The Evolving Concept of Energy Security

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List of Abbreviations

BP - British Petroleum

EC - European Community

ECSC - European Coal and Steel Community Treaty

ECT - Energy Charter Treaty

EEC - European Energy Charter

EIA - Energy Information Administration

ENSEC COE - Energy Security Center of Excellence

EU - European Union

FTA - Free Trade Agreement

GCC - Gulf Cooperation Council

GDP - Gross Domestic Product

IEA - International Energy Agency

LNG - Liquefied Natural Gas

NATO - North Atlantic Treaty Organization

OPEC - Organization of Petroleum Exporting Countries

PCA - Partnership and Cooperation Agreements

TACIS - Technical Assistance to the Community of Independent States

TANAP - Trans-Anatolian Natural Gas Pipeline

UK - United Kingdom

US - United States of America

WTO - World Trade Organization

Executive Summary

Energy security refers to the security of supply in the context of reliability, availability and affordability. There have been disruptive events on a continuous basis such as the Russia-Ukraine Conflict, the Arab Spring and Syrian Civil War that brought the energy trade to a halt. In fact, the aforementioned countries are all familiar to the energy agenda. It is as clear as crystal that most of the disagreements and disputes derive from contradictory national interests of states. Energy security may be ensured if all the parties sit around the table, negotiate and maintain constant dialogues; this may prevent the conflict of interests. For example, the European Union is a successful negotiator because it represents 28 member states that have strong economies, literacy rate, standards of living and many other things. On an individual basis, some of the member states are likely to be unsuccessful in an attempt to voice over their energy interests that simply rely on their national interests. This attempt may yield irremediable results such as the execution of stiffer and unfair commercial practices that increase the energy dependence of that particular state. This is what the European Union has been stressing for so long; to band together and adopt mutual energy policies and strategies to increase the bargaining power and influence of all the member states. International organizations may serve for the interests of energy importers and exporters and mediate in case that the dialogues reach a dead-end. The service may be in the form of know-how, energy market forecasts, establishment of dialogues and relations, securing of energy infrastructure and many others. Energy dependence is on the agenda of every member state; and obviously, the European Union suffers from the same problem. The EU drafts policies and strategies in accordance with the interests of the major European economies and executes them. This has been the conventional procedure until recently. The European Union arrives at the decision that the best method to reduce its energy dependence is to export market economy principles to energy exporting countries and preaches them to switch to liberalized energy market structure for a safe and sound economy. Each and every country has the intention to hedge itself from energy disruptions which could easily spoil the national economy, political stability and social welfare.

Chapter 1

Introduction

Energy security refers to the security of supply in the context of reliability, availability and affordability. The risks attached to the security of supply are becoming more visible as people conceive that the current consumption patterns are not economically sustainable in the long-run and it has enormous adverse effects on the ecosystem and human health. The fact that we observe an energy demand shift from industrialized countries to developing countries which rely on fossil fuels and usually reluctant to follow the recent trends that has been occuring in the developed countries; this includes switching from fossil fuels to renewable energy and investing in energy efficient technologies. Also, the changes have political consequences that form new relations between the energy rich countries and developing countries.

Over a course of period, the developed countries have invested heavily on the unconvetional energy resources that is nation-wide available but costly to exploit and utilize. However, not every developed country has the necessary means to follow the trend as well. Some are restricted with the legislations; some are constrained with capital problems to imitate or purchase the high-tech equipments to exploit, and some are not gifted with natural resources at all. But as we continue to go with the assumption that most of the countries have been gifted with different qualities of coal forms, they have developed technologies and infrastructure to sustain their energy needs over the time. Coal is an unclean fossil fuel in consideration with the fact that exploitiation is dangerous; emissions from coal-fired power plants emit more than other forms of power plants; it is economically not viable to transport and trade and it is not finit.

The technology to exploit wind and solar energy is also available and heavily invested. The cost of these technologies get cheaper as we manufacture them in large quantities and most of the countries can afford to build such wind and solar farms to cover some of their energy needs if not hundred percent but renewable energy has its own issues. From the perspective of relaibility, people are concerned and this concern has to do with availability. The importance of the reliability issue is associated with having the necessary amount of energy to provide the

customers when there is need for it. The research is going to investigate the subject of energy security from all the angles above in depth through the chapters.

As the research begins to explore specific aspects of energy security, the distinctive roles of international organizations and their potential to contribute to energy security is going to be discussed. This research continues with the investigation of economic and political dimensions of energy security from the perspective of the European Union. The research elaborates on the European Union's energy security policy development process; the determinants of energy policies; the transition period to mutual strategies at the European Union level and key issues. In the final chapter, this research is going to reveal the evolution of sophisticated energy relations between the major energy suppliers and the European Union. Last but not least, the research is going to expose the awry energy relations based on bilateral agreements, national policies and interests and other commitments between the parties. The conclusion is going to clarify the main points of the research and may include several new details.

1.1. The Concept of Security of Supply

The concept of security of supply emerged with the growing concern over access to crude oil with reasonable prices. This concern is mainly driven by the historical events such as the OPEC embargo of oil exports on chosen countries, Iranian revolution in 1979 and Iran-Iraq war in 1980-88. The Western world has realized the importance of being independent from energy exporting countries. However, being completely independent from fossil fuel exporting countries wasn't as easy as it sounded like. The Western world started to investigate alternative energy resources to oil and claimed that natural gas could be a reliable alternative.

Fossil fuels became vital for the normal functioning of industrialized countries. Transportation uses a significant portion of fossil fuels along with power plants that produce electricity. It is not easy to point out an industry that could be mentioned separately from fossil fuels. For example, farmers are in need of fossil fuels for agricultural operations and humans simply need energy for heating and cooling

1.2. Definition

There are several definitions available for the concept of energy security of supply. According to the International Energy Agency, energy security defined as "the uninterrupted availability of energy sources at an affordable price." The European Commission (2000) defines energy security as the "uninterrupted physical availability on the market of energy products at a price which is affordable for all consumers." Both definitions above are widely accepted and used. Bohi, Toman and Walls (1995) defined energy insecurity as "the loss of economic welfare that may occur as a result of a change in the price or availability of energy." There are several keywords featured in any of the definitions above. Keywords indicate "accessibility, self-sufficiency, affordability, availability, welfare and interruptions or disruptions."

1.3. Key Principles of Energy Security

Accessibility emphasizes the importance of providing energy to the remote areas of a country. This usually refers to the rural areas that are lack of appropriate infrastructure.

Energy is demanded by everyone and has to be accessible by everyone (Dyer & Trombetta, 2013: 178). Affordability refers to the economic aspect of energy security. This term found a place in the definition as the world experienced several supply disruptions along with everchanging energy prices. Yet, any of the disruptions may result in tremendous economic losses; energy security aims to mitigate the disastrous effects of sudden or unexpected shortages. Disruptions might occur due to natural disasters, technical difficulties, political instability, international embargoes, sabotage or economic factors. Energy security intends to respond any of the above scenarios. However, a state would usually be interested in expressing affordability in comparison to purchasing power or GDP per capita of its citizens. Self-sufficiency on the other hand is a broad term. It could mean that a country can meet its energy demand by the means of domestic production or at least could meet more than 50% of its demand. Self-sufficiency does not specifically relate to fossil fuels only but it could also refer to renewable energy. For example, Iceland is capable of meeting 85% of its domestic energy demand by geothermal energy and hydropower.

Energy security can be reviewed from different aspects. In case of long-term approach, we are concerned with on time investments to supply energy as our economies depend on the availability and access to energy resources in order to grow. Short-term approach embraces the fact that in case of energy shortage, there has to be an appropriate measure or system to react immediately to balance the supply and demand (IEA, 2015).

As stated above, the concept of security of supply has been widely accepted and thought as the availability of sufficient resources at affordable prices but nevertheless, every country takes the issue distinctly. Fossil fuel rich countries focus on the demand side of the issue as their exports rely on others' demand, which in return plays a major role in the government revenues. Some of these countries insist on controlling national energy companies with the aim of gaining full power in decision making for the sake of the country; it is open to discussion. Some states like Russia take the advantage of its energy resources on their behalf by shaping their politics and strategies around energy industries.

Energy security concentrates on methods to mitigate or avoid risks. There are three keywords that could illustrate how efficient a country is in terms of risk avoidance. The three terms are sovereignty, resilience and robustness (Boersma, 2015).
Robustness emphasizes the importance of taking cautionary measures to mitigate or avoid natural, technical and economic incidents that might result in supply disruptions. Economic incidents could be the aging of energy infrastructure, unexpected changes in energy prices, or an increase in the energy demand. To sum up, robustness is about strengthening or upgrading infrastructure, ensuring steady and affordable energy commodity prices and sufficient amount of resources.

Sovereignty directly relates to national security; and therefore any threat that concerns sovereignty has to be immediately resolved. The threats could be governed by the hostile states or market agents with different interests. Usually, sovereignty in the context of energy security relates to the power that a state has to control its energy systems or the state of being energy independent. In a nutshell, sovereignty is about taking precautions to avoid obvious or potential threats from foreign agents in energy markets and endure in case of energy system disruptions.

Resilience on the other hand, also relates to disruptions but these disruptions are usually less predictable in nature such as like weather events, emerging technologies or unpredictable political agendas.

1.4. Emerging Issues and Trends

Majority of the countries have issues with at least one of the three above perspectives. Industrial countries are vulnerable due to aged infrastructure and energy dependency. On the other hand, emerging countries, besides the two factors above, they also face capacity, energy intensity, price-related issues and increased demand problems.

Oil is heavily used in transportation sector and the demand for transport fuel is consistently rising. Disruption of oil products may yield catashrophic events since transportation is a vital part of every economy. These events would likely to hit food industry, medical care and internal

security first. Also, production capacity of oil is limited and this could add extra burden on emerging economies due to volatile prices. Emerging economies with a steady increase in oil demand, and usually operating in a market with volatile prices, they can end up losing significant share of their GDPs.

On the other side, rapid growing countries like China are fully concerned about their dependence on energy as their demand grows; and they make investments to become self-sufficient. However, Japan, an island country that imports almost hundred percent of everything that its domestic market needs, prefers to diversify its import intakes. As Japan is not gifted with natural resources, the country is exposed to all kind of market risks. Also, when investigated individually, the European countries in general possess some sorts of energy resources like coal, natural gas or shale oil. However, none of these resources are sufficient and infinite. Majority of the European countries also import resources from various fossil fuel rich countries. Their concern is also the same; to become completely energy independent, if not, to satisfy majority of their needs internally. France might choose to invest more in nuclear power instead of renewable energy. It is due to the fact that renewable energy, for now, is not fully reliable and persistent in quantity. France doesn't find the idea of abandoning nuclear power completely right and safe. Energy security is not only concerned with continuous supply but also other aspects like the national security. Nuclear power plant locations are focal areas for potential threats. As the number of these plants increase, the threat also increases (Yergin, 2006). Apart from that, everybody still remembers the disastrous effects of Chernobyl and Fukushima explosions; this has to do with the environmental aspect of energy security. The world is still in search of methods to reduce the impact of nuclear waste; discharging the waste in the sea is literally murdering the sea ecosystem and if the thought procedure is to dump the waste in the soil, polluted soil will no longer be available for any purpose for millions of years.

Germany has become a true sample for other European countries with their dedication to invest and expand the use of renewable energy resources and technologies. However, the country shows an increased trend in the use of coal which is controversial. It has to do with abandoning nuclear power at a stage when the country is not well-prepared to do so. Although, this strategy proves that the Germans are determined to do more for the sake of the plane

As of 2015, when energy security is discussed, oil is still at the core of the issue. Even though, it is not as costly as before to manufacture wind turbines or photovoltaics in large quantities, due to its low reliability and efficiency, the world is still not ready to switch from fossil fuels to renewable energy completely. According to BP Energy Outlook 2013, use of fossil fuels will play a major role globally until 2030 (BP Energy Outlook 2030, 2013). It is necessary to mention that renewable energy technologies are developing and improving every day. Scientists investigate wind turbines that could operate in higher altitudes where wind is stronger and the turbine could produce more energy. There are studies to improve the photovoltaics to capture the sunlight even when it is cloudy or rainy. Until now, renewable energy proved to be a good source for heating, power and electricity production; however transportation industry remained in misery. Hybrid or electric cars are good for people who don't travel long distances but the ones who do, these are not good alternatives to traditional benzin or diesel cars.

At the heart of the Energy security, there are two substantial topics: physical accessibility and affordability. If the accessibility of resources is below a certain point, the supply and demand balance collapses. The collapse demonstrates itself in the form of price surge and unequally distributed energy prices over a long period of time (Peet, 1992: 40). The most appropriate energy product pricing is based on the cost of exploration, extraction, processing activities, distribution and should include a reasonable profit. When energy exporting countries intend to price their products, the price has to be in accordance with the above costs and if more, other related costs should also be included; also it is important to notice that it might be politically correct to consider a pricing strategy that would promote the economic development and growth of importing countries. As we see both now and in the history, low energy prices are as dangerous as high energy prices. Since energy is also used as a strategic tool by the exporting countries to have a voice in the world energy markets, their strategies such as limiting the exports or driling, or allegedly telling to do so, could be destructive.

Today, energy security and the climate change are the key drivers of the energy policies. Although, energy security has been a focus point for more than three decades now, climate change has recently gained rapid momentum and became a truly global concern. Climate change

challenges every single country to act responsibly and take appropriate measure to limit their greenhouse gas emissions. Long before, questioning a country on their GHG emissions has seen as interfering in the internal affairs of that country but today, we know that climate change is global as it affects every living species on the planet. For example, the EU takes a great responsibility and ensures the reduction of GHG emissions through legislations and directives. One of them includes “European 2020” targets which are legally binding for every member state with the aim of increasing the renewable energy input and the energy efficiency by 20%, and reducing the GHG emissions by 20%.

Chapter 2

The Role of International Organizations in Energy Security

2.1. Organization of Petroleum Exporting Countries (OPEC) and Energy Security

The Organization of the Petroleum Exporting Countries (OPEC) is an organization consisting of 12 members that hold 2/3 of the world's petroleum reserves. The objective of OPEC is to unify and settle on oil policies that are favorable to its member states. In the essence of these policies, it is important see that the petroleum exporting countries are keen to secure fair and steady commodity prices (Ramady & Mahdi, 2015). However, this is not a one-sided trade and for this reason, it is critical to offer importing countries a fair deal by taking their economic variables into consideration.

There are several characteristics of energy security that lean on the core of international trade. Some are listed in accordance with the speech of OPEC Secretary General, El-Badri, A., S., (2008).:

- Energy trade is reciprocal;
- Security of demand (suppliers) is as important as security of supply (consumers);
- Security is always crucial and time does not change this fact;
- All the parties should ensure the security of energy resources;
- When trading energy commodities, there shouldn't be any discrimination among countries and the trade should concentrate on the eradication of energy poverty along with the continuous procurement of energy services;
- Energy security should benefit from the constant dialogues and cooperations between the stakeholders.

Security of demand is as important to producers, as security of supply is to consumers. OPEC has supplied the market well over the years and hold enough spare capacity in case of unexpected supply disruptions. Spare capacity is substantial due to the fact that the market

demand for oil always increases and it is critical to keep the market well-supplied because it is vital for the healthy functioning of an economy (Ramady & Mahdi, 2015).

OPEC members and other small oil producers are also concerned about the costs associated with oil field exploration, drilling, exploitation, refining and so many other activities due to the expensive nature of energy harvesting and it is important to mention that all the costs associated with these activities have to pay off as soon as possible for the producers to maintain their daily business operations.

OPEC also takes energy efficiency measures serious. If both the producers and customers take energy efficiency measures, energy costs can be diminished and this will have a positive impact on the economies. Producers can have more spare capacity and supply the market for a longer period of time and customers can enjoy the abundance of energy resources and pay less for everything. However, this doesn't mean that OPEC members and other producers are not concerned about the future oil consumption trends because if renewable energy becomes widespread then there is no place for fossil fuels in the market. Some of these countries simply rely on the cash flow coming from the fossil fuel sales and if there is no longer demand for their services, then there is no economy left (Ramady & Mahdi, 2015).

Saudi Arabia as the largest and most dominant player in OPEC, it spends millions of dollars to protect the oil fields, infrastructure, trade routes and energy installations. The Secretary General of OPEC, El-Badri, A., S,. (2008) described energy security as a two way street and listed the points below:

- "It should be universal, applying to rich and poor nations alike, with the focus on the three pillars of sustainable development and in particular the eradication of poverty;
- It should focus on providing all consumers with modern energy services;
- It should apply to the entire supply chain. Downstream is as crucial as upstream;
- It should cover all foreseeable time-horizons. Security tomorrow is as important as security today;
- It should allow for the development and deployment of new technologies in a sustainable, economic and environmentally-sound manner; and

- It should benefit from enhanced dialogue and cooperation among stakeholders."

OPEC belives in timely investments in infrastructure and observes the market carefully before making sure that the financial resources are not wasted instead they add value to the business. If these investments are not made at the right time or adequately, OPEC can lose its market share and power. OPEC has to secure a large market share in order to manipulate the industry and give it a direction. In order to succeed in this strategy, sometimes OPEC ventures its income from the sales for the sake of its market share. This strategy adds an extra burden on several OPEC members because below a certain price, some of them can not afford to continue processing crude oil and oil products.

According to OPEC's World Oil Outlook 2014, OPEC will spend approximately $10 trillion for oil and related invesment projects between 2014-2040. There are still cities, towns and villages with no access to electricity and around 2.5 billion people simply rely on biomass. These locations and their dwellers will create a whole new market for OPEC in the near future. OPEC looks forward to secure sufficient energy resources for all these new markets (OPEC, 2014).

OPEC involves in events that are aimed at exterminating energy poverty. Strong cooperation is vital to achieve this objective. OPEC finds it important to sustain a consistent dialogue with the regions and countries so that everyone can meet their energy security targets. OPEC is expected to play a crucial role for a longer period of time due to its significant influence in the world energy markets. Both the customers and the producers can enjoy a fair trade if everything is done transparently. Also, it is important to keep the market well-supplied and maintain a sufficient spare capacity along with a strong dedication to engage every stakeholder in the talks in order to eliminate energy poverty.

2.2. International Energy Agency (IEA) and Energy Security

International Enegery Agency or the IEA is an independent organization which has the objective to guarantee clean, affordable and reliable energy for its member states. The core interests of the IEA are energy security, economic development and environmental awareness. The initial

thought behind the formation of the IEA was to co-ordinate a collective response to emergency situations related to energy when founded in 1974. International Energy Agency follows and analyzes the global energy trends, creates common grounds for energy technology cooperation and promotes sound energy policies (IEA, n.d.). Also, the IEA recognizes the importance of engaging other countries such as Russia, China, India and Brazil in its operations even though these countries are non-member states. The IEA investigates every aspect of energy security and promotes policies that are likely to improve reliability, sustainability and affordability. Below information is retrieved from the International Energy Agency (n.d.).

The four main areas of IEA focus are:

- **"Energy security**: Promoting diversity, efficiency and flexibility within all energy sectors;
- **Economic development**: Ensuring the stable supply of energy to IEA member countries and promoting free markets to foster economic growth and eliminate energy poverty;
- **Environmental awareness**: Enhancing international knowledge of options for tackling climate change; and
- **Engagement worldwide**: Working closely with non-member countries, especially major producers and consumers, to find solutions to shared energy and environmental concerns."

The U.S. Department of Energy (n.d.) praises the work and contributions of the IEA. Information below is retrieved from the official website of the U.S. Department of Energy (n.d.).

- "Emphasizes the importance of and analysis on short- and longer-term issues in all key energy supply and demand sectors.
- Maintains a robust collective security coordination mechanism (first and foremost for oil) that evolves over time in response to evolution of the global energy market.
- Undertakes analytical work on climate, energy efficiency and energy technologies, and policy.
- Has multiple mechanisms that facilitate substantive interaction with partner countries.
- Coordinates closely with other international organizations that have synergies with the IEA program of work and budget.
- Serves as a convener and leader of international cooperation on energy research and technology (e.g. through Implementing Agreements).

- Provides the platforms and resources that facilitate access to and exchange of high quality data and expertise."

2.2.1. The IEA's Role in Global Energy Security

The IEA membership urges countries to save oil stocks that can run up to 90 days after a possible supply disruption and fix up on an emergency response mechanism to react collaboratively if the incident of supply disruption is severe. The mechanism (as seen on figure 1) includes stockdraw, demand constraint, boosting domestic fossil fuel production and fuel switching (OECD & IEA, 2014).

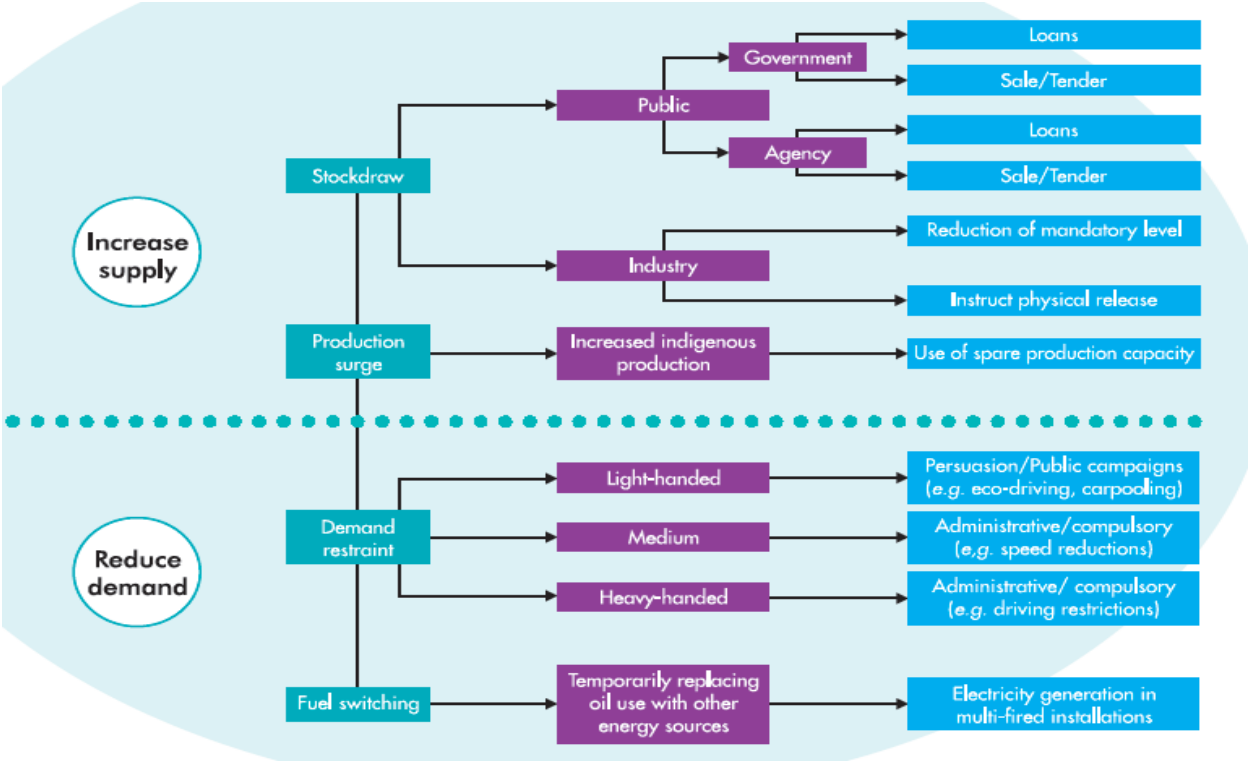

Figure 1: IEA emergency response system

2.3. NATO and Energy Security

NATO does not clarify the definition of energy security since the definition varies for different countries. However, NATO made it clear that the organization recognizes the importance of energy security and there is a consensus on the participation in energy security measures and energy efficiency of military forces as of 2012. Several NATO member states created the Energy Security Center of Excellence (ENSEC COE) in an attempt to equip NATO with expertise and member states support the organization on energy security issues. ENSEC COE also provides trainings in energy security development for military members and organizes hands-on military exercises.

It is important to clarify that NATO is not an energy think tank; however energy issues affect everything from a to z; especially, contemporary energy policies and current energy developments gained momentum on the track of a less dependent future. Shale gas boom in the United States and the increased trade volume of LNG might raise new maritime security problems. Some fossil fuel rich countries might experience low profits due to unstable energy commodity prices and diminished export volumes. Russia is one of those countries that are left behind to confront with market uncertainties after the Ukrainian crisis (Ruhle, 2014).
The Western world imposed an embargo on Russia because Russia has jeopardized the interests of the NATO allies. There weren't any serious attempts by the Western world to cease the Crimean conflict besides the embargo; however the West is afraid that if Russia make a decision to raise the natural gas prices, extremely dependent European economies including France, Spain and Italy will be in trouble and there is a high chance that the West would experience a recession which may worsen their weak economies and the EU in general.

NATO's aim is to carry out collective military defense against those who pose a danger to the members. As the history showed, energy can be used as a weapon. NATO members share intelligence and support each other in times of difficulties. Supply disruptions cause one of those difficult times that require strong co-operation and politics to handle the situation and NATO's confidential setting allow members to support and relieve from the troublesome conflicts. NATO usually relies on international energy organizations or think tanks for a clear roadmap that could help them to resolve conflicts in a timely manner (Esakova, 2012). Energy issues directly involve

all the member states since natural resources are scattered around the globe and those countries which are gifted with commercially valuable resources usually sustain unstable politics and involve in military conflicts.

NATO is aware of the importance of energy security and expresses its desire to add the subject to its core setting. The initial state of publicity may include in-house energy training programs for the diplomats and representatives in order to canalize the importance of the subject to wider audiences. NATO can also increase the awareness of other states on natural resource competition and climate change; thus countries like China and Brazil might also pay attention to renewable energy technologies which can reduce their dependence and place the exporting countries on a stage in the world politics that is no longer as important as before (Esakova, 2012). Resource exporting countries do heavily rely on the importing countries as their economies majorly dependent on their exports so this situation can bring stability and fair deal.

2.3.1. Protection of Energy Infrastructure

Most of the threat comes from direct hostile attacks to the energy infrastructure both in the exporting and importing countries along with the facilities. Our energy infrastructure is aging as the technological developments require more complex system integrations and computerized mechanisms to control (Ruhle, 2014). Also, the energy routes are clearly visible to everyone since most of them are fixed and used daily to transport the goods. There are several "choke points" which receives most of the hostile attacks and NATO is aware of all the weaknesses and consequences (NATO, 2015). It is easier to control the energy routes that are on land; however maritime routes are difficult to control due to natural circumstances. Oil tankers are attacked by the hostile parties on these maritime routes and the stolen commodity is used to finance more other attacks or to feed smaller hostile parties to employ them for future conflicts and sustain their chaotic existence. Besides, these hostile parties also pay close attention to cyber systems that are used for the surveillance and control of the complex energy systems so all the member states are vulnerable from this aspect as well; apart from the physical disturbance.

Everything related to energy is under attack. For example, the facilities in Iraq and Syria are changing hands continuously. Saudi Arabia and Qatar employ strong security measures but they

are still exposed to enormous threats which could be disastrous both for them and NATO members. Even though, politically speaking, NATO members and the Gulf States do not share many interests, they are bound to cooperate on such circumstances. An attacked oil pipeline and facility in the Gulf States can rapidly increase the price of energy commodities around the globe and this circumstance can affect the lives of billions (Edmonds & Cerny, 2004). If such conflicts arise and the commodity prices rise, everything we need to sustain our lives would get more expensive and this would literally lower our living standards. This happens due to the fact that the goods need to be transported from somewhere to somewhere and transportation requires fossil fuels. It gets more expensive to produce a good since this is going to be reflected on electricity prices by the producers and distributors; this will lead to job cuts. People will have to pay more on their bills which will lower their purchasing power. Globalization brought us to a situation that whatever happens in the other part of the world is more than capable of affecting our daily lives even though we are far away.

Energy will never lose its importance. People need to be provided with energy to sustain their lives. Countries form alliances to avoid any conflicts of interest and in times of conflicts with the outsiders or non-members, the alliance takes collective defense to correct the situation. For example, the embargo on Russian products affects the Russian Federation in terms of competition and trade. Some Russian state-owned energy companies had already signed up contracts with several European and American companies to exploit natural resource fields in the Siberian region because Russia itself did not acquire the necessary technology to accomplish the procedure (Oxenstierna & Tynkkynen, 2013). However, all these agreements reluctantly suspended for a while. Russia kept providing natural gas to Europe and recently new agreements have been achieved by several major European energy companies with the Russian Gazprom. People might wonder how this could happen. Foreign politics on energy simply employ the greater interests of the nations which are obviously beyond the Ukrainian crisis. Russia is strong. Russia is fossil fuel rich. Russia is a good trade partner. NATO, in such circumstances involve in the conflict resolution by offering grounds for talks. NATO sees military defense as the last employable option (Oxenstierna & Tynkkynen, 2013). Finally, Russia accepted to double the capacity of the Nord Stream pipeline to deliver gas to Europe through the Baltic Sea, bypassing Ukraine.

NATO members import most of their energy from the countries outside the alliance, and some countries which play a crucial role in the production and transportation phase concern the member states. As in the example of Ukraine, transit countries are exposed to disruptions or could cause disruptions due to conflicts. NATO can play a crucial role in regards to emergency planning, resolving a conflict and providing expertise in crisis. NATO can strategically align appropriate measures depending on the circumstance and apply those measures timely. NATO can appoint teams to ensure the freedom of navigation in the maritime and land routes. Also, NATO can meditate on the energy related scenarios and produce resolutions for all of these scenarios in case if they are actualized (Esakova, 2012). When NATO's intervention is necessary, there should be a joint agreement on the need and NATO's political influence should be used over the talks before appointing a military presence in cases of crisis. NATO's practices should involve partner countries and international organizations to exercise a safer energy trade tradition. This situation demonstrates that NATO is not only a self-interested organization but also values other nations' interests.

NATO's intention should be the promotion of best practices on the protection of critical energy infrastructure. This involves an indirect approach to the subject and NATO should respect any discrepancies among the member states. NATO should train and employ competent staff and share its expertise with the private sector (NATO, 2015). NATO can also safeguard the member states if the critical choke points and sea lanes are protected from the pirates or hostile attacks.

2.3.2. Raising Strategic Awareness

There are several game-changing events took place recently. One of them is the shale gas boom in the United States and increased trade of LNG (Ruhle, 2014). If the United States decides to trade their domestic shale gas, they will have to find a route to ship these commodities. There will be more maritime security concerns as the route is going to be used more often. Strategic cordination of members will be sufficient to conserve the safety of the route and allow transporters to move contentedly. A full consensus on how to approach energy is possible by information sharing, political and strategic consultation and the legistlation of new NATO

policies. A good govarnance of NATO on energy is possible if the member states actively co-operate with the partner nations on the technical details of the supply routes and volumes (NATO, 2015). NATO can raise the strategic awareness of renewable energy developments and promote the developments in the emerging countries. If NATO involves directly in energy related events, the unit that is going to be responsible for energy management will have a busy schedule to handle.

2.3.3. Energy Efficiency in the Military

The United States army has announced their intention to be oil free by 2040. By 2016, the United States Air Force intends to use biofuels for at least 50% of its domestic flight needs. The praiseworthy dedication of the U.S. military comes from the use of biofuels. The U.S. Navy had executed drills with their vessels and aircraft carriers which were run with biofuels (Ruhle, 2014). The U.S. Air Force had carried out plenty of domestic drill flights in which their aircrafts are filled with biofuels. NATO members should examine the ways to increase the production of unconventional fuels such as biofuels, biogas, green diesel and algae-based biofuels. Some NATO members are more advanced in technology than others and the advanced ones should share and help others to test the promising technologies such as the fuel cells or smart grids. NATO members may later settle over an agreement to zeroize all their environmental footprint by switching from traditional fossil fuels to renewable energy and opting for electrical transportation systems (NATO, 2015). A member state should promote the photovoltaics and small home type wind electric systems for electricity and subsidize the cost of these devices. In the near future, renewable energy promotion can bring enormous benefits for the wealth of that society. Also, the member states should create or heavily subsidize biofuel plants, photovoltaic and wind farms, tidal power systems and upgrade all the hydropower stations and work on such technologies which does not require the drainage of rivers or simply any sort of interruption to the nature.

2.3.4. Energy Efficiency of the NATO Forces

Majority of the NATO missions take place in remote locations and require the soldiers to remain in those locations for some duration. Troops are transported through the convoy routes in various

settings. The duration of the operations could be long and access to fuels can be cumbersome. Camps that are set to host the soldiers might run on photovoltaic and portable wind turbines. Hummers can be converted into fuel efficient vehicles. To sum up, upgrading military technologies that are owned by NATO can reduce casualties, improve energy efficiency, reduce fuel costs and contribute to the environment and raise the awareness for climate change.

2.3.5. Summary

NATO will sustain its presence for the security of its member states. The organization has to engage non-member states in order to acquire any information that could later be essential. Also, forming partnerships outside the Alliance facilitates communication as this is done collectively and allows any confrontation to be resolved immediately. Plenty of conflicts that interest NATO are actually engaged with energy related issues. NATO has attended direct talks with several Middle Eastern governments (Ruhle, 2014). These talks were concentrated on the threat to oil fields and the potential consequences. Caspian Sea region often names NATO as a close ally in the face of Russian influence. NATO's intention is to build close ties with the Caspian Sea region countries in order to extinguish the Russian influence on their politics and free will. NATO may promote the EU investments on the Caspian Sea region countries and build the grounds for sharing intelligence and expertise. This strategy does not have to isolate Russia. Russia should always be considered a partner and the dialogues should be sustained. If NATO could find a common ground for the interests of both Russia and the EU, then Russia can be a crucial part of the European energy diversification strategy and diminish the European dependence on the Gulf Region. It is more advisable to speak pleasantly rather than acting unfriendly because this would bring no help. The EU and Russia together can ensure the safety of energy infrastructures and pipelines effectively. The EU prefers a market based approach to the security of energy supply rather than a military based approach. At least in the context of politics, this is how it looks like.

Energy diversification is a crucial step towards a less dependent Europe and understanding Russia is essential for this purpose. Russia might have convinced Iran to cease its nuclear program quicker than the West if Russia wasn't penalized with the embargo. However, due to

the sanctions, Russia found itself in talks with China; another major player in the world politics. China and Russia do share similar interests, and both are key trade partners for the Western world. The European governments are afraid that NATO's involvement in energy talks might send wrong signals to the Gulf States and Russia. However, this shouldn't be seen from such a perspective because NATO here would only be appointed to communicate the members' interest and demands (Ruhle, 2014). As doing these talks individually can take plenty of time, these talks should be organized by the alliances or organizations that incorporate several countries.

Kazakhstan and Turkmenistan are dependent on Russia as a transit country for their shipments to the West and the Russian Federation has observable influence on these countries. Achieving close ties with Russia seems to be the best option for a healthy foreign politics and trade. Moscow may not pressurize the Caspian Sea region countries and unstable Middle Eastern politics would be condemned by all the parties in case of conflicts. NATO can be an irreplaceable part of energy talks in the future.

Chapter 3

Economic and Political Dimensions of Energy Security in the European Union

3.1. The European Union's Energy Security of Supply Policy

The European Union has to meet its internal energy demand requirements in order to sustain a certain economic growth. Even though, escalated energy efficiency measures and reduced energy intensity in consumption has positively affected the European Union, the demand for energy resources is still increasing. The European Union is the second largest energy consumer after the United States. Almost 18% of the world's energy is consumed by the European Union. The European Union member states have limited energy resources and meet the majority of their demands through oil and natural gas imports from abroad. To be exact, the EU's energy dependency is at 53% as of 2015 (European Commission, n.d.). Historically, the European energy dependency used to be around 40% in the 90s. This is due to the fact that primary production in the EU declined and even though, the energy markets are penetrated with RES, the demand for fossil fuels did not lose its importance. The EU's import dependency is expected to be 67.5% in 2030. According to Eurostate, the most energy dependent member states are Malta (104, 0%), Luxembourg (96, 9%), Cyprus (96, 4%) and Ireland (89, 1%). The least dependent member states are Estonia (11, 9%), Denmark (12, 3%), Romania (18, 6%), Poland (25, 8%), the Netherlands (26, 0%) and the Czech Republic (27, 9%). In the mean time, Denmark has a negative dependency rate at -37% because the country is a net energy exporter (Eurostat, 2015).

In response to 1970 crisis, the EU had replaced oil with different energy resources in several industries. However, no matter how much our technology has developed since the 70s, the transportation industry still relies on oil or petroleum more than any other resources. Oil has 37% share in the EU's total energy consumption. The EU imports its oil from Norway (11%), Russia (33, 5%), Middle East (40%), North Africa (11%) and the rest from the small producers (European Commission, 2014).

Following the collapse of the Soviet Union, the EU has intented to reduce its dependence on OPEC exports by increasing its trade with Russia. Ever since, Russia plays a significant role as a

key energy exporter. The EU is forecasted to import 84% of its natural gas demand, and 93% of its crude oil demand by 2030. Oil imports account to 3% of the European Union's GDP per annum. However, oil dependency differs from natural gas dependency. The EU is expected to remain as the largest oil importer until 2030. Natural gas is the least polluting fossil fuel among all other fossil fuels and that's why this particular energy resource is at the core of European energy policies; it helps the EU combat climate change and sustain an economic growth.

Natural gas is the second most consumed energy resource after oil with a rate of 25% in the total net consumption chart (European Commission, 2014). Based on the forecasts, around 2.5% growth in natural gas demand is expected every year. The oil wells in the Nordic Sea yield lesser quantities of oil each and every year and the European internal energy market simply can not fully rely on that. It is no surprise that the EU's demand for natural gas from abroad will increase. Russia, the Gulf States and small producers like Algeria account to 20% of the imports.

Like the majority of the states, the EU member states possess large reservoirs of coal. Coal has an historical importance for the EU. At the heart of the European Union, the European Coal and Steel Community (ECSC) lie. The treaty of Paris allowed this community to be official and the treaty is signed by Germany, Italy, France and the Benelux countries. The main coal producers in the EU are Germany, Britain, Spain, Hungary, Czech Republic and Slovenia (IEA, 2008). Coal accounts to 17% of the total domestic energy consumption in the EU.

Due to its environmental impact, coal is not seen as a preferable energy resource; even though, it is in abundance and cheap compared to oil and natural gas. Compared to other fossil fuels, coal consumption in the EU decreases every year. This is an EU-wide policy; however this doesn't prevent the European scientists to investigate new technologies that may allow coal to be utilized in a way which is 100% clean and cheap. The future demand for coal depends on our technologies that can significantly reduce or fully prevent carbondioxide emissions (EurActiv, 2010).

Nuclear energy had been an inseparable part of the European industrialization similar to that of coal; however there were also criticisms over the use of nuclear power. Europe has signed the Euratom Treaty in 1957; the treaty that established the European Atomic Energy Community. There are currently 185 nuclear power plants in the EU. Almost 27% of the energy came from nuclear power plants and 49.8% came from combustible fuels such as coal, oil and natural gas in the EU as of 2013 (Eurostat, 2015). Public opinion in Europe is negative for the use of nuclear energy. However, it is up to the member states to run or phase out nuclear power plants. Chernobyl incident raised awarenewss of the dangers of nuclear power in Europe in the 90s and several member states such as Spain, the Netherlands, Germany, Sweden and Belgium chose to phase out nuclear energy. Nevertheless, Europe had reconsidered switching to nuclear energy due to high energy costs and improved security measures in the nuclear power plants. For the first time in the history, European Commission members have expressed their supporting opinions on nuclear power in October, 2007. The European Commission members initiated further discussions over the use of nuclear energy. It is strongly believed that the European Commission made profound provisions on its nuclear strategy because the newly-joined or recent members were heavily dependent on Russian energy and this had to be changed so the European Commission promoted nuclear power for the new member states.

The European Commission requests its new member states to give them a permission to regulate the power plant standards and act as the competent authority on behalf of the state. Several EU member states find it important to build new nuclear power plants in the next 25 years, such as France, Great Britain, Czech Republic, Hungary, Slovakia, Switzerland, Lithuania and Bulgaria. Some other member states preserve their negative approach towards nuclear energy such as Germany, Sweden, Belgium and Spain. The rest of the member states are in dilemma. Most likely, the rest of these countries will decide upon building power plants based on their success or failure to produce electricity from renewable energy resources; energy efficiency and energy conservation rates (Yergin, 2006). Renewable energy accounted for an 11, 8% share in the energy mix of the European Union. The EU had revised its energy policies during the summit on March, 2007 and by the proposal of the Commission, there were several targets set for the renewable energy penetration in the market. In this context, until 2020, the EU has to increase the share of renewable energy to 20% in the net energy consumption and this has to include 10%

share of biofuels in transportation. Energy efficiency also has to be increased by at least 20%. The 2020 targets of the EU are assertive and the EU member states have to make an endeavour to achieve these targets. The 2030 targets aims to reach 27% share of renewable energy in the net total consumption. However, there is a belief that the EU will not be able to achieve these objectives and the basis for this belief is due to the failing efforts of the major member states since the 70s. Some of these industrialized countries had initiated programs to increase the share of renewables in the energy mix but they couldn't succeed (Yergin, 2006).

3.2. Determinants of the Energy Security Policies of the European Union

The European Union has been influenced by the energy crisis that occurred in the 1970s. Rising oil prices along with the recessions caused high inflations and affected European economies adversely. Until 2000s, some regions of Europe were not concerned with the issue of security of supply. While the world energy markets were following a steady course, the discoveries in the Nordic Sea brought resilience to Europe and emphasized the importance of energy diversity. The worst supply shortage or disruption happened during the first Gulf War; after then, the EU did not experience long-lasting shortages until now (McGowan, 1996).

The changes in the world energy markets starting from 2000 led to structural changes and increased the European concern on the security of energy supply issues. Problems with the global energy markets jeopardize the world's largest energy importer, the European Union. At the heart of the supply security problem, Russian and the European gas trade remains. The EU member states need a reliable natural gas supplier; however once again, with the recent Russian-Ukrainian conflict, Europe is worried about potential shortages. The discrepancy of natural gas trade stipulations between the Russian and the Ukrainian authorities back in 2006 was a strong warning for Europe to immediately take precautionary measures before it happens again.

The major suppliers use energy as a political tool to dictate their requirements to the importers; the force may come in the form of price, quantity, volume and frequency. This proves that the energy markets are fragile. The Russian-Ukrainina Conflict in 2006 was due to the disagreement arising from natural gas prices and taxes. Russia sold 1000 bcm/year gas for $60 to Ukraine but later intended to sell it for $100. The EU found this event hostile because the Western-friendly

Ukraine was pressurized by Russia and the EU started to questions its diplomatic and economic relations (Belyi, 2015). As we see today, the EU and the U.S. has adopted and imposed sanctions against Russia; covering almost all the industries in response to the annexation of Crimea by the Russian Federation. Even though, the U.S. was against to a possible European and Russian natural gas cooperation in the 70s, the European leaders collaborated with the Russian authorities and the Russian gas started to flow (Belyi, 2015).

Since the time when Europe received its first natural gas delivery from the Soviet Union, the EU had seen Russia as a reliable associate until the Ukrainina Crisis burst. Russia as the natural gas supplier has managed to become a quasi monopoly for the European Union and this occurance had not been perceived as a dangerous situation until recently (Belyi, 2015). Russian attitude was perceived hostile for the second time when Estonia decided to remove the Soviet War Memorial in 2007. Tallinn is the largest port in the Baltic Sea region and this port was heavily used to ship and transfer Russian oil to Europe. However, when public was introduced with the news of moving the statue of a Red Army soldier, Russians were offended and immediately retaliated by ceasing oil transfer to the Estonian port. Russians simply claimed that their railroads were under maintenance; and commenced to ship oil directly from the Russian ports.

The strategy to give the priority to Russian ports was determined by the current Russian government but it is believed that this strategy was pending and executed when the EU's political objectives started to change (Aalto, 2008). The European Union had arrived in the conclusion that Russia is more than capable of using energy to extinguish European consensus on politics and vandalise the solidarity between the member states. The milestone for the radical changes came after this incident and the security of energy supply has become another priority. It is important to buy energy at an affordable price as much as physical accessibility.

In order to intensify its defence against Iran, the U.S. built missile defence systems in some of the Eastern European countries; encouraged Georgia, a former Soviet Union republic to participate in events organized by NATO and supported Ukraine to participate in the EU membership talks. Russian and the European politics were strained under the influence of the U.S. politics (Aalto, 2008). In this context, Russia expects the EU to be supportive for its foreign

policies and energy here becomes a tool to acquire that support. For example, Russia's political relationship with a particular country forms the basis of its natural gas price for that particular country.

The Figure 2 maps the gas prices in Europe as represented on Radio Liberty (2013):

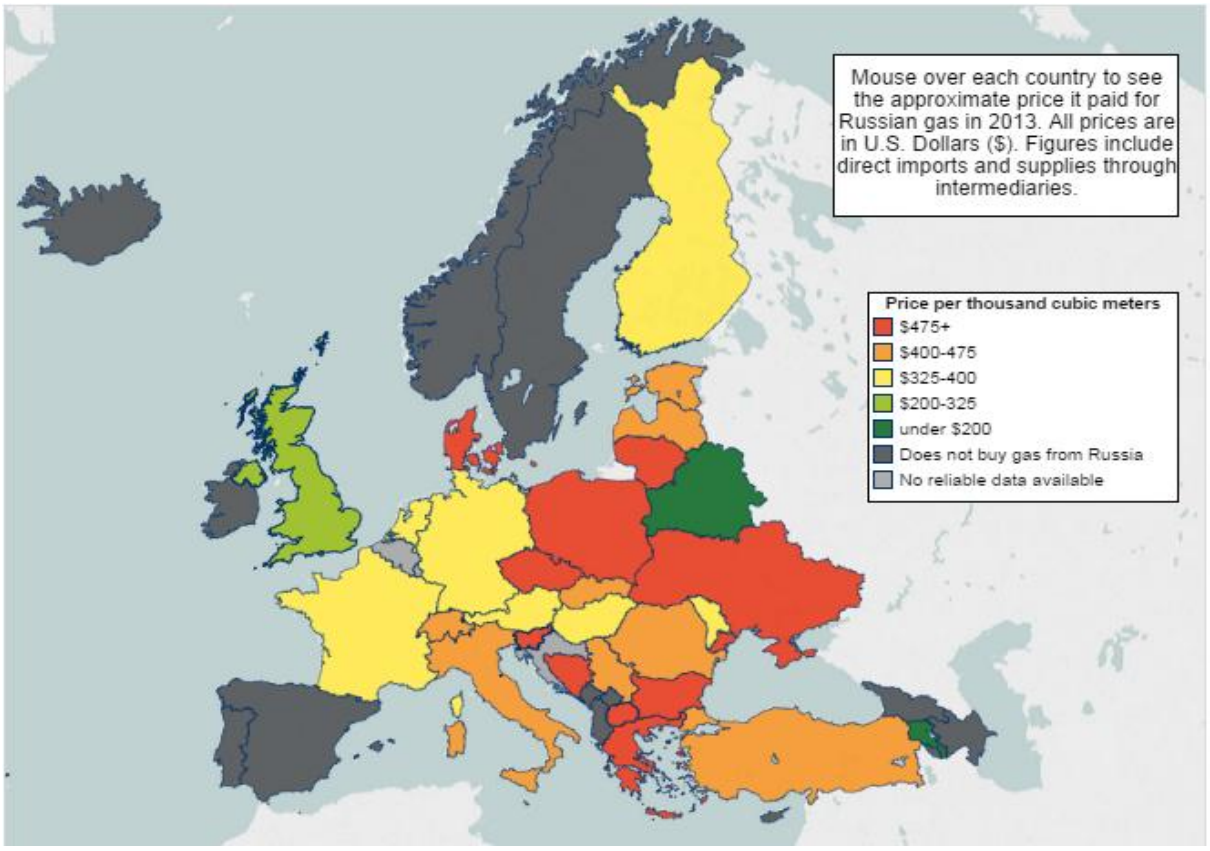

Figure 2: Gazprom's Grip: Russia's leverage over Europe

As listed on One Europe (2014), "Belarus pays the lowest price of 166$ per 1.000 m³. Its neighbour Poland pays the highest price in the EU - 526$. Germany buys more gas than any other European country and pays 379$, while France pays - 394$. The most expensive gas in all of Europa is for Macedonia - at 564$." Russia usually claims that the prices differ due to the cost of transportation and other economic variables but in fact, the prices have to do with its political relationship. If the energy importing country hands over its energy infrastructure to Russian energy corporations, this literally means lower energy prices (Aalto, 2008). Eventually, the hostile attitude of the Western countries towards Russian energy corporations leads to costly energy prices.

In the next 25 years, the European demand for natural gas is going to increase. In addition to this, the demand is going to increase more in the developing world and this will lead to stiffer competition for this particular product. Especially, the growing demand in Asian countries risks the European energy market. The Caspian Sea region is so precious that the European Union and China compete for the natural gas reserves in this region. There is another ground for confrontation by the virtue of Liquefied Natural Gas (LNG) share in the global energy markets. LNG makes it easier to transport gas to everywhere and it has expanded the scope of the trade which means stiffer competition for the EU. Russia and Norway found a way to export their gas in liquid form to North America. LNG price in the U.S. affects the LNG price in the EU. This economic relation between the two continents will be stronger in the near future (Wood, 2012).

On the contrary to 1990s, today, the European Union came across with energy exporting countries that pursue national energy politics and have a visible force on the EU along with other regional markets. These exporting countries have the power to price their own products as distinct from the other exporters and can compete for certain amount of market share; exactly like Russia. The EU is mostly concerned with the co-operation between the exporting countries. Especially, since the time when two major gas suppliers, Russian Gazprom and Algerian Sonatrach agreed to co-operate, this news found a broad repercussion in the EU due to the belief that this co-operation can lead to the creation of a natural gas cartel that may compromise Europe's energy security (Harris, 2015).

It is no longer a theory; Gazprom involved in the exploration of hydrocarbons in Algeria and won the development rights announced by the Algerian National Agency for the Valorisation of Hydrocarbon Resources in December 2008. Gazprom also signed a contract to participate in the El Assel oil and gas project in the eastern part of the Algerian Sahara, in the Berkine oil and gas basin which is valid until 2039. Gazprom is the project operator, owning 49% of the shares and Algerian state oil and gas corporation Sonatrach, which has 51% share, acting as the partner and co-investor of the project (Gazprom, n.d.).

There are speculations about Russia's tendency to create a natural gas cartel with Iran and several other countries similar to OPEC. In 2008, the Gas Exporting Countries Forum (GECF)

was held in Doha, Qatar and the possibility of forming a cartel was further discussed. Algeria, Qatar and Russia were the ones to lean towards the possibility (Macalister, 2008). Eventually, the importance of sustaining close relations and strong co-operation were emphasized during the event.

In order to ensure the reliability and sustainability of the European energy security, multinational cooperations also undertake a substantive role. Royal Dutch Shell Oil and British Petrol are among the supermajor oil and gas corporations originated in Europe.There are state owned petroleum and gas companies from the emerging economies like China and India raising the stakes for the competition of the market share in the energy industries and diminishing the influence of the major players.

The U.S. foreign politics and economic interests in the Middle East and Asia, where energy resources are concentrated heavily, determine the future of the European energy security of supply. Instable Middle Eastern politics and the regime shifts jeopardize the European economies; however this risk is not as big as it used to be in the 70s. Chinese prestige in the Gulf region is more visible than before and the Western influence is reduced (Andrews-Speed, Liao & Dannreuther, 2002). Eventually, the European energy scenarios are no longer viable due to the conflict of interests.

On the other side, climate change hasn't found its place in the Chinese and American energy policies. China is the most polluting country in terms of greenhouse gas emissions and the U.S. takes the second place. The consequences of a possible 2 degree Celsius climate change are obvious and every country recognizes the importance of acting early and adopting preventive measures. However, some are reluctant due the cost of shifting from polluting to eco-friendly industries. The EU combats the climate change and tries to prevent the potential consequences before it is too late. This particular part of the world sets the most promising targets to lighten the heavy burden of pollution on our ecosystem and the EU member states are the most determined countries to adopt climate change policies so far. Energy and climate are parallel to each other and cannot be held separately when discussing the climate change. It is known that the most vulnerable countries in case of an increase in temperature are the fossil fuel rich countries

(Redcliff, 1993). The oil and gas exporting countries are most likely going to experience social, economic and demographic crisis along with instability due to the climate change. In this context, it is no surprise that the supply coming from these countries will be inconsistent as a result.

The poles are melting slowly and making it possible to explore energy resources in places that once accomodated harsh conditions. Competition for the energy resources in the poles will result in conflicts. Those who claim possession on the poles also risk the European energy related interests in the region. In this scenario, the Western world might have to cope with the worsening energy security of supply dilemma; this means rough competition for the supply can cause anxiety (Redcliff, 1993).

3.3. The Development Process of the EU-wide Energy Strategies

Energy security of supply issues obliged the EU member states to co-operate. The only obstacle for the EU was to compromise on a harmonized or an integrated energy policy. Energy was at the heart of the European Union when it was founded. The European Coal and Steel Community and the European Atomic Energy Community were to address the urgent need of energy in the Western Europe and lay the foundation of extensive co-operation that can prevent or minimize the risk of war in Europe. The European Union made an incredible effort to compromise on a mutual energy policy. During the 70s, there was no mechanism to cope with the oil crisis. With the initiation of the United States, International Energy Agency was established in 1974 in response to OECD-based oil crisis and eliminated the EU-wide mutual policy deficiency.

International Energy Agency aims to respond to all sorts of energy related questions - not only oil crisis. Majority of the time, member states actively managed to co-ordinate their energy policies under the roof of the International Energy Agency (IEA) without seeking advice from Brussels. After the crisis, most of the energy agreements in the EU were reached during the IEA meetings. By the late 1980s, the EU had attempted to leverage its power in the energy sector; especially the term, “sustainable development” was introduced for the first time in the World Commision on Environment and Development’s Brundtland Report as “sustainable development

is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Drexhage, Murphy & IISD 2010). The report contains two key concepts as stated by Burton (1987):

- "the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

However, the "Single European Act" treaty did not include a chapter related to the mutual energy policy when it was published in 1987; the domestic market was foreseen to be completed by 1993 in this treaty. Disagreement is due to the divergence of opinions between the member states (*The Single European Act*, 1986). During the 1990s, energy policies were discussed all over again and by the end of the 90s, the member states built consensus on three perspectives. The first perspective was to build a strong domestic market in the European Union by stressing the importance of fair competition. The second perspective was about the formation of a mutual environmental policy by taking into account that the fiscal measures and financial status of member states would be the key determinant factor of such a policy. The third perspective was about the European Energy Requirement which has the purpose to support and promote free market economy in the former Eastern Bloc countries; thereby strengthening and contributing to the European energy security of supply (Aalto, 2008).

Domestic market oriented strategy affected the industrial structure of the energy markets and in the key energy markets, public sector and the state had to cope with the new sequence of values. Withing the scope of environmental issues, the European Union's leading role in the actualization of Kyoto Protocol and the implementation of an EU-wide carbon emissions trade mechanism were important developments for the domestic market. However, the result was disappointing because the developments did not yield the expected outcome. Until the end of 1990s, Europe couldn't agree on a mutual energy policy. In 2000, Green Paper - Towards a European strategy for the security of energy supply was published by the European Commission; however it did not contain an integrated and comprehensive approach to energy policy. The

absence of a mutual energy policy in 2000 caused the EU to lose its negotiation power and no further discussions were planned for this issue (European Commission, 2000).

The preparations for the mutual European energy policy started in the mid-2000s. The consensus of including a mutual energy policy along with strategic targets in the European Union constitution reached; and under the Article (3-256), energy policy targets are mentioned (O'Neill, 2009). Even though, the treaty establishing a constitution for Europe was signed in Rome on 29 October 2004, before entering into force, it had to be approved by all the member states and some did not so the ratification failed. The intention for drawing up such a constitution was to replace all the founding treaties of the European Union with a mutual constitution. To be specific, the reforms in France and the Netherlands were the main reasons that caused the failure of the attempt. Later, the Treaty of Lisbon entered into force in 2009 after having ratified by all the member states in accordance with their national constitutions.

At the Hampton Court summit, under the influence of the energy crisis between Russia and Ukraine, the European Union member states agreed on the necessity of a mutual energy policy in 2005. The European Council during the summit invited all the participants to draw up a brand new Green Paper. Concordantly, the European Council published the Green Paper for the purpose of supporting the procurement of sustainable, competitive and reliable energy supplies in 2006. The Council reemphasized the necessity to possess a monaural identity at the international stage. Even though, the magnitude and specific mechanisms were acquired within the European Union, it was claimed that political unwillingness hindered the co-operation.

Following the publication of the Green Paper in 2006, energy occupied a precious role in the European Union’s agenda. By the approval of the European Union climate and energy package in March 2007, member states were officially mobilized for the common energy policy (The Council of the European Union, 2007). In addition to the EU climate and energy package, two other energy related packages were proposed by the European Commission, and adopted by the European Parliament and the Council of the European Union. Before these packages adopted, the member states did not accept the energy chapters of the historical treaties such as the Maastricht Treaty and the Treaty of Rome; not even a single amendment made to authorize the European

Union bodies in the field of energy to act on behalf of the member states. Simply, the member states did not want to lose their free will in the decision making of their domestic energy policies.

The 2020 Climate & Energy Package and 2030 Climate & Energy Framework are the first samples of energy related binding agreements to ensure the EU to meet its climate and energy targets for the year 2020 and 2030. The 2020 targets were proposed in March 2007 and accepted by the European Parliament in December 2008. The targets are translated into national targets so that each member state can check its own progress. They feature 20% reduction in greenhouse gas emissions compared to 1990 levels; 20% increase in the share of renewable energy and 20% increase in energy efficiency. It is also worth mentioning that 3% of the EU's GDP is planned to be invested in energy related research and development programmes. This means better technologies can be employed in the energy sector. Several member states are close to reach some of these objectives but based on current trends, we see that the EU ETS did not yield the desired results because it failed to promote low-carbon technologies due to the current carbon market prices. In Deloitte's Energy Market Reform in Europe report revealed that the EU significantly reduced its energy and carbon intensity but the economic crisis has undermined the process. End-user electricity prices rose by 20% between 2008 and 2012 but the wholesale prices were dropped by 35-45% at the same time. Energy dependency has increased slightly in the EU since the policy adopted; this is not the desired outcome of these targets. However, the EU is still the only great economic power that adopted a new economic model which is less carbon-intensive and more renewable energy focused (Deloitte, n.d.).

Legal foundation for futher cooperation in energy industry is not profound in the EU; although, co-operation must be maintained in order to achieve demanding and compelling set of objectives that benefit all the member states. The idea of a single market requires strong co-operation along with reaching a consensus as a union on foreign economic relations, transportation and environmental policies.

3.4. The European Union's Energy Security Strategies

The European Union's approach to energy security of supply up until the beginning of 2000 was about the imitation of the U.S. model. The model was seen sufficient to sustain a well-functioning energy market in the EU. In addition to the market mechanism's value system, sustainable growth and environmental concerns were taken serious to comply with the Kyoto Protocol. This approach found a concrete statement in the Green Paper - Towards a European Strategy for the Security of Energy Supply. With the publication of the Green Paper, the European energy security of supply issue was comprehensively discussed for the first time. The importance of curbing the growth in energy demand and the managing energy import dependency on a timely manner was emphasized. Public authorities were suggested to constitute energy security or security of supply policies and targets in line with the market principles. The paper underscored the significance of unification on energy policies because the member states individually were inadequate and had limited maneuver capability during the negotiations. Environment was one of the core points of the paper because energy production, transportation and consumption have major consequences on environment; future decisions on policies were suggested to stress the environmental aspect of the issues. Energy security of supply meant more than reaching a consensus but it required a strong form of constitutionalism. All the risks related to energy security were listed on the paper (European Commission,2000).

The Green Paper of the European Commission (2000) lists the measures below to maintain an adequate level of energy supply:

- completion of the internal energy market
- taxation of the energy resources accordingly
- application of the energy-saving methods and programmes
- extensification of new technologies in energy industry
- examination of mutual transportation policies
- development and refinement of less or non-polluting energy resources
- enhancement of the policies related to fuel stocks
- sustentation of the competition policies in energy industry in order to avoid oil supply risks

- extensification of further dialogues with the fossil fuel exporting countries
- fortification of the supply networks

The Green Paper stressed the necessity of maintaining the ongoing communications with the south eastern neighbours because these countries are located close to Russia and the Gulf States. Even though, the organizational structure was weak, the Council of the European Union had to maintain a unified and strong attitude towards the supplier countries and use its economic and political power to shape the relations. Politics and economics were used with caution by the EU to have a strong bargaining power against the energy supplying countries.

3.5. A European Strategy for Sustainable, Competitive and Secure Energy

After the Hampton Court summit took place, another *Green Paper - A European Strategy for Sustainable, Competitive and Secure Energy* was published by the Council of the EU (2006) and for the second time, this has become the main energy policy support instrument. The paper had the intention to guide the member states for sustainable, competitive and secure access to energy resources. When published in 2006, the paper had three main objectives and these are:

- to increase the energy security of supply in the EU
- to choose the sustainable energy options
- to improve the competitiveness in the domestic European energy market

The Council of the European Union stressed the connection between carbon emission deduction, energy efficiency and energy security of supply issues in the Green Paper. The EU's suggestions related to energy at the time were mainly focused on sustainability and it was perceived that an internal energy market could ensure the security of energy supplies. According to the Green Book, a liberalized and competitive energy market could help the investors to make correct decisions; and improves the security of energy supplies.

The European Union's energy security of supply objectives were mentioned as below (retrieved from the European Commission, n.d.).:

- to reduce the demand for energy
- to diversify the European energy mix
- to increase the share of domestically produced energy resources and the renewables in the total consumption
- to diversify the geographic origins of the imported energy resources
- to promote a market to meet the growing demand for energy through investments
- to prepare Europe better for potential energy crisis
- to ensure a backdrop for the European companies to compete for the global energy resources
- to assure the European citizens and the European business market that energy is/will be always accessible
- to compromise on a mutual foreign energy policy

The new Green Paper focused more on the coordinated and mutual energy policy to ensure the energy security of supply; the old Green Paper which was published in 2001 did not emphasize these points.

3.6. Issues with the EU's Approach to Energy Security of Supply

Enegy security appears high on the European Union's agenda and as discussed above, co-operation is the secret recipe for success. Due to obvious reasons, meeting on the common grounds for mutual energy policies took some time. The 2020, 2030 and 2050 targets proved that the European Union is highly aware of the urgent need to alter the current energy consumption trend. Switching to eco-friendly industries in order to avoid temperature increase of 2 degrees Celsius and providing healthy living spaces for its citizens are the main drivers of the European Union's energy policies. Competition is the key to a healthy functioning economy in every industry; however when we evaluate the member states individually, it becomes clear that the Eastern European member states are less advantageous compared to the highly industrialized Western European member states. Ensuring a fair competition by law in the market was not sufficient in the beginning in order to persuade less industrialized member states to legislate these policies. Here, the Effort Sharing Decision comes into play. The decision establishes the

binding annual GHG emission targets for member states for the period 2013–2020 and it forms a set of policies and measures to combat climate change; progressing toward a low carbon economy as the ultimate objective will also benefit the energy security of supply.

The targets vary based on the national wealth of member states. Greenhouse gas emission reduction by % 20 is binding for Germany but it doesn't mean that Estonia also has to reduce its emission that much. If it can be done, it should be done. Some member states are actually allowed to increase their emissions by maximum 20% if reducing the current emission level is compelling and harmful for the national economy. However, it is binding to make efforts to reduce the emissions. Figure 3 by European Commission (n.d.) demonstrates the tolerated emission limits for every single member state.

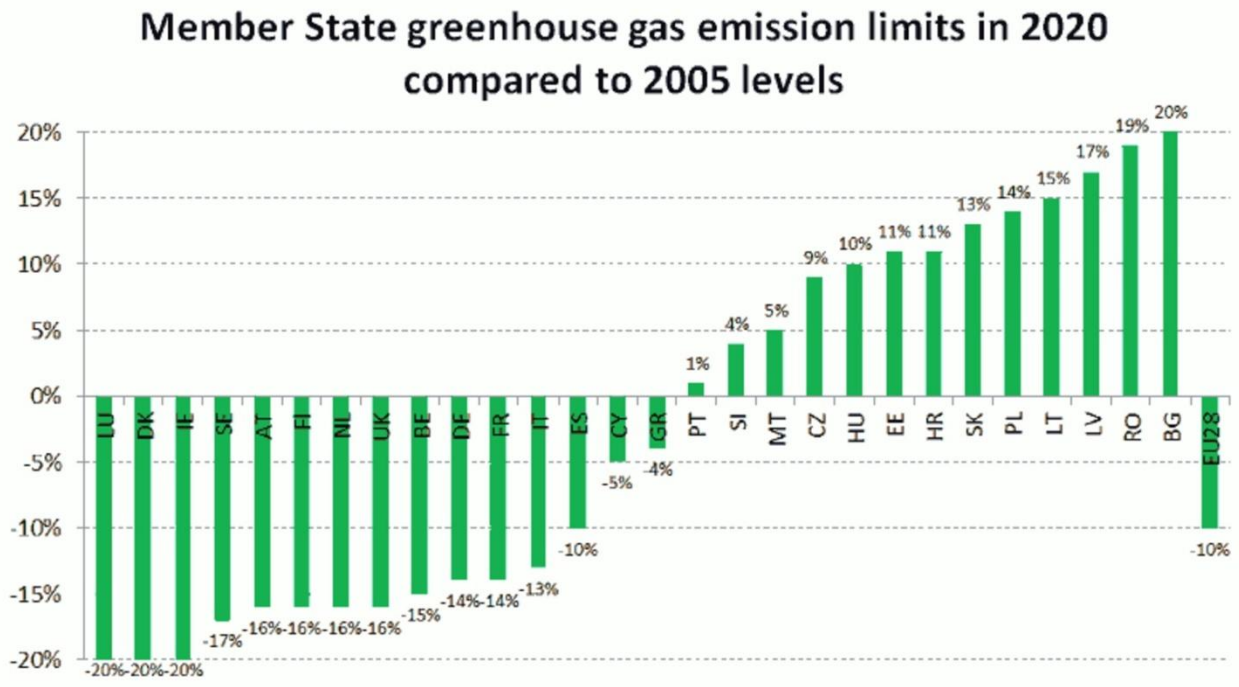

Figure 3: Member State ghg emission limits in 2020 compared to 2005 levels

The European Commission systematically monitors all the member states and requires them to report their emissions. For example, low income member states are not requested to upgrade their facilities and implement carbon capture and storage technologies; and 2% of the EU ETS reserves are kept to be freely allocated to the facilities in these countries. To show their

solidarity, the EU agreed on allocating 10% of the EU ETS allowances to the low income member states. The Effort Sharing Decision is valid until 2020 and later, all the member states have to reduce their emissions in order to reach the 2030 targets (European Commission, n.d.). By 2030, the member states have to ensure that at least 27% of the energy consumption has to come from the renewables. This target is binding for every member state and the member states are also welcomed to set more ambitious national targets. The figure 4 from Deloitte's *Energy Market Reform in Europe* (n.d.) report illustrates the targets.

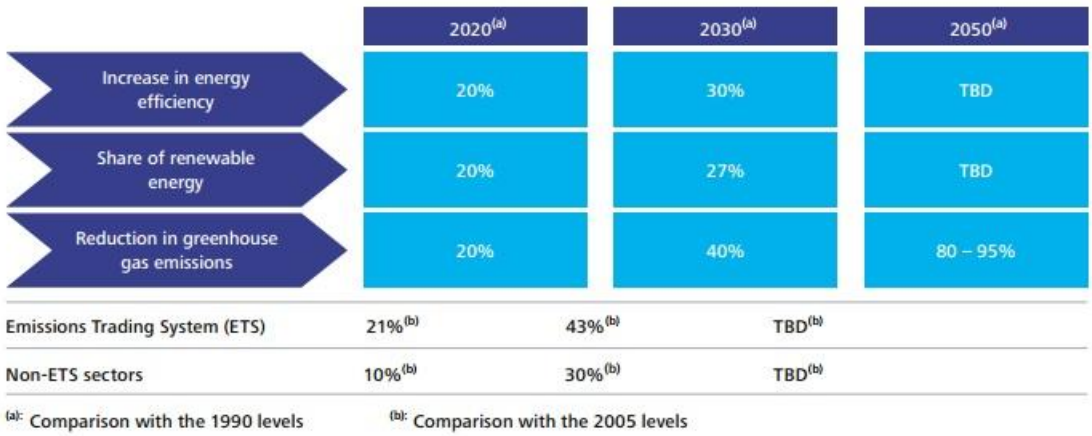

Figure 4: European targets for 2020, 2030 and 2050 compared to 1990 or 2005 levels

By the nature of the economic crisis, Italy, Spain and Belgium have already met their GHG emission targets. The UK and France are close to reaching the targets; however it is not sure if Germany and the Netherlands can make it to their targets. The European Union should ensure that the economic revocery will not alter the GHG emission levels in Italy, Spain and Belgium.

Germany with no doubt is the pioneer in transition to renewable energy resources. For example, Germany made a committment to withdraw from nuclear power until 2022 in light of the Fukushima disaster in Japan. It is clear that phasing out of nuclear power plants threatens the objective to reach GHG emission targets; and raises the costs. To be more specific, withdrawal from nuclear power gives a birth to major risks for energy security; some of these risk affect the competitiveness of an economy and energy prices. Germans are committed to surpass the 2020 renewable energy target by reaching 40% renewable energy share in its total consumption. Germany's energy transition simply known as the Energiewende is estimated to require large

scale investments of up to 200 billion euros. However, the cost might vary in the near future because renewables cost less as the demand and the market grows for these technologies. Figure 5 from the German Energy Transition of Morris & Pehnt (2012) reveals the ambitious German energy targets.

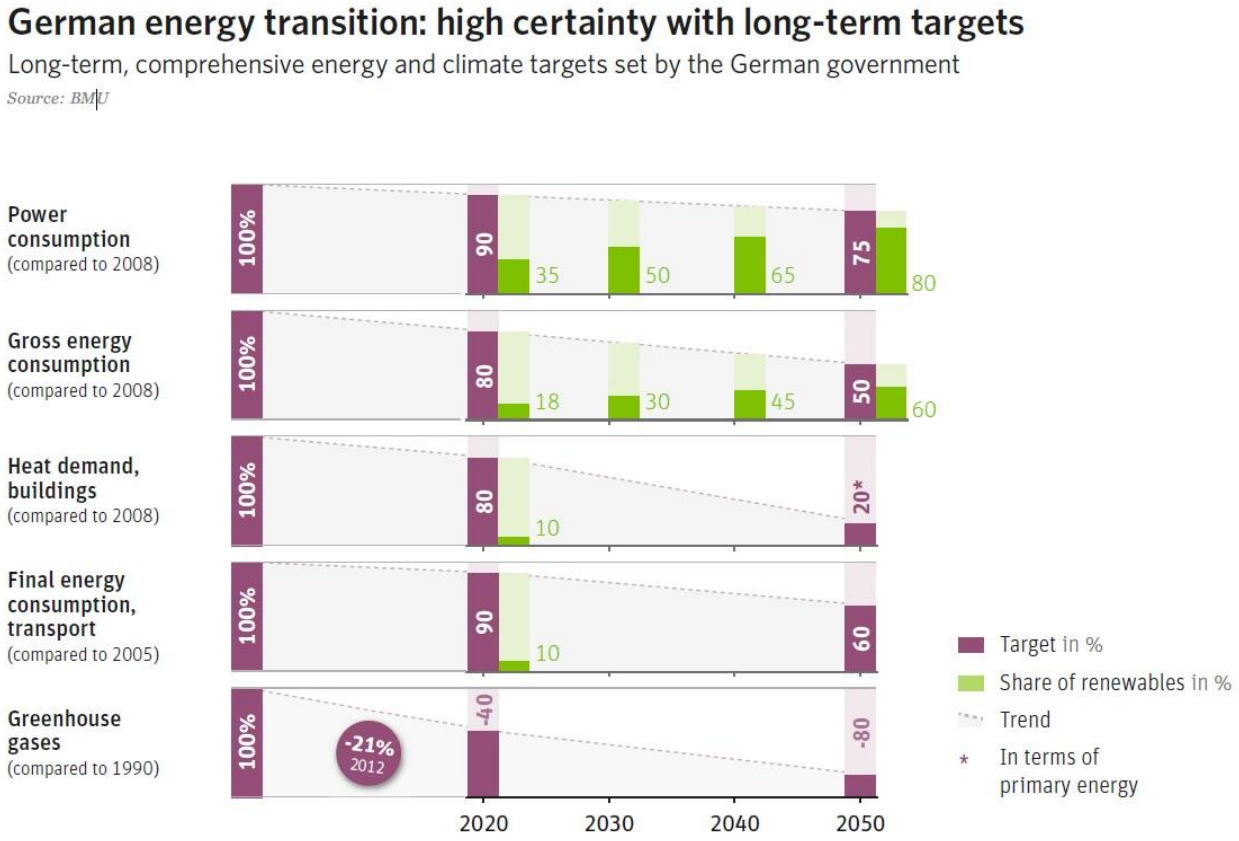

Figure 5: German energy transition: high certainty with long-term targets

German dependency on coal and nuclear phase out distresses the European authorities because the result of this pattern is likely to cause an increase in GHG emissions. Coal is abundant in Northern Europe and German authorities plan to build new coal-fired power plants. The Energiewende policy and the increase in coal use are contrary to each other (Morris & Pehnt, 2012).

The annexation of Crimea has triggered the longstanding worries about the reliability of Russia as a trade partner. The sum of the Russian energy policies in the recent years proved that energy is Russia's top economic and political priority and is the basis of the country's non-military, soft power in the 21st century (Bochkarev, 2006). Previously, the EU did not take a stance against the

world's largest crude oil and second largest dry natural gas producer, Russia. In the winter of 2009, Russia ceased gas transfer to Ukraine and some member states had supply disruptions. However, this incident didn't spoil Russian-European relations. Under the influence of this memory, the EU found the need to employ new strategies in case of repetition. The new strategy involved building pipelines to Turkey to keep the gas flowing in the future and the growing importance of energy security stressed as the 2009 and 2006 memories were recalled. The sharpened European attitude towards Russia turned into mistrust toward Russia as a trade partner.

The internal energy market in the EU is affected by the international developments and trends. The shale gas and oil revolution in the U.S. might be a game-changer for the EU; importing around 53% of its energy from the Gulf States, North Africa, the Caucasus, Asia and South America. Some of these regions or continents are experiencing political instability and the history proved that energy can turn into an income source for dangereous affairs if it falls into wrong hands. The U.S. with a mature democracy plays a significant role in the European energy mix strategy. Liquefied Natural Gas (LNG) made it possible to transport gas across the oceans and it is affordable.

The competition and demand for fossil fuels will have the tendency to rise significantly. This trend will continue because developing countries are starving for energy. Their economies are heavily based on fossil fuels and their national wealth with 6-7% growth per annum allows them to compete internationally for such resources. Due to all these reasons, energy markets will be more volatile and we should expect higher prices. Industrialized countries are not expected to fully run their economies on renewables when the anticipated scenarios above actualize. That means Germany might build stronger relations with Russia and the Gulf States if not as a part of the European Union in order to enjoy privileges; lower energy prices, no shortages, and consistency in procurement are just a few advantages. Central and Eastern European countries import around 60-80% of their gas and oil directly from Russia. Some nuclear plants in Hungary, Slovakia, Czech Republic and Finland rely on Russian fuel. Estonia, Latvia and Lithuania serve as transit routes for the Russian exports and some of them depend on Russia's IPS/UPS, Unified Power System for a fully functionung electricity network.

Also, the energy crisis in 2006 was the milestone on the recognition of the vulnerable state of the European energy security. Later, set of energy policies adopted and further packages were reviewed and discussed for further developments. In the beginning, the only obstacle in front of a unified approach to energy security issues in the EU was by the virtue of member states having their own national energy strategies and linking energy issues to their sovereignty. The member states' energy dependency, natural resource wealth, technological preferences and geopolitical positions differ and due to that their approach to energy security also differed from each other in the past. A state has the responsibility to provide energy consistently to its citizens and the industries, and ensure the security of supply. Because member states in the past perceived energy as a strategic tool, they did not want to hand in their free will to the European Union and its institutions. They wanted to take precautions with their own initiatives.
Some of the precautions included military intervention in the worst case scenario. These precautions include the measures below as listed on *market-based Options for Security of Energy Supply* by Egenhofer, Gialoglou & Luciani (2004).

- promotion of country-wide spread nuclear and coal-fired power plants which don't require any external liaison
- stocking sufficient quantity of imported fuels
- supporting the national energy companies and their operations abroad
- directly signing trade contracts with the producers

Besides, majority of the member states followed a U.S.-like policy in the pursuit of energy security. For example, there are two mechanisms for co-operation in case of energy shortages in the EU. The first mechanism is constituted and steered by the International Energy Agency under the leadership of the United States. The IEA's emergency mechanism requires member states to maintain oil stocks equivalent to at least 90 days' worth of net oil import (IEA, 2014).

The second mechanism was adopted by the Council of the EU. Compared to the IEA's emergency mechanism, the second mechanism was found inadequate by the experts. The Council suggested maintaining oil stocks equivalent to 120 days' worth of net oil import,

revising all the precautions and emergency measures and undertaking more respobilities in the surveillance of national energy stocks; however this request was unreciprocated.

The EU still finds it difficult to substitute the ongoing traditional structures with its up-to-date systems and also, in determination of a political basis for the justification of the proposed systems, the EU remains insufficient. Therefore, the EU endeavors to compose energy security policies with the existing mechanisms. In this context, they discussed the options and concluded with the result that market liberalization and privatization are most likely the best options to insure energy security of supplies. However, there is always a need for a unified strategy because individually, the EU with its fragmented national markets is too small. In case if the EU can not manage to build its own internal energy market, powerful players like Russia and Saudi Arabia may always pose a risk (Esakova, 2012).

The purpose of energy market liberalization is to deliver the best possible result in consideration with consumers' rights, national economies and environmental impacts. The consensus on reaching energy security of supply objectives with market liberalization is based on the concept of free market economy. Probably, it is not hard to guess that the best way to serve consumers is to ensure that energy companies are privatized in a free market economy. This is the reason why the main objective of the European energy policy is to construct the desired internal energy market and protect the market from the arbitrary behaviors of the states which might be in tendency to manipulate the markets in their favor (Boersma, 2015). Since the 1990s, the EU meditates on the process of liberalizing the natural gas and electricity markets. The oil market was liberalized before natural gas and electricity markets. The liberalization of the natural gas market started with the introduction of the directive 98/30/EC of the European Parliament and the Council of the European Union on June 22, 1998. This directive aimed to gradually liberalize the natural gas market. The liberalization of the entire energy market and the complete integration of the domestic energy markets of the member states were supported by the publication of the directive 2003/55/EC on natural gas and electricity markets.

There were new legislations passed to build a legal framework for cooperation between the international authorities; and energy related laws were prepared for a sound energy market. Later, more directives were published and all of them re-emphasized the importance of ensuring

security of supplies along with clarified steps. The directives have relieved the authorities from unnecessary complications and made sure that the natural gas market is up and running. Most importantly, the directives presented a common legal framework for the member states and helped them to see and check if the market is competitive, transparent and runs with no discrimination to any parties. In light of this, the Gas Coordination Group was established to track and coordinate the energy security of supply measures among the member states. The Group also exchanges information on energy security with suppliers, consumers and transit countries (The Gas Coordination Group, 2012). The liberalization process in the EU was inspired from the U.S. experience but later, it was found very liberal and dropped. During the phase of transition, the European Union member states were crawling to progress due to the discrepancy of governance between their energy companies; ownership status of their energy companies and dependency divergence on imported natural gas and oil which also affected the transition duration (Yergin, 2006).

The old cartel structures of energy companies in some member states posed a danger for the healthy functioning of their own liberalized energy market. Majority of the member states effectively managed to unbundle the energy transmission networks. Also, these member states in the past supported and subsidized their cartels to hold sway over their energy markets (Lewiner, 2010). Especially, the major economies of the EU such as Germany, Italy, Spain and France, to an extent, still support their hidden cartels; however this doesn't mean that they are not liberalized. Actually, these countries are liberalized earlier than other member states. How we know these? Germany's largest utility company planned to take over Spain's largest utility company in 2007 (Milner, 2007). This historical event proved that energy industry, even in the boundaries of the European Union, still revolves around national interests; economic interets and the national security play a major role in the decisions. Creating large-scale national energy markets that can compete in the international markets conflict with the solidarity and competition foundations of the European Union.

In the past, unwillingness of the member states to adopt the applications that can unify the fragmented energy markets bring about troublesome enery security of supply issues. However, that is no longer the circumstance. There is a mutual willingness to adopt EU-wide applications

that are supposed to bring prosperity to every member state and these applications create the basis of a good sample in terms of transparency, fairness, reliability, consistency and solidarity. This is how the EU, to an extent, helped the member states quit their past habits and provoked them to take a stance in energy security issues in conjunction with the European Union's interests. First, state-owned energy companies are reminded that they are legally liable to public and the legal basis for their obligations was constituted. For example, state-owned energy companies or cartels had to have stockpiles in case sudden disruptions or shortages; the purpose of the state here is to get off the hook immediately. Today, there is plenty of privately owned energy companies operate in the EU; and in case of energy shortages, they are prepared to activate their emergency measures.

The positive criticisms over the fragmented energy markets of the member states simply relied on the alleged advantage of operating in a less liberalized energy market actually delivered cheaper energy prices in the past (Amineh & Guang, 2012). The advocators of this claim have compared the very well liberalized British energy market and the less liberalized French energy market. It is obvious that the end users in Great Britain are paying more for their energy bills compared to French consumers who have been enjoying relatively low and stable energy prices (Boersma, 2015). Currently, the majority of the energy drawbacks are external affairs-centric and the EU finally has a clear vision and authority to address all the drawbacks. For example, the EU institutions try to eliminate potential long-termed bargains between individual member states and energy suppliers. In this context, market liberalization positively affects natural gas imports due to high bargaining power of the European Union. Most of the member states think that natural gas trade demands long term business relations because it requires costly investments for the infrastructure and processing such as building pipelines and power plants.

Liquification of natural gas made it easier to trade this commodity; however customers need to construct special terminals to store LNG and build expensive plants to convert LNG into gas form. Most of the long-term deals in the energy industry are based on trust and anticipated to carry on accordingly (Boersma, 2015). Most of the energy contracts lasted around 15 years and this prevented competition in the market. In the past, all the deals were long-lasting; however today, the European Commission finds it a false step to commit deals individually with a

resource rich country. This statement is of course valid for the European Union member states and does not set the pace for the non-EU countries. Short-termism was emphasized by the EU because this strategy is believed to be in favor of competition. The criticism for the short term strategy is not missing. Most of the critiques claimed that only the major energy producers may agree on short term deals or trades and this circumstance can undermine the energy mix strategy (Boersma, 2015). Also, the major energy corporations defended the hypothesis that new pipelines and infrastructure can not be built if there are no long-term contracts.

What scares the member states most is the hypothesis that Russia might utilize the natural gas demand as a part of a geopolitical puzzle that can ruin all the business relations. For the purpose of avoiding the EU claimed repressive applications of the Gazprom's quasi monopoly market strategies, the EU stresses the importance of market liberalization and competition policies. Consequently, it is no surprise that the EU authorities support member states that are in transition to liberalized markets. The EU belives that establishing competition can reduce Gazprom's market share in the European Union because this also means that energy prices will be in tendency to decrease and energy security will be ensured. In summary, this strategy has the intention to dissuade Moscow from pursuing an alleged repressive energy policy towards the EU under the roof of Gazprom.

Chapter 4

The European Union's International Relations With a View to Energy Security

4.1. EU-Russia Energy Relations

Russia has the world's largest proven reserves of natural gas; the 8th largest oil reserves and the second largest coal reserves; while also the second largest oil exporter and largest oil producer. (GECF, 2015). It is important to note that Russia is not an OPEC member. The strategic significance of proven energy resources comparatively outmaneuvers Russia. Energy industry means a lot for the Russian economy and its national security. High energy prices strengthened Russia's political confidence at the international stage and economically improved its domestic market activity. Energy revenue meets half of the country's annual budget. Natural gas and oil exports correspond to more than 80% of the Russian exports. From 1999 up until 2008, Russia experienced around 7% GDP growth per annum. This extraordinary growth was originated from the energy exports (Oxenstierna & Tynkkynen, 2013).

The European Union's demand for energy is expected to rise in the near future, and this demand makes the Russian-European relations more precious. The EU's enlargement towards Central and Eastern Europe requires more concentration on Russia because both Central and Eastern Europe were heavily dependent on subsidized Russian energy supplies; the energy subsidies started in the Soviet Union. The crisis between Russia and transit countries led the EU to question its strategies to ensure energy security of supply in the long-run and examine if Russia could be a reliable energy supplier or should it remain as one also in the future. Especially, the Central and Eastern European authorities continuously imply that Russian politics create a serious threat to energy security in the EU. From March 2005 until January 2006, all natural gas supplies flowing from Russia to Europe via Ukraine was cut off. This incident repeated itself also in 2009, 2014 and currently, there is also no gas flowing. The first one was allegedly due to the conflict in settlement price. However, from the perspective of the Western experts, the latest incident is seen as the result of Ukranian proximity to NATO and the EU. It is believed that the annexation of Crimea has to do with the Ukranie's intention to develop intimacy with the Western world.

After the previous crisis, in January 2007, Belarus and Russia couldn't compromise on oil taxation. Before the incident, Russia did not charge Belarus with export duty or tax due to special bilateral agreements. However, it is revelead that Belarus had been taxing itself disguisedly and stealing oil from a major pipeline, Russia immediately freezed its ties and shut off oil exports to Belarus. In response to that Belarus slapped a $45 per tone transit tax on oil shipments from Russia. This resulted in a 3 day long shortage and Belarus gave up on the transit tax. Russia claimed that due the previous priviliges, Belarus has been costing $4 billion in lost revenue each year (BBC, 2007). Eventually, oil transfer to Europe was halted; threatening wider disruptions in Europe.

Of all the coddling, the European Union's intention is to maintain healthy relations with the natural gas cartel which they are dependent on. Due to Russia's geographical proximity to Europe, and having the largest proven natural gas reserves within its boundaries, it is no wonder that Europe shows sensitivity when it comes to Russia. In 2013, some 33, 5% of the EU-28's imports of crude oil and 39% of the natural gas imports came from Russia (Eurostat, 2015). These rates demonstrate that 1/3 of the total energy consumption in the EU is supplied by the Russian Federation. In tandem with the increase in energy demand, the European dependency on Russia is going to increase; although the EU has taken desperate measures to avoid similar occurances in the history. The forecasts demonstrate that in 2020, 50% of the imported oil and 70% of the imported natural gas will come from Russia (IEA, n.d.).

Europe is more in need of Russian natural gas than their crude oil supplies. Gazprom is in full charge of the natural gas trade. The state-owned company controls 90% of the natural gas production in Russia (Belyi, 2015). Russian-European natural gas trade occurs through the pipelines. For example, the Yamal-Europe pipeline runs across Russia, Belarus and Poland reaching Germany. Its length is more than 2000 km, and there are 14 compressor stations available along the pipeline (Gazprom, n.d.). The Nord Stream submarine pipeline links Russia and Germany with a length of 1,224 kms. It is the longest sub-sea pipeline in the world. The target markets are Germany, the United Kingdom, Denmark, France, the Netherlands and some

others. The commencement was made on October 8, 2012 (Gazprom, n.d.). The figure 6 illustrates the major Russian gas pipelines to Europe (Bailey, 2009).

Figure 6: Major Russian gas pipelines to Europe

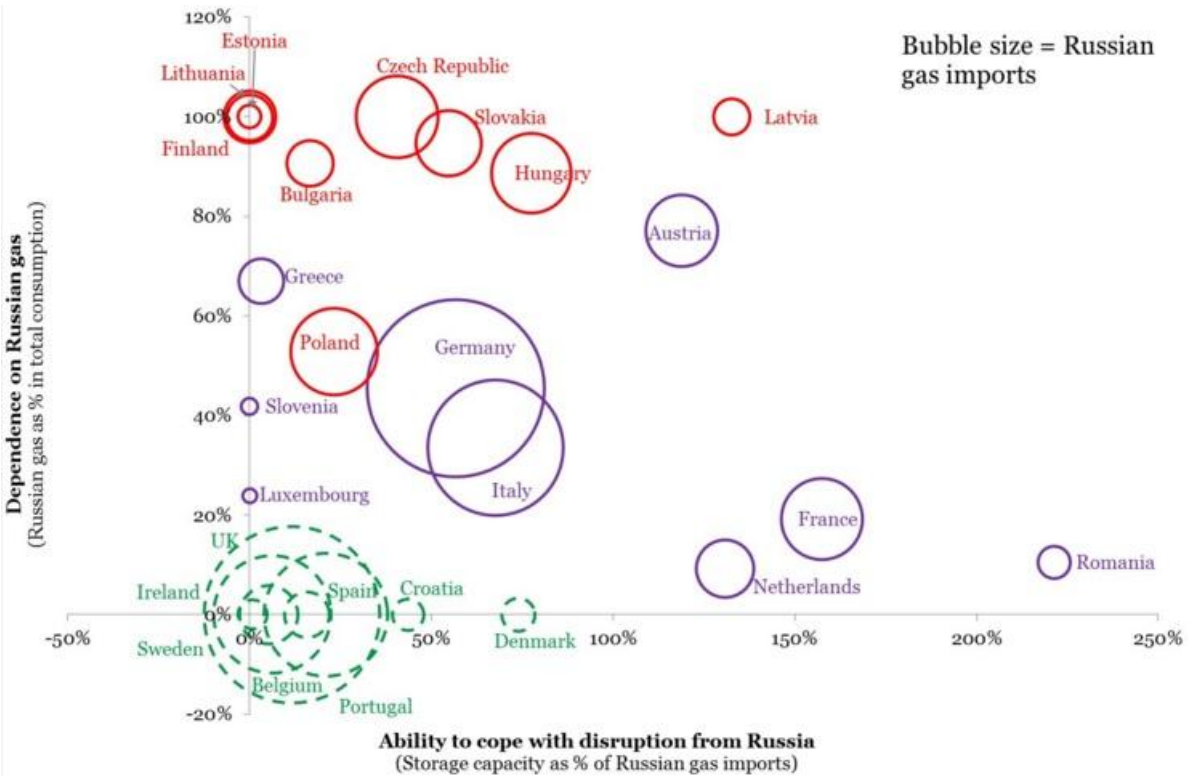

Figure 7: Energy security cacophony in Europe

Energy dependence of the European Union member states vary. The figure 7 of OECD & IEA (2014) illustrates the cacophony between the member states. For example, Lithuania and Estonia are fully dependent. Finland with a well diversified energy mix still imports almost all of its natural gas and oil supplies from Russia. On the other hand, several Western European countries such as Sweden, Ireland, Belgium, Spain, and Portugal don't import energy from Russia. The former Eastern Bloc countries still receive the majority of their energy resources from Russia (IEA, 2008).The Brits have a relatively low energy trade with the Russians. From the figure 5, we understand that Russia's biggest Western European energy partner is Germany. Russia also supplied 39% of the oil demand and 36% of the natural gas demand in Germany (Fuchs, 2014).

From this research, we find out that countries that import oil from Russia also have the tendency to import natural gas and vice versa. Also, the market share of the Russian oil exports is far less than the market share of the Russian natural gas exports. Another state-owned energy company, Transneft is responsible for the majority of the Russian oil exports to Europe.

Europe and Russia made efforts to build strong economic and political ties after the Cold War. The legal basis for the relationship between the EU and the Russian Federation was constructed by the establishment of Partnership and Cooperation Agreements (PCAs). The agreement was signed in 1994 and came into force in 1997. The agreement was planned to be valid until 2007 but ever since, it is renewed. Russian exports were highly welcomed in the EU with just a few restrictictions; excluding the current Western embargo on Russian exports from the short-lived intimacy. The objectives of the agreement are listed in accordance with the *Agreement on Partnership and Cooperation* (1997):

- Building a progressive framework in order to maintain a healthy state of political dialogue between the parties
- Development of close political relations between the parties
- Promoting active business operations between the parties
- Integrating or harmonizing the economic interests based on the principles of market economy
- Ensuring political and economic freedoms
- Supporting Russia to consolidate its democracy
- Strenghtening its economy to complete its transition into a market economy
- Based on mutual interests, building concrete foundation for social, economic and cultural cooperation
- Gradually widening the area of cooperation in Europe
- Paving the ways for the future establishment of a free trade area between the parties, as well as providing the necessary conditions for bringing about freedom of establishment of companies, of cross-border trade in services and capital movements.

Four core areas were identified for the PCAs at the St.Petersburg Summit in 2003. They were economy and environment, freedom, security and justice, external security and research, and finally, education and culture (The European Union, 2003). It took more time to build an institutive framework for the Russian-European energy cooperation. Russia and the EU intented to officialize their energy cooperation quests for the very first time by the announcement of the Energy Charter Treaty in 1998. However, the Russian authorities did not find several protocols

of the requirement appropriate for the Russian interest and did not approve the requirement. Especially, the conflict was arised from the transit protocol in the Energy Charter Treaty that suggested to transmit natural gas to Europe via third party countries. The transit protocol was claimed to force Russia to implement such measures that restrict them on the decision to choose the destinations to transfer oil and natural gas that may not comply with the Moscow's interests (Oxenstierna & Tynkkynen, 2013). Russia was advantageous concerning the principle of energy transit. By not approving the requirement, Russia preserved the status quo. On the other hand, countries of the Caspian Sea were supporting the European Energy Charter Treaty but Russia did always remind them who actually is in charge of the pipelines which link them to Europe.

As the Energy Charter Treaty caused disappointment in Europe, the authorities went in search of alternatives to maintain the energy dialogue with Russia. The alternative was immediately found in 2000 at the EU-Russia Summit in Paris. The dialogue has proved that Russia and the European Union are actually seeing themselves as partners in the energy industry and they have mutual interest to stimulate further energy security measures on the continent. The energy dialogue was aimed at contributing to energy supply and demand balance; promotion of the energy efficiency measures, including the production phase of these technologies, modernization of the transportation methods, simplification of the foreign investment procedures and building bridges between the producer and consumer countries. The energy dialogue was planned to be long-lasting and expected to have troubleshooting characteristics. The core mandate was obvious; connecting Russia to Europe. Integration of the Russian energy market with the European Union's was believed to be achieved (European Commission, 2000).

Throughout the period, there have been new amendments in order to strengthen the energy cooperation. The European Union insisted on its desire to modernize the Russian energy infrastructure and support all the efforts made by the Russian-side in this context (Bochkarev, 2006). The energy dialogue opened the doors slightly for Russia to cope with the Kyoto Protocol and the Energy Charter Treaty since it created a soft ground for all the discussions. However, the energy dialogue today is no longer functional. It is fully restrictred on the observation of the progressive reports of the energy efficiency measures and future projects. Politics that rely on mutual understanding was lost between Russia and the EU; and without a doubt, in such circumstances, there couldn't be any progress. Both parties have different comments and

priorities regarding the relations. In fact, the energy dialogue was simply relying on negotiations; Russians had to procure oil and natural gas and in return, enjoy its share in the European energy market. As a matter of fact, this has been the ongoing activity ever since the pipelines were built; doesn't matter if the Russian authorities mind their European counterparts or not. Even though, there is an embargo on Russia, Central and Eastern European countries are in desperate need of Russian gas.

The European Union expressed its desire to invest in the Russian energy industry if the circumstances were favorable; meaning that the Russian energy market was expected to be liberalized. The EU also intended to finance the competent Russian channels to modernize and secure the energy infrastructure. Several European and American corporations were actively helping Russian energy corporations to explore, drill and process energy resources that are out of reach; at least, it is not possible to extract these resources in remote areas by the current Russian technologies that are in use (Kramer, 2014). It requires huge investments and space-age technologies to drill. Mainly the sanctions banned the Western companies to support their activities in exploration or production from deep water, Arctic offshore and shale projects.

In order to maintain its legacy, Russia may need to activate its long-expected restructuring of Gazprom; draft up-to-date energy policies; implement strategies to penetrate global markets; actualize a plan to diversify the trade routes and build privately-owned pipelines; develop efficient fuels and create energy balance; control the efficiency of subsoil stocks and also, comply with the European environmental standards along with Kyoto-like protocols. Until 2030, it is necessary for the Russian government to invest around $600 billion to its energy industry. The situation is more complicated than it looks like. Russia's main trade partner is the European Union and due to the sanctions, trade is temporarily ruined. Russia does not acquire the technology to explore and drill remote oil or gas fields in Siberia. Oil and gas revenues are necessary to stimulate the Russian economy. It is also important to note that Russia is one of those countries that invest heavily in R&D. A possible Chinese-Russian cooperation in energy industry can eliminate the obstacles that were once relative to the situation. Also, building the desired technology from scratch is highly possible and these countries are more than capable.

Russia is a founding member of the Shanghai Cooperation Organisation, an organization similar to the European Union. The SCO have emergency mechanisms in place to support the member countries that are in need of. This help may come in different forms such as capital, technology and defence. Help from the member states are in abundance. This organization is not the only source Russia can trust. Russia also has significant influence on Middle East and Africa. Through its membership in a large variety of networks such as Gas Exporting Countries Forum which may later turn into an OPEC-like organization, Russia has a saying for countries like Algeria, Egypt, Bolivia, Iran, Libya, Nigeria, Venezuela, UAE and so on. At least one of these energy rich countries supplies natural gas, coal or oil to the European Union. Russian political influence on these Russia-friendly nations can be a game-changer and indirectly, Russia may say the last word in their trades with the EU (Russia Today, 2015). There are more scenarious that are not preferable for any parties. In situations like this particular one, it is always best to lighten the mood, mediate the parties that are in conflict and discuss the possibilities to weather the crisis. Sooner or later, the common path is found.

The conflict is not only felt at the state level. Energy corporations like Royal Dutch Shell Oil and ExxonMobil hold billion dollar interests in the projects that are in the Russian Far East. These projects were halted due to the sanctions, threatening the investments that may be evaporated if not continued. This issue politically and economically concerns the American and the European interests. British Petrol also has unignorable amount of investments in the Russian oil industry.

Figure 8: Arkutun-Dagi Oil and Gas Field, Sakhalin 1, Russia

The Figure 8 illustrates Gazprom Sakhalin Holding's Arkutun-Dagi oil and gas field that is located 25km offshore Sakhalin Island in the sea of Okhotsk. This field was discovered in 1989 and the production from this field started in January 2015. The facility is expected to produce 90,000 barrels of oil per day from the well by 2019. There are two other fields – Chayvo and Odoptu – began production in 2005 and 2010, respectively. In conjunction with these two fields, Arkutun-Dagi will increase the annual production capacity of Sakhalin 1 by 32.5 million barrels of oil. The projected annual production from Sakhalin 1 project will exceed 10 million tonnes by 2018. However, what is more important concercing the European and American interests in this project is the ownership structure. The partners in the Sakhalin 1 project are Exxon Neftegas (30%), Rosneft-RN Astra (8,5%), Sakhalinmorneftegas-Shelf (11,5%), SODECO (30%), and ONGC Videsh (20%) as listed on the Offshore Magazine (2015). An American oil major holds a significant share of ownership in a Russian project with the estimated production capacity of 10 million barrels of oil per annum. However, the Western sanction on Russia forced ExxonMobil to cease its operations completely in the Russia Federation (Russia Today, 2015). The fields surrounding the Sakhalin Island hold potential recoverable resources of 2.3 billion barrels of oil and 485 billion cubic metres of gas. The total projected investment is forecasted to be $10-12 billion and the production may continue until 2050 if the expected consumption patterns are sustained. ExxonMobil's loss will be unignorable if the sanctions continue.

Figure 9: Sakhalin Island Map showing offshore oil platforms

According to International Energy Agency, if the investments in Russia are not made timely, Russia will have supply deficit and won't be able to deliver the desired energy output in Europe. For this reason, the European Union verbalized its appetite to connect the European companies with their Russian counterparts in order to develop the energy reserves.

In fact, first time the idea of Russian energy infrastructure corroboration was mentioned after the Cold War within the scope of Nordic expansion through Finland and Sweden. Both of these Nordic countries attempted to improve the energy relations and intented to link Russia to Europe. Other member states did not approve a Euro-Mediterranean Partnership (Euro-Med)-like status to be given to Russia because they didn't find a strategic interest. Following the European Union expansion through Central and Eastern Europe, they could no longer remain unresponsive to the necessity to improve the Russian energy infrastructure because the member states in this part of Europe are fairly dependent on Russian energy (Oxenstierna & Tynkkynen, 2013).

Essentially, Russia and the European Union are partners but without equality. Big economic asymmetries give a birth to reciprocal dependency, stress the parties and most probably, would result in increased vulnerability of the Russian market power. Allegedly, Russia is in search of strategic tools like energy to put leverage on the European Union member states which might later yield economic profits and eliminate all the derangments. In this context, it is not surprising to hear such claims that Russia's intention is to be the sole and only supplier of the energy starving member states of the European Union (Kuzemko, 2012). Russia has embraced a comprehensive strategic approach to energy related issues and the reference point to this approach is the national interests. Russian authorities monitor and wish to control the energy market developments in Europe. Some energy experts interpret this strategic approach as a way to deal with the American hegemony in the international energy markets. Majority of the energy related decisions, besides the official authorities are taken by the Kremlin, Russian government and a relatively small group of corporation executives. The decision making process is totally exclusive and far away from being transparent (Kuzemko, 2012).

According to Kremlin, energy is so important that it can not be abandoned to market powers in energy industry like the corporations. This is the reason why majority of the Russian energy

companies are state-owned or directly controlled by the state. For example, in case of joint overtakings, due to the necessity of state ownership in energy related projects, it requires a troublesome re-evaluation process if foreign entities intend to buy a stake at an energy project in Russia. The aforementioned Russian company has to keep at least 51% stake in case of joint ventures or projects that are planned jointly. The negative public attitude towards privatization in Russia along with the state supported energy corporations resulted in the birth of powerful energy cartels. In this sense, Russian energy politics towards the European Union have a defensive voice in its core. Russia prevents the European penetration in its domestic market. On the other hand, the European Union also blocks the potential Russian expansion in the European energy market and demands market liberalization; produce strategies to exterminate Gazprom's market power; requires Russians to sign the Energy Charter Treaty. Russian response to these strategies is so far successful. Both parties are in search of measures to protect their precious interests (Kuzemko, 2012).

The EU is concerned with the recent developments in Russian internal politics and long-lasting state control on its energy industry. One can probably claim that Russian-European energy trade relations are reciprocal but it is asymmetrical. For example, energy shortages in Europe can result in economic devastations but any delays in the European energy bill payments to Russia is not the end of world because Russian stabilization fund can compensate the delay immediately. Even so, Russia is aware of the impracticability in this asymmetric situation and before completing the necessary investments in its infrastructure, the energy major maintains its friendly approach towards Western Europe (Kuzemko, 2012). Doesn't matter how hard Russia tries, this doesn't change the skeptic and prudent European approach to Russia's future in the European energy industry. In this regards, the competent authorities are in quest for alternative resources and routes to diversify its energy portfolio.

Russia usually does retaliate against hostile incidents. In response to European energy policies which nestle such intentions to sweep away the Russian influence, Russia strengthens its existence in the European energy markets because if Russia loses its market share in the European market, which actually is its most important trade partner, will be subject to extreme losses in revenue. Losing Europe is economically not tolerable. This threat leads to the

actualization of aggressive policies for the market share. For example, Gazprom primarily focuses on the European energy market and have a take in several energy projects in Europe.

The most up-to-date Russian strategy is to develop bilateral relations with the member states on an individual basis. The theory claims that with bilateral agreements, Russia may do price discrimination and demand the highest possible price that a country can pay. Russia's next big market is Western Europe. For this theory to come true the hunger for energy supplies in Western Europe has to increase but due to the recent economic crisis and due to the mature state of the Western economies, this theory is likely to fail (Perović, Orttung & Wenger, 2009). The next big step is to make long-term energy agreements with the member states and build new pipelines. Thereby, restricted member states have to commit long-lasting trades and Russia actually hedges itself from monetary depressions for a long period of time. For example, partially state-ownned Austrian energy company, Österreichische Mineralölverwaltung AG made a long-term natural gas trade agreement with Gazprom. This agreement helped Russian Gazprom to expand deep into Austrian natural gas transit lines and consolidated its hegemony in Europe.

Russia, following its policy to make bilateral agreements, initiated another oil pipeline project with Greece and Bulgaria. The oil project is called Burgas–Alexandroupoli pipeline and planned to transport Russian and Caspian oil to the Bulgarian port of Burgas and from there to the Greek port of Alexandroupoli. Russia was going to be in full control of this pipeline in Europe but the project was suspended by the Bulgarian government due to environmental reasons and supply concerns. Gazprom and the Hungarian government agreed on the expansion of the Blue Stream pipeline project. Gazprom also signed an agreement with the Italian energy major, ENI on establishing a joint project company to do the feasibility studies and run the so called, "South Stream pipeline" jointly. The project was canceled in late 2014 due to rejections from the European Union and Bulgaria but basically, Ukranian Crisis and the Western sanctions on Russia played the most crucial role in the cancellation of the project. If it was to come true, Russia could have had his ticket to the second Western European country and could compete with the Nabucco pipeline which is supported by the European Union.

North European Gas pipeline was inaugurated in 2011 and connected Russia to Germany directly. The pipeline is operated by Nord Stream AG and its share holders are Russian Gazprom (51%), German Winthershall and E.ON Ruhrgas (both 15,5%), Dutch Gasunie (9%), and French GDF Suez (9%). The Baltic States and Poland lost the transit country status by the construction of North Stream pipeline. Russia was criticized by the former Eastern Bloc countries because this project allowed Russian authorities to act arbitrarily when these countries confront with the Russian interests. These are countries are faded from the energy scene up until recently. Poland happens to harbor a large quantity of shale gas. Even so, all the American energy corporations that invested millions and billions of dollars since 2009 are now quitting from the Polish energy market due to unsatisfactory results ('Gas and Power: Polish shale plans hit delays', 2013).

According to some of the former Eastern Bloc and satellite countries, Ukraine-Russia Crisis in 2006 was the proof of Russian strategy to utilize energy as a political weapon. Especially, Poland is highly concerned about the energy agreement they signed with Gazprom, compromising on the price until 2022. Despite this, Poland is worried about not receiving sufficient amount of natural gas. Russia planned to construct the second leg of the Yamal-Europe natural gas pipeline but dropped the idea in 2007. According to the Baltic States and Poland, this indecision was based on economical reasons. Russia also did not intend to rely on the European Investment Bank's funds to carry on the construction (Conley & Rohloff, 2015). Besides, the Burgas-Alexandroupoli pipeline project could have had devastating results if it was to be actualized because the privileged status of the other Eastern European states like Poland, Belarus and Ukraine would be lost. This particular pipeline actually contradicts the European Union's policies that were associated with the reduction of the Russian energy imports.

As most of the Eastern European countries lost their transit status, when Russia demands higher prices for their products tomorrow, complaints from these countries may not be taken serious since they lost their negotiation power. Claimants are worried about the possibility that Russia may manipulate the European vulnerability and blackmail if necessary. Another conspiracy theory claims that this has to do with Russian aspiration to monitor or control the former Eastern Bloc and satellite countries (Belyi, 2015). It is clear that Russia wishes to monitor the energy infrastructure across Europe and Eurasia in order to consolidate its market superiority. No

wonder why Russia takes over or acquires the refineries, pipelines and everything else related to energy infrastructure in the EU; revealing its monopolistic approach. Russian oil majors have a significant market share in the relatively new member states. The acquisition of the oil refineries and distribution companies in Central and Eastern Europe is a road to success. The trials of the Russian Transneft to take over an oil export terminal in Latvia and a refinery in Lithuania proved the above claims. The governments of both states interfered in and did not approve the business transaction. Russia immediately retaliated by ceasing or cutting the oil transfer to both states.

Since 2004, Gazprom has been investing in the shares of Estonian, Polish, Slovakian and many other countries' energy majors, and the total investment added up to $2.5 billion; acquiring shares in 23 partnerhips. By the medium of energy corporations, Russians bought strategic infrastructure facilities in Hungary, Ukraine and Georgia (Belyi, 2015). What also worries the EU is the increasing Russian influence on the Caspian Sea region countries because these remote countries here are becoming allies of the Russian Federation. Turkmen and Kazakh governments signed innumerable agreements and most of these agreements are in the struggle of preventing oil transfer from the Caspian Sea regions countries to Europe; hindering the energy mix diversification objective of the European Union. By these agreements, Gazprom was endowed with the authority to act as the sales operator to Europe by the Caspian Sea countries (Belyi, 2015).

As a result of the unpredictable Russian strategic maneuvers, European member states adopted national energy policies and yet bloodletting the EU-wide energy security of supply applications. Especially, Western European states do not encourage Russia for the approval of the Energy Charter Treaty. Western states should advocate the coordination of the policies and if possible, draft some of them in conjunction with the Russians. This amicable approach does not have to melt the iceberg but for sure, it is going to be practicable and beneficial for both parties. As of today, we see that bilateral agreements are exclusively supported by several major economies in the European Union such as Germany. The mutual energy policy idea in the EU was practiced to an extent at which major players or decision makers opt to stand by their own national interests (Boersma, 2015).

Former Soviet Union states demand the EU to activate the long-discussed energy measures to reduce their dependency on the Russian exports. This reasonable demand is based on the worries that are related to Russian influence at the international stage. At the core of the Central and Eastern European membership applications, their wish to become distanced from Russia remains. Gazprom exercises its market supremacy in the Baltic States and Poland because they assume an opponent strategy towards Russia.

In response to diversification policies of the European Union, Russia practices a strategy to diversify and disperse its exports to many other countries, and strengthen its position as a supplier. Especially, China and the other Asian countries are among the booming economies may squeeze or put their European counterparts into trouble if the competition for energy resources accelerates. For example, Japan and China are potentially blossoming markets for the energy resources that are in abundance in the Russian Far East and the East Siberia. However, due to economic and technical reasons, it is not easy to steer and canalize the energy supplies to Far Eastern markets. Moreover, Asian markets contain economic and political risks. It is important to keep in mind that these markets are not as stabil as the European Union.

4.2. EU-Middle East Energy Relations

European energy requirement necessitates strong economic and political relations with the Middle East. Oil crisis in the 70s, Iranian Revolution and the Gulf War revealed how fragile the European states are against energy shortages and later, the EU striked a prudent attitude by envisaging energy policies (Wieblitz & Comazzi, 2004). Due to geographical advantages, many of the Middle East states regard their progressive relations with the EU as significant. These relations were shaped by the geographical proximities and historical bindings. Following the Oil Embargo in the 1970s, the Middle Eastern countries played a positive role in the coordinated procurement of oil and natural gas supplies. Due to political tensions and wars, Iraq and Iran were the exceptions in the list of suppliers (Wieblitz & Comazzi, 2004). However, the Iraq War, Israeli–Palestinian conflict, Iran's nuclear programme and many other events have been dragging the Middle East states to disaster and affecting the political and social stability in these countries. The procurement has also never become sustainable from these unstable countries. For example, after the Iranian revolution in 1979, 7% of the world production was lost and the Iran-Iraq War caused 6% of the world production to be lost. The table 1 below illustrates how Iranian oil production and consumption has changed between 1997 and 2010 (EIA, 2012).

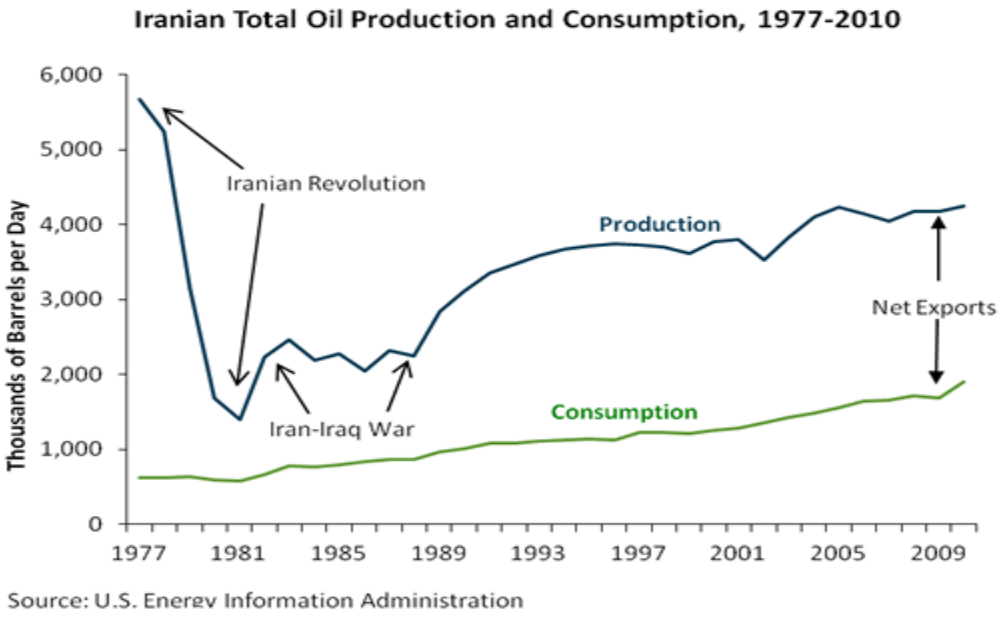

Table 1: Iranian total oil production and consumption, 1977-2010

The energy relationship between the Middle East and the European Union come to fruition via OPEC and the Gulf Cooperation Council's collaboration. The Gulf States come to the forefront when we discuss the energy relations with the Middle East. Increasing growth in oil demand, dimished reserve capacities, uncertainties in the oil markets and fluctuating oil prices have all reinforced OPEC's role in the international energy markets. As of today, approximately 40% of the European Union's oil imports come from OPEC member (European Commission, n.d.). Estimates show that 50% of the European Union's energy will be supplied by the OPEC member states in 2020. This means that the EU will be more dependent on the Middle East for a while and will be subject to price adjustments that might be fragile for the vulnerable European economies. In this regard, the EU and OPEC made a decision to create high level bilateral dialogue in 2004. This attempt was conceived as an act to advance the European energy relations with the oil and natural gas suppliers (Nonneman, 2006).

The objectives of the EU-OPEC dialogue are stready international oil markets and prices, an inviting investment environment, highly transparent energy market, better market analysis and market forecasts and finally, strengthening the international relations by technology exchange. The first ministerial level energy dialogue between the EU-OPEC took place in 2005 and ever since the meetings have been organized each year (Nonneman, 2006). According to the European Union, the developments in the oil markets have positively affected the mutual understanding process between the parties and highlighted the importance of dialogues. This relationship was not only beneficial for the two parties but also for the future of the international energy cooperation and establishment of dialogues.

The EU emphasizes the importance of consistency, transparency and predictability of the oil markets for the interests of all the parties; highlights the necessity of demand and supply security (Bahgat, 2010). Concordantly, energy exporters and the European importers have to have bilateral communications apart from the one provided via OPEC-the EU dialogue. It has been discussed by the EU and several oil rich countries that oil prices around $100 are not good for any economy and agreed to manually reduce the prices to a reasonable level and eliminate the market uncertainties for the sake of their interests.

However, the relations are more complicated than it looks like. The EU is in demand of assurance for the OPEC's future production capacity. On the other hand, OPEC criticizes the EU's 2020 renewable energy plans and finds it unnecessary because this strategy will definitely cause uncertainties in the oil markets and prove that an increase in oil production capacity is actually unnecessary. The EU's aim to reduce its internal oil demand worries the Gulf States. Although, OPEC executes regional cooperation with the EU, they take the advantage of the state that the EU lacking a broad perspective on its approach to energy security of supply. Essentially, the EU prioritizes the bilateral energy relations with the member states instead of utterly embracing broad energy policies (Morata & Sandoval, 2012). Apart from OPEC, Gulf Cooperation Council provides the grounds for the Middle Eastern collaboration. The Gulf Cooperation Council consists of Oman, Kuwait, Bahrain, Qatar, Saudi Arabia and the United Arab Emirates.

Narrowing international markets make the reserve capacity adjustments by the Gulf States more precious than before. In terms of geo-economic structures, the Gulf region began to relocate itself. There are three elements that shape the EU and the Middle East relations. The first element is the state that the Gulf Cooperation Council members hold the world's largest oil and natural gas reserves when summed. The second element is the state that Saudi Arabia holds a big reserve capacity in order to protect the customers in case of temporary shortages. The third element is the state that the Gulf State canalized its efforts to penetrate the American and the Asian energy markets since the EU applies such energy policies that has the intention to reduce the European energy dependence on the region by cooperating with the Caspian Sea countries, Russia and North Africa. Obviously, the third element is amended due to recent events in Ukraine and Libya (Bahgat, 2010). Even though, the Gulf States do not export most of their products to Europe, the EU's special interests with the region maintained its importance. For the global energy security of supplies, the Gulf States remain the keys for the success. The oil prices are determined based on the Gulf States' decisions. The rising oil prices have significant role on the EU's economy. The oil prices are in imperfect but steady relation with the natural gas prices so the negative impact grows as the oil prices increase. According to the International Energy Agency, the energy price increase in 2005 has lowered people's purchasing power by 0.5% in the European

Union. However, this was not the only adverse effect. There was an EU-wide inflation surge by 0,5 % (IEA, 2014). Furthermore, the EU's interests in the region are sustained by the European energy corporations. These corporations play an important role in operation of oil and natural gas reserves in the Middle East.

In 1988, the framework for economic and political cooperation is signed between the European Union and the Gulf Cooperation Council that seeks to improve trade relations.All the members of the GCC are classified as high income economies. Before the agreement, the GCC members were in search of plans to penetrate the European markets to sell their petrochemical products and the Europeans were looking for opportunities to secure their energy imports through frameworks; and the stability in the region was a priority. On 1 January, 2003, the GCC Member States established the Customs Union where a common external tariff of 5% was levied on all foreign imports.

On 1 January, 2008, the GCC launched the common market and in 2003, the member states agreed on pegging their currencies to the U.S. dollar until the GCC for the Arab States adopt the so called "Khaleeji" as their single currency. Due to several obstables, the plan to switch to a single currency was shelved indefinitely. On 15 December 2009, Bahrain, Kuwait, Qatar and Saudi Arabia met to establish the Monetary Council to introduce the Khaleeji as the single currency for the union. Yet, Oman and the United Arab Emirates did not approve the currency so the negotiations are still going on.

For better cooperation, free trade agreements are prerequisite for all parties. The energy security anxiety in Europe accelerated the energy dialogues with the GCC member states. In this regard, during the European Union and the Gulf Cooperation Council summit in 2004, both parties agreed on eliminating the obstables and hastening the certain operations. The priority is obviously given to the energy cooperation. Several subjects like the human rights and immigration are left behind the doors with no results. Up until today, the EU and the GCC could not agree on the free trade agreement. However, the EFTA countries Iceland, Norway, Liechtenstein and Switzerland signed a free trade agreement with the GCC on June 22, 2009 in Norway. The agreement entered into force on July 1, 2014. The agreement covers the areas

including trade in goods, trade in services, competition and government procurement. There are minor issues that have to be solved (Low & Salazar, 2010).

The EU focuses its attention on energy issues with the GCC member states. There are three objectives behind the European interests. The first one is to increase the energy trade between Europe and the Middle East. In order to achieve this, free trade agreements are essentially important. Initially, the FTA has to be signed. The second objective profits every nation; it is about cooperating against the prices surges in the international energy markets and ensuring the stability in these markets. According to the EU, it is a must to operate in full transparency. In order to overcome the existing problems, the EU demands the right to be informed about the market conditions including the reserves, production and reserve capacities and reserve capacities. The third objective is about the development of the infrastructure network. Strengthened energy infrastructure contributes to the security of energy supplies (Ramady & Mahdi, 2015).

For the well-being of the energy relations, there are some particularities that have to be included in the cooperation. These particularities include controlling the oil pricing mechanisms, jointly managing the reserve capacities and constructing pipelines between the EU and the Middle East. Also, there is an urgent need to compromise on free trade agreement Ramady & Mahdi, 2015). The EU proposed a similar memorandum of understanding to the GCC as it were achieved before with the Caspian Sea region countries. However, the GCC didn't accept the offer and insisted on a proposal which comes with profound changes on other fields of trade. Until now, the GCC member states stood unwilling to accept the rules.

Having member state like Saudi Arabia that joined the WTO and became a full member on 11 December 2005, the GCC is far away from accepting the European style free market economy rules. The Gulf States claim that the EU invites the GCC to accept its own regional integration model without taking into account the Gulf States' internal dynamics. Also, the GCC criticizes the EU for too much depending on the rules when it comes to energy issues. The GCC also recommends a comprehensive and strategic partnership that will include a solution for the Israeli-Palestinian conflict. This is claimed to be the reason why the European attempt to offer

technical assistance, cooperation mechanism and systematic design failed. Energy related relations are restricted between the EU and the GCC member states (Colombo, 2014).

The European diplomats are in favor of performing the region-based relations via the EU - the GCC partnership instead of conducting relations with OPEC. This is because during the EU – OPEC dialogues, OPEC members propose such topics for the agenda that are unrelated to energy (Colombo, 2014). In the past years, in despite of the substantial energy relations, the EU neglected its partnership with the Gulf States. The leading motive for such negligence is that the Gulf States have problematic energy relations with each other as well (Hertog, 2007:2). An institutive approach was found unnecessary because the Gulf States support a stable market merchanism and consistent prices, and avoid energy shortages as much as possible. However, profound relations are sustained through bilateral intergovernmental and intercompany agreements between the EU and the Gulf States. Also, it is important to clarify that the Gulf region is an important supplier for some EU member states but for some others, the Gulf region has no importance. Especially, the German authorities made it clear that it is absolutely unnecessary for Germany to import energy from the region. This approach is in accordance with the European 2020, 2030 and 2050 targets. Energy is probably the main factor that restricts the region to adop democratic reforms.

Saudi Arabia receives the Western support in abundance due its role in preventing oil price fluctuations. For example, when evaluated within the European internal dynamics, oil against democracy relation is very complicated. The West sees some Middle Eastern states as reliable energy suppliers but when it comes to strengthening the internal politics and gaining national support, some Middle Eastern states like Saudi Arabia actually prefer to remain distant from the Western-guided approaches. For example, Saudi Arabia was worried about the political consequences that possible energy market liberalization could give a birth and opted out from its natural gas agreement with the Royal Dutch Shell Oil and Total. In fact, there were no serious attempts to avoid foreign direct investment in the Middle East. In return, the EU distinguishes its energy relations from the Gulf region problems. Consequently, friendly Middle Eastern energy approach to Western corporations is an important aspect of the energy security agenda (Colombo, 2014).

In order to achieve economic and social modernization, the Gulf region has to receive foreign direct investment to its energy industry and sustain progressive economic growth. Nonetheless, the political and social vulnerability of these states will remain in the future. Since the EU serves as a trade partner for the Gulf region, there is an observable growth in natural gas procurement. Liquefied natural gas made it possible to develop an intensified trade because this form of gas facilitated the transportation. Heavy concentration of LNG trade in Oman, United Arab Emirates and Qatar indicates that the reserves in the region will play a crucial role also in the future. The trio above mainly produces LNG for the Asian markets. Until the 2000s, the Gulf region supplied almost 5% of the European natural gas demand. Following the downfall in production costs, European energy corporations articulated their interests in the procurement of LNG from the Middle East.

The large quantity of gas reserves here can meet the European demand in the future (Belkin, 2007). Especially, Qatar shines out when it comes to European natural gas supply diversification policy. Even though, Qatar has a relatively small surface area and population, the country stands as the second largest natural gas exporter after Russia and the world's leading LNG exporter since 2006 (EIA, 2015).

The European Union imported 8.7% of its natural gas from Qatar in 2012. The European energy targets require less of oil and more of renewables in the consumption; natural gas is the most eco-friendly fossil fuel and there is a visible increase in the consumption in Europe. Due to the recent conflict in Ukraine, Qatar is expected to replace Russia. The expectations are in the direction of a 30% share of Qatar in the European Union's LNG import (EIA, 2015). Italian and Spanish energy corporations were the first ones to sign LNG contracts with Qatar. However, there is an uncertainty on the side of the other Middle Eastern states that shelter natural gas except Qatar. It is believed that the best scenario for the European energy security is to buy gas from the Caspian Sea region and canalize the Iranian and Iraqi gas to Europe via Turkey. Until now, none of these states were close to satisfying the European gas market and had no initiation to do so.

Iran shelters 16% of the world's proven natural gas reserves. Stability in Iran and its relations with the international organizations are precious for the European Union because the country holds the world's second largest natural gas reserves after Russia. It is important not to confuse Qatar and Iran. Qatar is the second largest natural gas exporter and Iran has the world's second largest natural gas reserves. It is not sure if Iran will build facilities and plants to satisfy the domestic market and export the rest. Natural gas is not easy to store so it requires consistent and timely investments. Iran meets 4% of the global oil consumption via OPEC; it doesn't export natural gas (European Commission, 2014). In last 3 decades, Iran was not allowed to participate in the LNG trade and supply through the natural gas pipelines. Iran with its unutilized energy capacity might likely be one of the major gas suppliers of Europe in the next couple years (Steinhauser, 2015). The U.S. decision to lift the embargo on Iran is only the beginning of a new era for the Iranians. It is up to Iran to become a part of the energy market and their efforts will determine the country's direction

It is very obvious that the Iranian and the European relations are affected by the regional and political issues (Ganz, 2015). In the 2000s, the revelation of Iran's clandestine uranium enrichment program raised concerns that it might be intended for non-peaceful uses and received plenty of negative comments and criticisms from the international organizations. With reference to United Nationas, it was made possible to impose sanctions on Iran for the use of nuclear materials. This is how it was made impossible for Iran to invest in international pipeline projects (Ganz, 2015). The EU has been practicing such strategies to cease the Iranian nuclear program and on the other hand, Iran has been building strong political relations with the major energy producers such as Russia. Also, Iran used energy as a tool to demand political protection from China and India (Ganz, 2015). Because of such tensions, the enhancement of energy partnership beneath the rights based on agreements yield no results. Even though, the EU has not changed its attitude towards the Iranian disarmament, the region is highly aware and recognizes the potential importance of Iran as an energy trade partner. On the other hand, Iran claims that their use of nuclear energy lowers their natural gas consumption which means that there is more natural gas available for sale.

During such events organized by the United Nations and the European Union, Iran requrested technical European assistance in its energy industry and proposed to build long-term energy relations with Europe (Gloystein & Saul, 2014). The discussions on Iran lead to different directions in Europe's energy policies. For example, the United Kingdom dissuaded Royal Dutch Shell Oil from investing in Iran and the French government supported Total's investment plans in Iran for a long period of time. Italy and some other member states supported the Nabucco project which will transfer the Iranian natural gas to the European markets; however, the UK opposed to the official support of the Nabucco project by the European Union (Posaner, 2015).

Iraq on the other hand, is believed to be an important energy player for the European Union; even though, the country holds natural gas reserves in small quantities. There is a big potential for Iraq to be a major energy player in Europe due to its physical proximity to Turkey (Erdem, 2014). According to the European Commission's declaration in 2004, the energy dimension of the European and the Iraqi trade relations has the utmost importance and there is a need for predictable conditions for investments in the Iraqi energy industry. Iraq may contribute to the European Union's energy security. According to the EU, an increase in the production of Iraqi oil and natural gas will benefit both parties. It will benefit both parties if Iraqi energy industry adopts up-to-date energy policies that promote radical changes like market liberalization and stretch the investment area for investors. The EU could help the Iraqi to participate in the international energy markets (European Commission, n.d.). In this context, the EU granted approximately €800 million to Iraq and since 2007, the trade and cooperation negotiations are going on (Delegation of the European Union to the Republic of Iraq, 2015).

Europe and the USA agree on the fact that in order to achieve high energy security, stability in the Middle East is a prerequisite; however, the methods and requirements to achieve the stability remain in suspense. The U.S. governments don't hesitate to involve military in order to prevent further vulnerabilities that may ruin its energy security and secure the energy supply routes. On the other hand, the EU is unwilling to involve military and believes that market share and reciprocal dependence are the keys to energy security. The European public increasingly thinks that the energy dialogues between the EU and the Middle Eastern energy suppliers breed new

kind of radicals and drag the region into trouble because some of the money disappears in the black market (Luft, 2015).

4.3. EU-Norway Energy Relations

Norway is the European Union's second largest natural gas supplier and third largest crude oil supplier. Nearly all the Norwegian natural gas is sold in the European markets. Short transport distance and well-built infrastructure ensure the Norwegian products to be competitive. In 2012, Norway supplied 31% of all the EU's natural gas imports and 11% of its crude oil imports (European Commission, n.d.). Since 1990s, Norway's energy policy has been in the direction of decreasing the energy production. This has enormous consequences on the European energy security; the EU is more dependent on the Middle Eastern, Caspian and Russian energy resources. Consequently, this event threatens the energy security in the European Union.

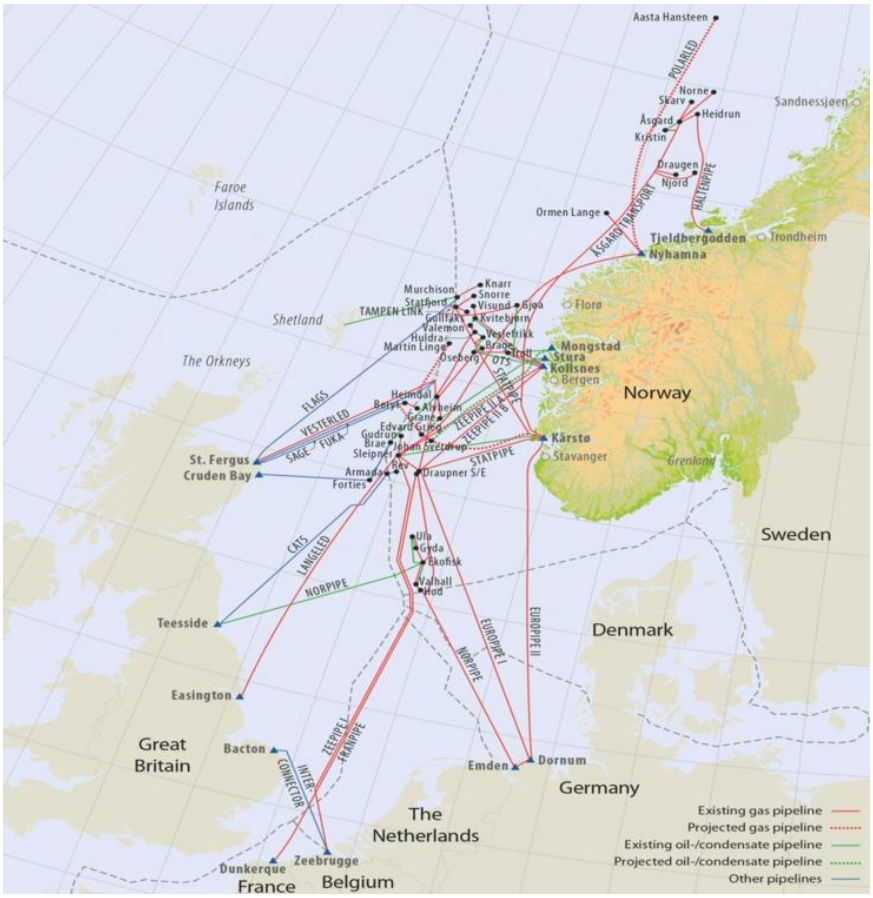

Figure 10: Oil, condensate and gas pipelines on the Norwegian continental shelf

Norway supplied 42% of the United Kingdom's crude oil imports in 2012 and 60% of the UK's natural gas pipeline imports in 2013 (EIA, 2014). Additional gas exporters that are significant to the UK are the Netherlands and Belgium. Norway exports its natural gas and oil to Europe via the pipelines. The figure above shows the pipeline connections and the main hubs. Most of the oil and gas exports go to the United Kingdom, France, Belgium and Germany (Government of Norway, 2014). The U.S. Geological Survey estimates that 25% of the world's undiscovered oil and gas resources lie within the Arctic Circle. If the estimate is true, Norway will remain important in the energy markets. Therefore, the European Union involved in fund raising process for Norway to explore new fields (Eurasia Group, 2015). Norway as a stable and reliable energy supplier remains special for the European Union than other energy exporters. Norway and the EU share many similarities in the energy related issues. Norway is the EEA member state along with Iceland and Liechtenstein, and adopted the majority of the acquis. In bilateral energy relations between Norway and the EU, both parties are aimed at pursuance of coordination, maintainance of research and development activities in the energy industry, and conformance of energy politics toward non-European energy exporters (European Commission, n.d.).

During the European Commission meetings, it was made clear that mutual trust and cooperation are important for both parties; they agreed on energy efficiency policies, renewable energy penetration, energy security of supply and cooperation in the field of energy production and research activities in the Arctic Circle (Offerdal, 2010).

Depending on the pace of LNG trade, the European Union may find itself in competition for the Norwegian oil and gas with other non-European importers such as the developing countries in Asia. The U.S. plans to build an LNG facility in Europe in cooperation with the Norwegian energy giant, Statoil. However, there have been no negotiations yet on the subject and no commitments were made (Belkin, 2007). Although, such plans mean that the European Union will be in competition with the United States and other major players in the energy industry.

Chapter 5

Discussion

The European Commission implemented measures to unbundle energy production and network operations from each other as of 2007. These measures were to prevent European energy corporations to turn into natural monopolies and restrict Gazprom from gaining more market share in the European Union. In the recent years, Gazprom acquired energy distribution companies in some member states and signed long term supply trade agreements with the authorities in Germany, Austria, Spain, the UK, Denmark, Italy, France, Hungary and Bulgaria. The deals gave a way to Gazprom to directly control the transition to distribution network systems in some member states. After all, Gazprom has been used as a political tool rather than a simple business entity by Russia. Therefore, the European Commission could only deal with Gazprom by manipulating the internal market mechanism (Schaffer, 2008). However, the internal market mechanism is not the only tool that the European Commission governs to restrict Russia. Russia prefers to sign bilateral agreements with the member states. The Commission obliges the member states to adopt the Green Paper on "Strategic export controls: ensuring security and competitiveness in a changing world" to restrict Russia from signing bilateral or unilateral agreements (European Commission, 2011). Up to now, the European Commission couldn't achieve its objective because not all the member states fully supported or understood the external aspect of the energy security of supply but on the other hand, some member states developed an official framework to achieve the objevtive. Mostly, the troubled energy situation in Europe is agrued.

The European Commission is aware of the fact that if the European Union couldn't be like one fist to tackle the energy security, individually, the member states have a limited chance. In this Green Paper, these were stated: "Europe faces stiffer competition for the energy resources. If the European member states want to play an essential role in the international markets, Europe has to develop and embrace mutual foreign politics" (European Commission, 2011). Also, the European Commission issues a call for the mutual foreign politics and security policies to be prioritized. The European Union emphasizes that the energy security has to have both internal

and external dimensions; otherwise, member states are limited. Integration of energy targets with the third countries still maintains its importance.

For example, the Green Paper on energy for Europe emphasizes these: "Energy must stand at the heart of the European Union's foreign diplomacy. Energy has the utmost significance for the geopolitical security, economic stability, social development and combating with the climate change at the international stage" (European Commission, 2011). The European Commission elaborates the long-term benefits of a mutual foreign energy politics to receive support from all the member states. In this framework, the European Union underscores two different energy objectives: a well-functioning international energy market and the diversification of the resources and routes. According to the European Union, the best way to secure energy supplies is to maintain a well-functioning international energy market. In order to achieve the objective, the EU promotes the market rules and the principle of reciprocity. Another way to increase the security of energy supplies is to diversify the energy routes and supplies. In this context, the EU contemplates the improvement of delivery methods and the development of infrastructure (European Commission, 2011). When these objectives are evaluated, it is obvious that the EU has an optimistic manner towards the security of supply and belives that the international cooperation could actually resolve the downfalls of the issue (Morata & Sandoval, 2012).

For example, some authorities believe that strong economic integration and trade with Russia could guarantee natural gas and oil supplies in the future. The EU's cooperation-based energy security approach necessitates import and export activities, sustained energy dialogues between the transit countries, energy consuming countries and the private sector. Energy security of supply became distant from the traditional terms like producer-consumer reciprocality and dependency (Morata & Sandoval, 2012). In this context, there have been efforts on the side of the European Commission to issue new energy agreements; build partnerships with the supplier countries; establish dialogues and coordinate forums. For example, memorandums of understanding were signed with Kazakhstan, Turkmenistan and Azerbaijan in the field of energy. Similar offers were made to Algeria and Egypt but the offers did not reach the objective.

The European Union promotes regional developments in the South-East Europe with its Black Sea Synergy Programme. The programme encourages cooperation and partnership between the

Black Sea countries and creates common grounds to strive for the resoulution of political and economic problems that surround these countries. The EU strategy for Central Asia also carries the same purpose; to revive the energy cooperation in the Black Sea and Caspian Sea regions. The EU embraced the idea of partnership with the energy rich African states and also OPEC. Nonetheless, the efforts to improve the oil and natural gas infrastructure and the organization of alternative delivery and transportation routes accelerated by the European Commission (European Commission, 2011).

In a nutshell, energy had no place in the European Union's foreign policy agenda up until the beginning of the 2000s; as of today, energy has become the core issue in the foreign diplomacy and there are no dialogues that exclude energy issues. As discussed in the previous chapters, the EU had a difficulty in support of possible EU-wide energy policy unification. It was difficult to avoid member states to sign bilateral agreements with the producing countries and the EU had no authority on member states to steer their energy policies. One way or another, the EU had incoherent results with its official policies and tangible policies.

The liberal energy principles create the infrastructure of the EU's collective action plan which guarantees energy security of supply. With regard to this, the European Commission ensures the abovementioned objective by involving the non-EU states to accept several frameworks that include environmental targets, trade regulations and so on. There are several foreign policy related instruments prepared to serve best for the European Union's energy security interests and these instruments stress that there is an urgent need to convince non-EU states to participate in the international energy markets and benefit from its outcomes (European Commission, 2011). Thus, it is stressed that the EU's partnership quest with the third world countries relies on the EU's internal energy market rules and have the same principle basis. However, the research shows that the EU does not have the desire to export its own internal energy market rule but the dissemination of energy market liberalization is a common practice; this practice could be popularized if economic and political tools are used accordingly. As a result, the EU's objective is to communicate its own energy market regulatory framework to the countries that are not in Europe and develop integrated energy markets that fully adopt and run on the same framework.

The dissemination of an institutionalized energy market regulation along with the distribution of liabilities and enhancement of transparency will serve the energy security of supply (Young, 2007:18). The dissemination of the European internal energy market regulation ensures reengineering of the energy industries in the third world countries; appropriation of market economy rules; modernization of the energy infrastructure; improvement of private sector; contrustion of new regulatory framework and provision of the necessary reforms. The main reason to spread the idea of energy market liberalization and the regulations attached to that is to guarantee the energy security of supply; and also it is about obtaining the right to penetrate other countries energy markets, and increase the attractiveness of the market for the foreign investors. By doing so, energy production increases and countries have some spare capacity to export their products to ones that are in need. Moreover, liberalization makes the setting harder for the formation of energy cartels (Vona & Nicolli, 2014).

The Energy Charter Treaty (ECT) of 1991 is the first initiative to ensure the energy security of supply in the European Union by promoting energy market liberalization outside of the borders of the EU. This treaty is an international agreement which gives a birth to multilateral framework for international co-operation in the energy industry. The treaty includes energy efficiency, energy trade, transit countries and investment related affairs. The core idea behind the treaty is to integrate the energy industries of the Eastern European states and the Soviet Union with the West. The treaty is legally binding in order to promote the principles of market liberalization and to stimulate FDIs. The treaty was signed in Lisbon in December 1994 and officially became legally binding. The Energy Charter Treaty entered into force as of 1998. This treaty is the first economic agreement to gather the Soviet Union, European Economic Community member states, Japan, Australia, Norway, Turkey and Switzerland to co-operate in the energy industry. The treaty, under the principles of the World Trade Organization and the General Agreement on Tariffs and Trade serves as a solidarity mechanism and has the purpose to give a rise to liberalized international energy market. Probably, the best function of this treaty is its capability to mitigate the market risks.

There are 5 main provisions of the treaty as listed by the Energy Charter Secretariat (2015):

- Protection and corroboration of the foreign direct investments (FDIs),
- Empowering free trade of the energy raw materials, products and other energy related equipments,
- Empowering free energy transportation via pipelines and networks,
- Promotion of energy efficiency measures,
- Mitigation of the negative impacts of the energy production and consumption,
- Creation of a mechanism to resolve any possible conflict between investors and states.

The Energy Charter Treaty, in the first step, started by putting across the idea of privatization of state-owned energy companies and licentiation of the third party access in the energy networks. The treaty confirmed that whatever the deal is about, states have the full national sovereignty power on their energy resources. Two crucial partners of the EU did not sign the treaty. The United States claimed that in bilateral investment agreements, this treaty is insufficient to protect the rights of the investors and did not sign. Russia, due to its disapproving stance against the transit protocol refused to sign. Allegedly, the reason behind the disapproval is that Russia did not want to lose its bargaining power and market share as the main transit country and the main energy supplier. Thereby, the efforts to constitute the Pan-European Energy Community remained weak due to Russia's unwillingness (Aalto, 2008). Even though, the treaty remained unsuccessful, the European Union endeavors to dissipate the principles of the Energy Charter Treaty around the regions of the Balkans, the Mediterranean, and the Caspain Sea.

The research shows that the best way to promote the regional cooperation, energy dialogues and new partnerships is to establish the so called "European Neighbourhood Policy (ENP)." For example, it is claimed that the neighbourhood states and the partner states are going to take substantial roles in the EU's energy markets. The EU works with its souther and eastern neighbours to achieve its political and economic goals. This includes respecting the interests of all the parties; democracy, national legislation, human rights and social cohesion are some of the

mutual interests. The European Neighbourhood Policy is one of the EU's main foreign policies. The co-operation encourages good governance of state, promotion of democracy, enhancement of energy security measures, implementation of environmental legislations, and reinforcement of economic and social developments. The physical security of the neighbours is also considered important. According to the EU Neighbourhood Info Centre (n.d.), the negotiations mainly concentrate on:

- Reinforcement of national legislation, democracy and respect for human rights
- Promotion of market-oriented economic reforms
- Promotion of employment and social cohesion
- Co-operation on physical security practices

According to the European Union's energy security approach, energy could also be imported and exported as like other raw materials. In order to practice this approach, physical energy market orientation is a prerequisite. The EU-backed energy infrastructure projects aim at increasing the energy export. Especially, the projects that are thought to be an alternative for Russian energy imports are financed by the European Union. The primary projects are: The Interconnector Turkey–Greece–Italy (ITGI), Nabucco and Trans-Saharan gas pipeline. Also, LNG projects are funded and supported by the European Union. Some of these LNG terminals are planned to be constructed in Italy and Spain. LNG is/will be an important aspect of the European energy diversification policy (European Commission, 2014).

The EU's foremost pipeline project is the Nabucco pipeline. This pipeline, if constructed, will connect Turkey and Austria via Bulgaria, Romania and Hungary. The pipeline will be capable of delivering 30 billion cubic metres (bcm) of natural gas per annum. The diversification of delivery routes is a significant part of the European energy security (Rowley, 2009); that's why there have been efforts to introduce the European energy policies in Turkey and the Balkans. These efforts are in the form of dialogues that are held frequently. The concrete grounds for co-operation with these countries are constituted by the introduction of the Energy Charter Treaty. In this context, the Energy Community is established between the European Union and the neighbouring countries to extend the EU internal energy market in 2005. The Energy

Community's legislation covers the field of energy, environment and competition. The agreement is among the EU member states, Serbia, Bosnia and Herzegovina, FYROM, Montenegro, Kosova and Albania. A Pan-European energy market is desired by the establishment of the Energy Community and the participation of Ukraine and Turkey are highly demanded (Aalto, 2008).

Turkey probably stands as the most important transit country in the EU's energy diversification strategy. Due to its geographical location, alternative energy resources from the Caspian Sea and the Middle East could reach the EU via Turkey. Hence, Turkey-the EU relations will remain important also in the future because Turkey is an energy corridor (European Commission, 2010). The European support on Turkey is not only restricted by the Nabucco pipeline project and it is highly desired that there may be more pipeline projects that include the Turkish territory as the safe area. However, there needs to be radical changes in the Turkish energy market and the EU should promote the market mechanisms that require liberalization and privatization. The reform process has to be tracked carefully before implemented and the process should not be rushed because this is a long-term project (European Commission, 2011).

Ukraine is another major transit country for the energy security of the European Union. Within this framework, the EU and Ukraine signed the memorandum of understanding to promote partnership in the energy industry. If this memorandum of understanding could be continued in the future, Ukraine may be fully integrated in the European energy market (European Commission, 2011). The contribution usually comes in financial means. The EU puts the stress on the former Soviet Republics and expresses the importance of gaining their trust for the future security of energy resources. There are special assistance programmes such as the Technical Assisstance for the Commonwealth of Independent States. The main objective of the programme is to help the former Soviet Republics to adopt and build well-functioning market economies based on private ownership and to promote pluralistic democratic socities. The programme provides financial assistance, know-how and practical experience. The states are encouraged to bring about economic reforms. The programme was established after a meeting of the European Council in December 1990. The legal basis for the programme was adopted on 15 July, 1991.

These states are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgystan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Funds for the Mediterranean countries are allocated from the budget of the Mediterranean Economic Development Area or via binary aids. The programme encourages the economic transition of the Mediterranean non-member states, the establishment of a Euro-Mediterranean free trade area and the mitigation of the social and environmental consequences of economic development. The European Investment Bank provided capital and credits for the programme. These are the main operations of the programme as listed on Eur-Lex (1996):

- "support for small and medium-sized enterprises (SMEs) and job creation;
- the opening-up of markets;
- promotion of private investment, industrial cooperation and trade between the various partners;
- upgrading of economic infrastructure, including the financial and taxation systems;
- consolidation of the major financial balances and creation of an economic environment favourable to accelerated growth (support for structural adjustment)."

In brief, such programmes may not be directly related to energy; however, these programmes constitute the basis of a long-lasting energy relation. There are several similar programmes in Africa directly supported and funded by the European Union. The African, Caribbean and Pacific Group of States (ACP) are a group of countries in Africa, the Caribbean and the Pacific that was created in 1975. The aim of the programme is to eliminate or reduce poverty and promote economic growth. The EU's intention is clear; it is to develop the energy infrastructure in the member states of the ACP (European Commission, 2011).

The scale of the energy security problems is obvious but the EU took the initiative recently by developing a mutual foreign energy political strategy. The foreign energy strategy is discussed at the level of the bureaucrats and all the parties in the European Union have the liberum veto. The member states that support all the mutual strategies and the policies of the EU are usually the less efficient small member states. These small member states found their lost identity after

joining the European Union and for any purpose, as long as it fits to their national interests, they do support the suggested mutual operations. Some member states in the Eastern Europe make an effort to match up the Western European states and Russia to renegotiate the energy problems. Also, several member states like Bulgaria raise difficulties for the construction and investment of pipeline within their boundaries and have worry for the energy security of supply due to Gazprom's aggressive strategy in Europe and the Western European interests.

The major countries in the EU have already guaranteed their energy security through their national foreign politics, security policies and business incentives they offer to energy suppliers. China and the United States have prioritized their energy security strategies on the agenda and ensured the security by the external security policies. The United Kingdom commenced its international energy strategy in 2004 which aims at securing energy supplies. Some other member states have also introduced similar strategies. According to the EU member states, national interests of the states safeguard their energy security strategies by eliminating the uncertainties in the energy markets and the geopolitical variables. Whenever a strategic raw material concerns the national interest of a member state, that state may simply abandon the general interest of the EU and it is obvious that if every member state follows their national interests, this strategy could definitely harm the European Union-wide co-operation irredeemably (Boersma, 2015). The EU stresses that the national interests of the member states must not run counter to the common interest of all the member states. The Green Paper states that every member state has the right to design its own energy mix. Despite this, any particular decision of a member state affects its neighbours and yields substantive results on the energy security of the European Union. Hence, before attempting to actualize such decisions, member states should choose such options that eliminate or minimize the import dependency risks (Esakova, 2012). However, doesn't matter how consistent and persistent the EU is, a member state will not likely bear in mind other member states' energy security interests.

The international energy markets raise the importance of trendy bilateral relations and member states do not flinch from smearing other member states' interests. For example, the Nord Stream pipeline project is signed between the Russian Federation and Germany. The pipeline passes through the Baltic Sea and reaches Germany directly from Russia. The pipeline skips Poland and

the Baltic states. This pipeline contradicts with the EU's priority to diversify its energy suppliers. However, what is more important here is, this pipeline reveals the absence of solidarity in energy security issues between the Eastern European states and Germany.
Even though, some other member states like Greece and Hungary have also bilateral energy relations with various energy suppliers like Egypt, Algeria and Iran, Germany is criticized by the EU due its existing energy relation with Russia (Simon, 2015). If the situation is not convenient for other member states, their impetus to develop their own national energy policies may become a common practice.

There is another matter that restricts the applicability of the energy security of supply approach of the EU; that is the fact that the determinant players are the energy corporations on the EU side. Corporations take their own decisions on the construction of new pipelines, refineries and energy facilities based on their interests and budgets. For example, when the Italian ENI and the Russian Gazprom settled on building a new pipeline with a different route, the Italian energy corporation has actually impaired the energy resource diversification approach of the EU.

The EU's energy security approach is criticized due to the absence of strategic dimension at the core of the approach. The criticism mainly focuses on: trade of the global proven energy supply reserves are restricted by the states. States all over the globe control ¾ of the natural gas and oil production. Therefore, the EU's competitive approach is severely restricted. Global competition for the energy resources requires geopolitical expansion. The strategic shortfall of the EU's energy policies elicits energy supply vulnerability. Other major energy players like China and the United States are aware of the above fact but Europe still couldn't internalize a strategic approach. Existing market power and energy dialogues are the main tools of the EU. Also, competition for the energy resources escalates due to the state of growing political instability in the energy supplying countries. If the EU desires to participate in the international energy competition as a significant player, it has to adopt a well-prepared international energy relations approach and actualize the approach. The EU should first identify its energy security risks, express its security measures and interests, and classify these by its strategic approach.

The European Commission finds the market economy mechanism as the best option to compete against the rising economic powers and energy importers such as India and China. In order to keep up with the rising economies in Asia, the best method is to invite China and India to adopt competition based energy market mechanisms and regulations attached to that.
The European Commission is in favor of market mechanism but in the meantime, the EC spends more time on the geopolitical aspect of the energy security which occupies all its attention. General Secretariat of the Council of the European Union claims that a single solution going through market liberalization is not sufficient for the resolution of the energy security dilemma; even though, increasing share of the renewable energy in the market relieves a little, the demand for natural gas and oil is not decreasing according to the estimations of IEA. Particularly, this has to with the escalating competition for the energy resources and the international energy markets remained unprepared (IEA, 2014). The energy technocrats of the European Union expressed their support for the market mechanism instead of excessively approaching the issue as an alliance because they believe that it can actually ruin the harmony in the EU's energy strategy. Furthermore, according to the European Commission, exporting European norms to the energy supplying countries pave the ways for the European investments and also this strategy could show consistency with the EU's environmental, economic and democracy-related objectives. Ultimately, it is not possible that if the EU does not adopt a coherent and efficient external security policy, energy security will always cause a problem in the future.

The EU added an environmental and sustainable growth related perspective to its definition of energy security. The short-term energy problems are addressed by the promotion of the market mechanism and the long-term problems are addressed by the energy efficiency measures and renewable energy penetration in the energy markets. For example, as discussed in the previous chapters, the EU's target is to reach 20% share of the renewable energy consumption until 2020. Especially, wind, solar, biomass and hydropower are very important for the future of the EU. All the member states have to support and promote renewable energy in order to reach 2020, 2030 and 2050 targets. According to the EU, renewable energy is economically feasible and despite of the fact that renewable energy is competitive, the energy markets resist against the renewable energy penetration. Also, the GHG emissions originating from the EU will be decreased in order to reduce the negative impacts of the climate change. Kyoto Protocol is still the primary resource

in this context. The EU Emissions Trading System (EU ETS) is established following the Kyoto Protocol and it is sufficient to understand that the EU is determined to be one step ahead of other parties that are also combating the climate change.
The EU expects their efforts to yield its fruit in the form of a decarbonized economy; and enjoy the state of a less dependent Europe on fossil fuels.

Heavy pricing of carbon emissions relatively reduces the use of oil and promotes the use of renewable energy resources. In this sense, there has been an increase in the research and development activites to explore cleaner energy resources. The EU has spared billions of Euros for the R&D activities (European Commission, 2011). At the level of the European Union, renewable energy penetration and energy efficiency measures received a lot of support from the member states. As emphasized in the previous chapters, foreign or external dimension of the issue along with its environmental aspect have to receive more attention. Nowadays, people are more conscious about the environmental impacts of the fossil fuels so it is easier to receive support from the public and provide up-to-date policies in accordance with the public opinion. The EU could pioneer in the development and production of renewable energy technologies in the near future if these efforts are maintained. By exporting such technologies, the EU can increase its energy security; grow its economy and create employment opportunities. According to the International Renewable Energy Agency (IRENA), excluding hydropower, renewable energy jobs reached an estimated 7.7 million in 2014. The renewable energy industry in the EU is estimated to employ 2.8 million people in 2020 and 3.4 million people in 2030 if all the targets are achieved. The market size is predicted to reach €200 billion by 2020.

Chapter 6

Conclusion

The significant obstruction that prevents further consolidation and dissemination of EU-wide energy policies and strategies has to do with the national interests of each and every member state. Majority of the member states seemed unwilling to delegate the EU to decide on and implement one-size-fits-all energy policies and strategies. The problem is linked to constitutionalism. Obviously, energy policies affect the national security of a state and therefore, it is a matter of national interest. Particularly, the conflict of interest heats up whenever the external dimension of energy security is the concern on the agenda. The invitation to possess a monaural EU-wide energy strategy is only taken into serious consideration by the former Soviet Eastern Bloc countries because these countries reached a dead-end in terms of energy procurement. However, member states individually cannot struggle against difficulties in the world energy markets and the EU is lack of political support in order to show an effective approach to the subject.

Accelerating competition in the international energy markets politicizes the energy relations and diplomacy. Major players like the United States and China bolster the competition up. China follows its state-enriching policies and the United States sustains its intensive foreign energy diplomacy. On the other hand, Russia pursues such energy policies that constitute the core of its foreign politics. The European Union expands its influence to Asia, North Africa, Caspian Sea and South America in order to remain competitive in the energy markets. Until now, competition is sustained individually; meaning that Germany, France and the UK signed their bilateral agreements with the suppliers and chaired the entire European energy politics. It is obvious that these three member states predestinated the future of the European energy politics until now. On the other hand, every rich member states like Norway (fossil fuels) and Spain (renewable energy) have maintained sufficient resources, apart from their contribution to the energy interests of the European Union. For example, France is reluctant to construct energy infrastructure that links the Spanish grids to the rest of Europe. The reason for this is that France has already been consuming cheap energy from its nuclear power plants and giving the way to excess Spanish

energy produced from renewable energy resources may cause devastating results for the French energy market. In this example we see that national interests of France emerge and surpass the overall interests of the European Union. Hence, the reckless attitude may spread among the member states and may result in conflict of interest.

Whenever energy is subject to discussion, the European Union member states do not hesitate to adopt policies and strategies that may be debilitating for other member states as we see in the case of Russia. Until the approval of EU-wide energy policies, the Baltic States were actually isolated and left to their fate. Probably, the right thing to do is that energy has to be comprehended only as a commercial matter rather than a political tool to leverage and practice power on other countries. The European Union endeavors to promote the market economy principles to energy exporters to achieve the previous statement. In this context, through bilateral agreements and regional dialogues, the EU strengthens its relations with the energy exporters. For example, this approach toward Russia has been failing continuously because the Caspian Sea region countries still value their diplomatic ties with Russia and does not favor market economy principles with the exception of Azerbaijan. Naturally, the Gulf States maintain their national interests rather than minding the European values because they have a strong bargaining power in the energy markets. For example, the case of Algeria illustrates the reluctance of MEDA member states that deny or dismiss the influential presence of the European Union on their politics. On the other hand, political instability in some of the North African countries halts the constitution of necessary energy relations with the EU. Concisely, the optimistic approach of the EU that has to purpose to ensure energy security in Europe via sustainable relations with the energy exporters did not work as expected.

The energy import diversification strategy has been one of the most significant strategies of the European Union. The EU ensures its energy security through this strategy but it did not find an EU-wide political foundation; therefore, the attempts were unsuccessful. At the heart of this strategy, the EU intends to reduce its energy imports from Russia. Nevertheless, some of the member states find it illogical and signed bilateral energy agreements with Russia.

Furthermore, the EU takes its Asian competitors like India and China into account for its influential expansion through Asian energy markets. For example, Azerbaijan plays a crucial role in the procurement of energy resources from east to west. On the other hand, Turkey is a geographical corridor to Europe; ensuring the security of energy resources and transportation as a reliable partner. Turkey's geographical location is close to the regions that have the largest proven natural gas reserves in the world; and since the European Union's energy strategies disregard Russia as a reliable energy exporter, Turkey is the only terrestrial path that connects Europe and Asia. However, it is important to mention that the EU only invests in pipeline projects, infrastructure and facilities if it's in their favor. Apart from that, Norway contributes to energy security of the EU as a reliable and stable European state. The country is capable of providing natural gas and crude oil; and prioritizes the domestic European energy markets for its products (European Commission, 2011).

Since the pipelines and other energy infrastructure in Ukraine and Belarus are at stake, the Nabucco pipeline project, if built, may substitute them and fill the gap. There is another pipeline project being constructed right now; that is the Trans-Anatolian Natural Gas Pipeline (TANAP), known as the silk road of energy. TANAP is going to bring natural gas produced from Azerbaijan's Shah Deniz-2 gas field, and other areas of the Caspian Sea, primarily to Turkey, but also on to Europe. The European Union will enjoy the outcomes of the pipeline when it is fully constructed in 2018.

The EU has adopted the 2020, 2030 and 2050 targets that rely on the foundation of energy security. If achieved, these targets are going to create a whole new energy market in the EU. Mainly, the fossil fuels imports will be reduced and new industries following the renewable energy expansion will accelerate the European economic growth. However, the expectations are in the way that the EU will not be as successful as anticipated. As this research demonstrates that the EU has to put a lot more efforts to achieve the desired outcomes of the energy policies and strategies. It may be in the form of co-operation and partnership. Co-ordination can be maintained on the basis of economic, political, social and environmental levels. Synthetic relations that simply rely on national interests may not be sustainable or beneficial for any

parties. Energy should not be used as a tool to influence others and be discussed in economic and commercial terms only. The international organizations such as the IEA, OPEC and NATO should put up the interests of their member states and neutrally mediate between

Several NATO member states created the Energy Security Center of Excellence (ENSEC COE) in an attempt to equip NATO with expertise; and member states support the organization on energy security issues. NATO can increase the awareness of other states on natural resource competition, climate change and energy efficiency measures. NATO can certainly facilitate the procurement of energy resources and mediate between the energy exporters and its member states. The IEA's role can never be belittling in the international energy market setting. However, the organization has to redouble its efforts to reach its objectives; economic growth; energy security; environmental awareness and international co-operation (IEA, n.d.). On the other hand, OPEC has assertive objectives like the eradication of energy poverty and the conservation of energy demand and supply balance but mostly the objectives mostly concentrate on the commercial part of the issue. It may be worth being remembered more than an organization which serves the interests of its members. It is also important but these three organizations should co-operate and share information more often.

The European authorities should form a basis for these organizations to meet and discuss the future of energy security; third countries should be allowed to participate and make themselves heard during these forums or events. Environmental dimension of the subject has to be elaborated and further discussed. Timing is at the core of the issue. Non-governmental organizations may be employed to raise the popularity of the subject and communicate with other NGOs in other countries. In any of the events, the importance of dialogues is stressed. If all the parties could communicate their interests on the basis of mutual understanding, partnership and respect, we may lay the foundation of an energy secure future. These organizations employ highly-skilled energy experts to steer their organizations and give advice to the authorities in the member states. Doesn't matter how bad the circumstance is, military intervention should never be an option on the table. Perhaps, people who research the national security dimension of energy security would say that military intervention does more harm than good.

It might be logical to place importance to small EU member states that feel alienated in energy diplomacy traffic. In fact, these countries are geographically close to energy transit and energy exporting countries. Perfect and timely information dissemination may prevent further conflicts with the energy exporters or help the EU build stronger relations with them. It has been emphasized for so long that an EU-wide energy co-operation is the most necessary thing. However, this idea should not remain unfulfilled and should be immediately actualized by the member states. The co-operation requires trust, expertise, know-how and determination; and the EU possesses all of the competence and characteristics above.

There may be further research on environmental, political, economic and social dimensions of energy security executed in an attempt to enlighten the authorities and decision-makers at the state and corporation level. Corporations may pursue an amicable strategy toward energy related projects in other countries; and rather than making the maximum profit out of it, these corporations may invest some of their profit in different industries or projects in these countries for sprouting up stronger relations that are not purely economical. The project-hosting country may share the same thoughts and exercise what has been done in somewhere else. It is important to clarify that this is what Foreign Direct Investment or known as FDI is. It is crucial for the development and growth of economies. FDIs' bring monetary circulation and ensure constant dialogues between the partner countries. It is obvious that both the energy importers and exporters share similar interests and if this could be sustained jointly on the basis of a strong relationship, all the parties can enjoy the favorable atmosphere and concentrate more on other things that busy their agenda. It is recommended that further research on energy security should be carried out with the purpose of revealing more information on the other dimensions of the issue.

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