible roads. Wounds that cannot be wrapped can be caused if the damage caused by carbon release to the atmosphere and climatic events is not prevented. The energy sector is one of the leading sectors where such measures should be taken.

5.5 Economic Security

Mankind is constantly struggling to survive from its existence to this day. It must at least satisfy its basic needs in the struggle for survival. While initially meeting these needs in completely natural ways, it began to produce and meet their needs as they produced them. After the necessity to meet the needs of the produced materials, the struggle of the human being with the nature was added to the struggle of the other people. This struggle has come from the past to the present day in the form of an equation in which people with more commodities are more powerful and create the game. The start

of production processes and the increase in the struggle caused the increasing needs to be overcome in various ways. As a result, the concept of trade has emerged. With the emergence of trade, needs have been shaped in different dimensions and the production and consumption habits of people have changed. All of these processes are within the scope of the economy which defined as meeting unlimited human needs with limited natural resources (Bisin, 2011).

When it comes to human needs and struggle, it is inevitable to discuss the phenomenon of security. Because while human beings are in struggle, they constantly threaten the security of other people or facts in order to provide their own security by acting with the logic of securitization. Economic security is a kind of instinct to protect the possessions or commodities that are subject to the economy. This artificial instinct has led to many struggles, wars and destruction throughout history. With the increasing economic activities and globalization in parallel with the technological developments, the economy-based security instinct has reached its peak especially in the 21st century. From a safety concept point of view, this is a very sensitive and extremely careful conclusion. Because economic security, just like environmental security, is a fundamental branch of security that has concrete ties with all other economic sectors and even creates a constructive effect in all other security sectors considering that all kinds of activities take place at the monetary base in today's world.

The ties of economic security with energy security are different from those of other sectors. From a financial and commercial point of view, it is possible to realize that energy security is an important part of economic security. The fact is that energy supply, demand and transit security phenomena are related to global, regional or local energy trade as mentioned many times before. Especially in the current century, energy sources can be even currency units. The fact that concepts such as petrodollar and petroeuro are created and used in international markets is the most obvious example of this situation. In short, today's energy security means some degree of economic security. In this context, supply, demand and transit security, which are branches of energy security, are related to the security of different economic interests of different actors in the economic field. This is because in the commercial relationship between actor A and actor B, there are very few

examples where two actors trade on the same interest, which is related to the logic of shopping in trade. One side takes, the other side gives.

The bond of energy supply security with economic security is related to the short-term conversion of the energy source into cash. Any supply authority that owns an energy resource and is inadequate in storage tends to provide economic acquisition by rapidly converting it into cash. Oil giant countries in the Middle East can be given as an example. Production processes and technologies are not sufficient in terms of Saudi Arabia, Qatar, Iraq and so on. Since countries cannot directly use their oil and natural gas in production and there is limited domestic demand, they can rapidly cash in and maintain their own economies with this cash flow. In this practice, since both energy supply and cash flow are some kind of guarantee, both energy supply security and economic security in monetary terms are provided mutually.

There is another side of the coin in terms of energy supply security, which is where the energy market is determined. At this point, actors such as America and Russia, which are rich in natural resources and who have high technological means, come to the fore. These actors tend to ensure sectoral sustainability in energy security. Since they are aware that they cannot ensure sustainability in the market with their own resources, they act in order to regulate the market by making some moves in order to determine energy source prices in the market by global politics. This is more an action in the form of soft carteling rather than the crisis regulated by the OPEC in the 1970's (OECD, 2007).

On the energy demand security side, resource prices and alternatives are shaping economic security. Demand security is related to the behavior of both the buyer and the seller, but because of the prices, the buyer tendency is more important for economic security. The affordability is important for the demanding authorities who constantly need the energy source, the fact that affordability is provided at the prices to be determined by the supply authority directly links economic security and the continuity of energy demand.

In the energy market, affordability is the most important factor that ensures the continuous supply of the supply authority, the demand of the supply authority from the fixed location, as well as the continuity in production. This is because a continuous source of affordable energy means continuous production. An example of this in the energy market is the situation in which Japan has fallen during the OPEC oil crisis. The exorbitant increase in prices during the period affected Japan's oil-based production extremely negatively and even brought it to a halt. Although OPEC countries reacted at that time and created such a crisis, it is not possible for a customer like Japan to be ignored in the energy trade equation under normal conditions. Because Japan imports a large portion of the energy source it needs.

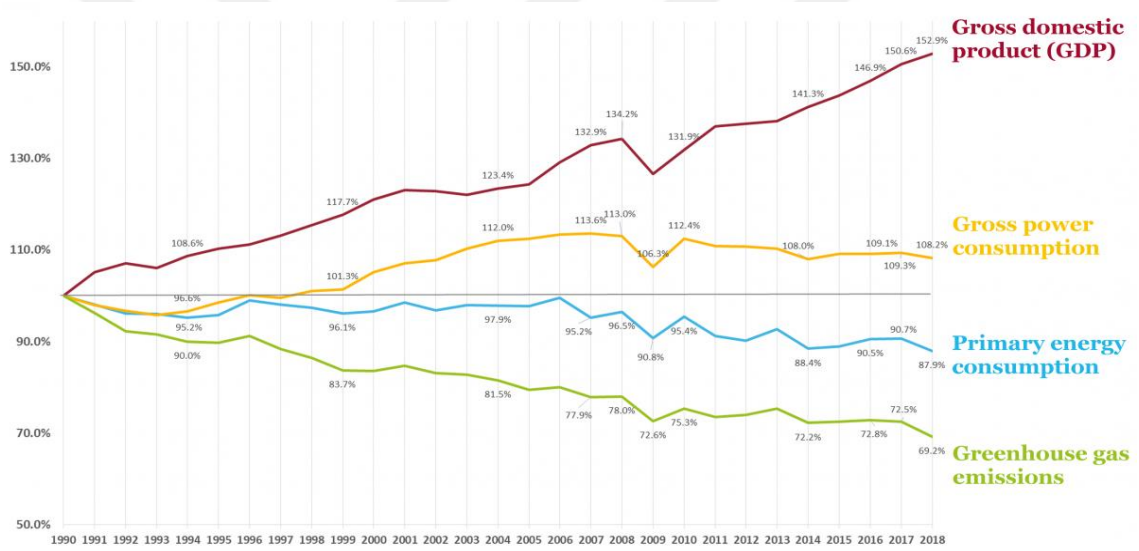
In terms of economic security, the situation of energy transit security is different than supply and demand security in terms of having a bilateral effect. The energy transit, which contributes to the economies of the actors at the transit points establishing the link between the two authorities, contains almost no threat to economic security. On the contrary, the investments made by both supply and demand authorities in terms of infrastructure and financial support to ensure the transit of energy have a strengthening effect on the economic security of the actors at the transit point. In the absence of extraordinary events in the countries of the crossing point where mutual contracting occurs, the energy transfer always contributes to the economy, thus riveting economic security.

Turkey is an important example of this situation. A physical bridge between East and West that Turkey is a key transit point in the pipeline and tanker transport and provide many economic benefits because of this situation. Infrastructure investments made especially by TANAP project have made significant contributions to the national economy (Karagöl et al, 2016). In addition, current and Turkey after Russia's Blue Stream project, especially the gas flow supplied to Turkey's economy will provide enormous benefits. As a result of these benefits, the Turkish economy is getting stronger.

When the interrelation between energy security and economic security is examined in terms of energy sectors and 4A of energy security, the results reveal the importance of energy resources and their security for global actors. Today energy supply,

demand and transi security are means money demand and supply security. In general security sectors, economic security, which has established the most concrete connection in the theoretical and practical sense with energy security is basically the first security sector that should be provided. In the world system, many equations are based on energy sources, where the core actors endanger the security of the periphery actors to ensure their economic security. Permanent members of the United Nations Security Council and the prevention of nuclear weapons in countries other than a few specific countries and sanctions imposed to Iran attempting to not conduct nuclear work the great powers' invasion of countries rich in energy resources under the name of disseminating democracy or humanitarian intervention are some of the proofs of this situation.

Graph 10. Relation between energy use and economy.



Source: CEW (2020)

CHAPTER 6

6. CONCLUSION

Energy is of strategic importance as it is the source of production. The securitization of such an important phenomenon is also important. In this respect, the place and importance of energy security in the international security equation is indisputable. In order to draw attention to this importance in the meaning of literature and to make more detailed studies, it is important to examine energy security issues on the basis of international relations theories and to reflect these investigations separately on supply, demand and transit security which are three different sectors in the formation of energy security.

Since the beginning of the history of humanity, the fact that energy security has been included in the security equations under the scope of supply security has narrowed the scope of energy security in terms of literature and made it difficult to evaluate in detail in the context of international relations theories. In this respect, the fact that energy security is not only considered as security of supply, but also underlining the demand and transit security issues will provide an opportunity to make the necessary place in the literature as well as to provide qualitative research in the context of international relations theories.

With this study, some steps have been taken to elaborate the phenomenon of energy security, to place energy security on the terroic ground in the discipline of international relations and to show the relations of energy security with other security branches. These are important steps to underline the importance of the phenomenon of energy security for the international energy market. Because a holistic approach is not

sufficient in today's conditions for a multi-sector and multi-actor market. When the results of this study are evaluated in terms of the international energy market, it paves the way for many policy suggestions and changes.

First of all, it is underlined that the energy security phenomenon, which has been examined in the literature to a large extent under the title of supply security, actually includes demand and transit security. And a new awareness has been uncovered. The spread of the energy security phenomenon, which was previously examined under a single heading, into three different titles, enabled the effect of 4 of the energy security on energy security to be seen more easily. From this point of view, it will be easier to investigate and examine energy security. When analyzed sectorally, the examination of the phenomenon of energy security under three different headlines underlined the role of the actors demanding and providing transition in the market apart from the actors that supply energy.

When the results of the study are evaluated in the context of international relations theories, the absolute changes in both theory and practice stand out. Theoretically, the new theoretical products that emerge when the discipline of international relations and the energy security phenomenon are put into the same pot will be seen to be highly functional both in the sense of literature and in the application areas. Because it is possible to find theoretical traces in the behaviors of all international actors who have effectiveness in the international arena. Any product that directly combines energy security with the theories will be an important source for actors who are drawn from theories, sometimes with awareness and sometimes unconsciously.

The results in the context of the relationship between energy security and other security branches are the most striking evidence of how important energy security is in any country policy. The relation of capital, which has great importance especially in the fields of economic, social and political security, with energy resources and their security is critical in terms of seeing the place and importance of energy security in country policies. The importance of energy resources, especially for developed and developing countries, has forced these countries to develop policies to ensure the security and efficient trade of resources, and will continue to do so.

In the light of the results obtained and shown separately in this study, there are many situations that will be underlined in terms of energy security. To be honest, the need for energy to continue to increase with this trend has the potential to lead to new results. In this context, the policies of the actors in the energy security equation should be towards making the energy sector more functional instead of disrupting it. In order to achieve this, the requirements of long-term energy contracts must be fulfilled in a healthy way, each actor must fulfill their responsibilities regarding supply, demand and transition and be more active in energy in international trade. The thing that needs to be done in the theoretical dimension of the work is to determine the place of energy and energy security in international politics in the light of theories and to shape the country policies at certain rates theoretically. This is definitely not a necessity, but a necessity to accelerate development. Because, while taking a realist attitude in any military and political sense, any country may act liberally or develop a different formation due to various impossibilities in energy, which is one of the necessary attitudes to survive in today's international system.

To conclude, the fact that energy security, which has become an international issue, is evaluated only in terms of supply security and associated with economy only, is an important deficiency in the literature. This deficiency can only be solved by assessing energy security within the context of international relations theories within the scope of 4A (affordability, accesibility, availability, acceptability) of energy security by separating into supply, demand and transit security sectors as they should be. This technique is a major step in the literature in terms of revealing and discussing the contact of energy security with the military, economic, social, political and environmental security sectors. In this way, energy security will assume the role it deserves in the sense of literature by assuming an overarching role in the overall security concept

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Personal skills :

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EDUCATION

2017-… Social Sciences University Of Ankara, Ankara

Institue of Social Sciences/ International Relations (MA) /

2012 - 2017 Yıldırım Beyazıt Unıversity, Ankara

Faculty of Poltical Sciences / Internatıonal Relations / GPA(3,31)

2013 – 2015 Anadolu University, Eskişehir

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COMPUTER SKILLS

Microsoft Office, Outlook, Photoshop, M-files

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** English (writing- reading-speaking: advance)

**Deutsch (elementary)

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SEMINARS/INTERNSHIPS

11.2013 Enviorenmental ıssues GEO(global envoirenment organization),

01.2014 Money owning GED(genç erişim derneği), Ankara

02.2015- 07.2015 Enterpreneurship course Mentus Media, Ankara

01.2015- 09.2015 Institue of Strategic thinking Intrnship

01.2016- 02.2016 Turkısh Economy Bank Internship

08.2015- 10.2015 Seymen LLC international trade internship / Parsippany, New Jersey ,USA

01.2016- 02.2016 Ministry of Foreign Affairs of Turkey (SAM) / Winter School

03.2016- 04.2016 Center of Political Economic and Social Researches /Energy Security

GİVEN CONFERENCES/ ACADEMİC WORKS / ARTICLES

03.2020 The Place Of Energy Security in IR theories on the axis of supply demand and transit security.(Master .thesis)

28.02.2015 Islamophobia , Bilkent Uni, Ankara

08.05.2015 Economy as an international actor, Kırıkkale University,Kırıkkale

2016 Türkiyede Hukuk Zihniyeti (Assist. Prof. Dr. Emir KAYA)

2016 http://www.eurasianhouse.net/dosya/64/ (kurtlerin din tarihi)

2016 http://www.eurasianhouse.net/dosya(kürt atasozlerinde kadın kavramı)

2017 http://www.rusen.org/2017/08/23/ (enerji-guvenlik-denklemi)

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PUBLISHED WRITINGS (columns)

http://mansetmalatya.com/turkiye-barajin-altinda-kaldi/

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SOCIAL REPRESENTATION

Yıldırım Beyazıt University / Political Development Club/ Founder President(2013-2016)
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Yıldırım Beyazıt University / Undisable YBU / member(2012-2017)
Yıldırım Beyazıt University / Women Studies Club/ member(2015-2017)
TIRS (Turkish International Relations Studies) / Assistant/YBU representative(2013-2016)
YPI(Youth Peace Initiative) /YBU representative (2014-2015)
YINFO (youth information assoc) / volunteer (2013-2014)
GEO (Global Envoirenment Organization) / Volunteer (2012-2016)
InovaTİM (Turkey exporters assembly)/ Member(2014-2018)
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Eurasian House / Assistant of Kurdology Researches (2015-2018)
AVRİLAD (Eurasian Scientific Research Association)/ President(2016-2018)