Geostrategic Considerations on Energy

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Abstract

After the Cold War was over during the last decade of the twentieth century, there was a brief period during which there were hopes for a better future in the world. Various organizations and several countries replaced the term of "threat assessment" with "risk analysis." Alas, it was not very long before this concept became outmoded in a relatively brief period. Risks, such as terrorism, proliferation of mass destruction weapons and their delivery means, extremism, trans-national illegal arms, narcotic and people trafficking, uncontrollable refugee crisis have led to a dangerous uncertainty in international relations. On top of all these, growing number and magnitude of unstable areas especially in the Middle East has become a major concern for the global community. This concern is exacerbated by the mere fact that almost all these alarming events take place in and around the areas of hydrocarbon-based energy sources as well as their transportation routes.

Developments such as the emergence of new overpopulated urban centers in Asia and of the concerns about climate change are also the agenda items that are closely related to the energy issues and these issues are closely followed by the world public opinion.

It is the intention of this paper, to address the geostrategic ramifications of these unfolding events and threats that are closely linked to major hydrocarbon based energy sources. After all energy and energy security have always been an important issue in world politics since the industrial revolution.

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2.1 Introduction

Energy is defined as the ability or capacity to do work, and command of energy is setting the outer limits of what can be accomplished by communities, nations, or any social entity (Weissenbacher 2012). It has always been crucial for the human development all throughout the history. In the traditional world major energy sources were based on animal power, fertilizer, wood, charcoal, water and wind. These sources were rather abundant and taken for granted. However, even in the traditional era, energy was the main ingredient of economy and they had always been closely related with technology. This relation became more apparent after the industrial revolution, which necessitated energy resources with higher calorific value, such as coal and oil.

Oil and coalfields are concentrated in some regions and countries. As a result, geopolitics of energy has become a major issue both for producing and consuming countries since unlike the traditional energy sources, coal and oil are exhaustible in nature. Being the main ingredients of the modern technology they are of utmost importance for global prosperity and naturally for security (Rodrigue et al. 2017). According to the recent figures, oil provides 34% coal provides 24% and natural gas 21% of world's primary energy needs. Nuclear, hydro and other sources provide the remaining 21%. (Hopkins 2014). Wars were fought, domestic and international instabilities occurred due to the difference between the demand and supply of fossil fuels. Thus energy has acquired a political aspect in international relations making the energy and energy security more visible and moving them to the center of international relations. In this regard, this paper offers a very brief theoretical perspective and definitions on the related concepts such as security, geopolitics, threat and risk, followed by discussion on hydrocarbon related issues.

All countries whether industrialized or not need reliable energy supply in order to have sustainable development. According to the U.S. Energy Information Agency (EIA) net imports (imports minus exports) of petroleum of the U.S. from foreign countries in 2016 were equal to about 25% of U.S. petroleum consumption. Likewise, most of the other industrialized countries in Europe as well as the newly emerging industrial powerhouses like China and India depend on foreign hydrocarbon resources. Given the fact that dependence on these resources is not limited to only industrialized world one can easily conclude that the energy security and politics is not confined to a certain region or certain countries—whether they are exporting or importing. What is more, despite the disagreement between the economists many geologists firmly believe that oil production has reached at its peak and will soon sharply decline (Cudahy and Richard 2008). These uncertainities about the future of oil production, has led to a global tendency to treat energy

insufficiency as a national security problem. After the oil crisis of the 1970s and especially in the new security environment of post 9/11, energy politics and energy security—with its various aspects—has become even more crucial in international politics.

As an outcome, certain principles have started shaping the energy security policies especially of the energy thirsty countries including several European countries. Among these principles diversification is one of the most, if not the most prominent one. This principle covers the diversification of the sources, supply routes and the infrastructure.

Eastern Mediterranean, located at the crossroads of Europe, Asia and Africa, lies in the heart of major oil and gas fields. It is also a historical maritime route, which nearly a third of world trade passes through, including 30% of the world's oil and two-thirds of the European energy supplies (Schivardi 2016). However, this area is a volatile part of the world with several conflicts including frozen ones, threatening the energy security as well.

With this perspective, it can be argued that the Mediterranean Sea, especially the Eastern Mediterranean is an area, which needs special attention as it is done in this paper. Due to its dynamic and multi-disciplinary nature, the topic holds implications for the literature in terms of geopolitics and security. Moreover, the changes in the energy paradigm create new risks and opportunities for the global actors as well. Therefore, the topic also offers policy makers, industry actors and the public agents a new perspective in tackling the issues.

With this perspective, this article adapts the concepts of energy geopolitics and security in response to the evolving issues of energy resources. More specifically, the article aims to bring forward the development in the energy resources, the rising energy oriented risks and threats on energy security and geostrategy, and the geopolitics of hydrocarbon energy resources especially within the Eastern Mediterranean region. In consideration that energy geopolitics, energy security and geostrategy are all a part of a dynamic process, which has ongoing impacts on regional politics, the article intends to offer a stronger perspective in approaching these questions.

In this respect, the article is organized as follows. Section 2.2 offers various related contemporary definitions by firstly, reviewing the literature on security and energy security, and secondly, positioning the article in terms of the literature on geopolitics. Section 2.3 offers a conceptual and historical discussion on the risk and threats associated with hydrocarbon resources, setting the scene for the main argument that, together with the security problems related to hydrocarbons and the rapidly growing need for oil and gas, the dependency on these resources is significantly growing. Section 2.4 briefly discusses the hydrocarbon issue and the Eastern Mediterranean in an historical perspective. Finally, main argument is summarized in Sect. 2.5.

2.2 Contemporary Definitions of Energy Security

The concept of security is on the permanent agenda of the policy makers and the scholars of modern international relations. However, there is no consensus on the exact definition of this concept. In traditional terms, security has been closely related with the use of military power. This notion, though, has been changed by the emergence of new dimensions in the strategic environment. Today, any reference to the concept of "security" generally follows rather a holistic approach and includes other factors, such as environmental, economic and welfare issues. Thus, security can be defined as defensive (in relations to a threat) or offensive (optimizing of profits in relations with other actors) point of view.

Whereas energy security can be defined as a condition in which a nation and all (or most) of its citizens and industries have access to adequate energy resources at reasonable prices for the foreseeable future, free from serious risks of major disruption of service (Hancher and Janssen 2004). This definition is in line with the International Energy Agency (IEA)'s approach which highlights two important components: "the *uninterrupted* availability of energy sources" and at an "*affordable* price". To be more precise, from the perspective of energy security, there might be different kinds of interruption of energy resources such as weather conditions, technical difficulties, malfunctioning of the facilities with long or short-term consequences. The IEA asserts that the long-term energy security mainly deals with timely investments to supply energy in line with economic developments and sustainable environmental needs. Short-term energy security, on the other hand, focuses on the ability of the energy system to react promptly to sudden changes within the supply-demand balance (International Energy Agency). In an inclusive manner, Hernandez defines energy security "as the sufficient and continuous supply of the energy necessary for carrying on the life and activities of the nations, both individual and collective." (Hernandez 2014, p. 46)

As these approaches indicate, energy security is closely related to high dependence on energy imports for the energy importing countries. When addressing the availability and accessibility of energy, several other factors, such as research, development, political instability in producing countries, as well as during the transportation, distribution or marketing phases should be taken into consideration. Physical protection of the facilities in the consumption networks has also been taken into consideration (Gençtürk 2012).

Lack of energy security is thus linked to the negative economic and social impacts of either access to adequate physical availability of energy, at reasonable and competitive prices for the foreseeable future, free from serious risks of major disruption of service (Hancher and Janssen 2004).

In short, the term energy security is a multi-dimensional and interdisciplinary notion covering a wide spectrum requiring strategic concepts and holistic means especially in dealing with fragile states, arising from various causes, such as, natural disasters, terrorism, poor regularity designs, lack of investments, or *geopolitical instability* (Redgwell 2004).

Cohen approaches the concept of geopolitics as the analysis of the interaction between, on the one hand, geographical settings and perspectives and, on the other, political processes. According to him, the settings are composed of geographical features and patterns and the multilayered regions that they form. As a result of this approach, "the political processes include forces that operate at the international level and those on the domestic scene that influence international behavior. Both geographical settings and political processes are dynamic, each influences and is influenced by the other" (Cohen 2003).

Geopolitical interests should, therefore, be strategically managed and this strategic management leads us to geostrategy (Brzezinski 1998). Hernandez (2014) reminds that whereas the concept of geostrategy was traditionally exclusively related to the military field, it has now evolved into a more comprehensive concept. As a result, it has nowadays a much broader dimension and it intends to study large topics such as military, economic, and political on a global scale, and not just in relation to geography. In other words, its contemporary definition covers more aspects than just its physical one. Consequently, when the geostrategic dimension of energy is referred at, it is directly related to geopolitics. These two concepts mutually influence each other. Geopolitical instability, thus, is a derivative of several concerns combined, including the global threat of terrorism targeting oil and gas industry. In this sense, physical security of the energy resources is an important element that carries priority for all the countries.

In the world today, hydrocarbons have the highest proportion both in energy production and consumption. However, these resources are rapidly being exhausted. Political and academic circles are currently discussing and searching other options available to meet the future energy demand. Since the renewable energy, especially sun and wind power, are basically obtained from resources available domestically, technological developments may provide new opportunities for fossil fuel importing countries. As far as the geopolitical environment is concerned, opportunities presented by technological developments in the production of the renewable energy area are opt to be limited. In case of a major shift from fossil fuels to renewable energy resources, the players will change and the technologically more advanced countries will start dominating the market. Competition among them and dependency of the technologically less developed countries to the foreign source may create new problems. What is more, renewable energy production will continue to use the similar, if not the same energy networks infrastructure.

Therefore, it can easily be said that although, renewable energy resources will definitely help in building a healthier and a greener environment, at the geostrategic level, it is not a panacea for the problem. Foremost, however, it should be noted that energy security is primarily an essential component for fossil fuels since the renewable energy is basically obtained from resources available domestically. As an outcome of this fact, geopolitical dimension of energy security has to be taken into consideration. Hydrocarbons constitute the major input of modern technology. Alas, neither the production fields of hydrocarbons nor the consumption centers are distributed evenly. As a result of their uneven distribution in the world, they have to be transported over long distances primarily through pipelines or by tankers.

Pipelines crossing various countries or tankers traveling in high seas for long distances require close cooperation among the countries in order to secure world-wide trade in energy goods, to avoid short-term supply interruptions and to encourage quality of services as well as technological innovations.

As a matter of fact, the main crude oil reserves are largely found in the Middle East especially in and around the Gulf area. USA, Canada, Russian Federation and other former USSR countries, China, Northern Africa, African countries neighboring Gulf of Guinea, Brazil and Venezuela are the other main producing countries. According to the United States Central Intelligence Agency 2015 figures among the "Total Petroleum And Other Liquids Production" of the top 20 producer countries seven are Middle East and North African countries, namely Saudi Arabia, Iraq, Iran, United Arab Emirates, Kuwait, Qatar, Algeria, Oman. These countries are also among the top 20 producers. Apparently this listing has not changed in 2016 (CEO World Magazine). Azerbaijan should also be added to this list since, the official Azeri figures show that this country is heavily dependent on its exports through Mediterranean. State Oil Company of Azerbaijan announced that "14,707,802 tons of oil were exported from Ceyhan in January–July" of 2017 through BTC Pipeline (State Oil Company of Azerbaijan Republic).

According to the Institute for the Analysis of Global Security, while OPEC countries produce about 40% of the world's oil, they hold 80% of proven global reserves, and 85% of these reserves are in the Middle East. Actually, it is a sad fact of life that many of the world's leading oil producing countries are politically unstable and most of them are members of the Organization of the Petroleum Exporting Countries (OPEC).

Energy security is not a new concept. It has particularly been a major preoccupation for many countries especially since the oil crisis of the 1970s. The geopolitical tensions of 1973 and 1979 in the Middle East had been an eye opener for several circles to show how delicate and important that the energy security was. In both cases, what was at stake was the supply security. Developments following the Arab-Israeli War of 1973 and the Iranian revolution of 1979 showed that international or domestic disturbances might have a negative effect on not only the security of production but also prices, leading to turmoil in global economy. During those years, corresponding to the Cold War era, the main focus of concern was rather military in nature. Interruption of the flow of energy was primarily confined to the wars involving oil fields, geopolitical tactics and unlikely possibility of threats on tankers by submarines. In other words, energy security including transit security had been seen from the perspective of East-West security strategic equation.

With this perspective, in consideration of the developments in the energy resources and their relation with geopolitics and security, this article approaches the issue in line with Brzezinski (1998) and Hernandez (2014). Clearly, the developments create opportunities as well as risks and threats. Therefore in discussing such a matter, the necessity of acting strategically and the multi-dimension (military, economic, political) impacts of the developments must lie at the center of the discussion.

2.3 The Developments, Risks and Threats on Energy Security and Geostrategy During the Post-Cold War Era

2.3.1 Conceptual Discussion

The end of the Cold War raised new hopes and expectations in the world in general. The term "threat" was replaced by the term "risk". In this respect, the best example would be to review the "Alliance's New Strategic Concept of 1991" adopted by the Heads of State and Governments of the NATO Countries (The Alliance's New Strategic Concept of 1991). In this document, NATO officially set aside the term "threat" replacing it with a much-diluted concept of "risk".

According to Williams (2016), although the understanding and explanation of it has changed over the years, risk is a term that has been used for centuries. Today, when used colloquially, it may refer to danger or peril or even used as a synonym for threat. However, he argues where as "risk is an equation or estimation of the odds that danger will be realized or that a given course of action may have an adverse effect", threat relies on three different components. These components may be presented as an "actor" posing an actual or perceived threat; "capability" to follow through on the threat and finally to have "power" to employ this capability. "Threat thus requires an actor who expresses intention and has the ability to do harm" in other words the ability to inflict intentional damage (power). Clearly, both risk and threat are dependent on perception and for the purpose of this article it should be well specified.

Accordingly, the international organizations such as the North Atlantic Treaty Organization (NATO), European Union (EU) and the United Nation (UN) approach risk as "...the expected losses (lives lost, persons injured, damage to property and disruption of economic activity) due to a particular phenomenon—a function of the probability of particular occurrences and the losses each would cause..." and threat as "...(1) The sum of the potential strength, capabilities, and intentions of any enemy which can limit or negate mission accomplishment or reduce force, system or equipment effectiveness. (2) A menacing indication of danger to a nation's military forces, industrial base, territory, possessions or population. Such a threat generally arises from an adversary nation's military power as manifested by technological capability, military budget, military industrial production capacity, military alliances and the maintenance of conventional and strategic forces at levels beyond that required for legitimate defense. (3) A menacing indication of imminent danger to friendly forces. Such a threat generally arises from the employment of an adversary's offensive or defensive forces in an area of military operations (NATO-EU-UN Glossary).

Perhaps in a rather simpler way, differences are made between the risks that could materialize against our interests, and, threats directed to these interests, with an evident intention to damage them (Zaragoza 2016). In the "Alliance's New Strategic Concept of 1991" of the North Atlantic Treaty Organization (NATO) risk is defined as the "build-up of military power and the proliferation of weapons technologies in the Southern Mediterranean and Middle East, including weapons of mass destruction

and ballistic missiles capable of reaching the territory of some member states of the Alliance. Among other risks of a wider nature, disruption of the flow of vital resources and actions of terrorism and sabotage" were also mentioned.

After the Cold War was over during the last decade of the twentieth century, the western world started to discuss concepts like "peace dividend" and the "end of history". Replacing risks with threats and focusing on new concepts reflected the emerging optimism in the world which did not last long and the west and the rest started coping with the new realities not long after the collapse of the Soviet Union. The NATO Strategic Concept which was adopted in 1999, mentions that some countries in or around the Euro-Atlantic area face serious economic, social and political difficulties, ethnic and religious rivalries, territorial disputes, inadequate or failed efforts at reform, the abuse of human rights and the dissolution of the states.

2.3.2 Historical Discussion: The Energy Security of Hydrocarbon Resources

These issues mentioned in the NATO's Strategic Concept are valid for the energy security as well. In previous decades growing import dependency on hydrocarbons was the primary concern in the energy security studies. Besides shortages due to the scarcity of fossil fuels were discussed yet another topic but not at the same level as the import dependency. Both of these subjects are related to supply security. Risks that were brought to the agenda in the 1990s, such as the proliferation of mass destruction weapons and their delivery means, extremism, international or transnational terrorism, piracy and political instability, climate change, energy infrastructure, failing states, mass migration and refugee crisis are among the main considerations related, among others, to energy security and have gradually become part of the daily routine, right after the Cold War ended and especially after 9/11 terrorist attacks in the United States.

This issue has continued to be tackled in the new versions of the NATO's Strategic Concepts. The current concept dated 2010 asserts, "All countries are increasingly reliant on the vital communication, transport and transit routes on which international trade, energy security and prosperity depend. They require greater international efforts to ensure their resilience against attack or disruption." (The Alliance's New Strategic Concept of 2010.)

This document also claims that many countries including most of the NATO allies will become more dependent on foreign energy suppliers and in some cases, on foreign energy supply and distribution networks for their energy needs. As a larger share of world consumption is transported across the globe, energy supplies are increasingly exposed to disruption.

International Energy Agency forecasts, that in 2016, worldwide average demand of oil and liquid fuels increased to nearly 96 million barrels per day and it foresees demand crossing the 100 million barrels per day threshold towards the end of its 5-year outlook period. The same international body expects that by the year 2015, non-OECD Asia will remain the major source of oil demand growth, with volumes

increasing from 23.7 million barrels per day in 2015 to 28.9 million barrels per day in 2021, though the rate of growth is affected by reductions in subsidies and efforts to tackle pollution. China will be central to demand growth, partly because of the underlying rise of oil demand but also due to its build-up of strategic reserves that will reach at least 500 million barrels by 2020. This trend for China is set to continue to 2040, as oil demand from the transportation sector is growing strongly there as well as in other non-OECD countries such as India (International Energy Agency).

2.3.2.1 Terrorist Threats

Parallel to the rising importance of the of the global energy resources, the threats possessed against the natural resources have also risen in four major areas. Firstly, the piracy and terrorist threats targeting hydrocarbon resources have significantly risen. Secondly, pipelines passing through conflict zones also constitute a problem regarding the secure transmission of oil and gas from the production fields to the markets. Thirdly, with the adoption of technological sophisticated facilities cyber-attacks have also become an area of threat. Finally, other risks or threats related especially to the sea-lanes of communication also dominate the global agenda.

Firstly, the disruption of oil or gas flows as well as the piracy and terrorist threats targeting hydrocarbon sectors have risen sharply recently. According to the University of Maryland's Global Terrorism Database, as cited by Tyagi (2016), in 2013, 600 out of 2600 total terror attacks targeted oil and gas sectors, the majority of them having concentrated in the Middle East and North Africa. Based on the same data, Tyagi points out that in 2003 roughly 25% of terrorist attacks were aimed at the energy sector. Between 2003 and 2007, this figure has jumped to 30% and 35% respectively (Tyagi 2016).

The Energy Infrastructure Attack Database (EIAD) shows that, during the first decade of the twenty-first century there were, on average, nearly 400 annual attacks carried out by armed non-state actors on energy infrastructure worldwide that is almost double in comparison to years prior to 1999. This data also reveals a global picture indicating that the violent non-state actors target energy infrastructures to air grievances, communicate to governments, impact state economic interests, or capture revenue in the form of hijacking, kidnapping ransoms, theft (Giroux et al. 2013). The above figures show that almost four million tons of crude oil has to be transported from producing countries to the consuming ones every day, either by means of land or sea communication routes at a time when the energy infrastructures are faced a varying level of threat from theft to sabotage worldwide.

The security of the oil and gas sources and their facilities, safe and secure transportation of crude oil, natural gas and oil derivatives to their destinations have become an important priority national security issue for many nations. In this regard, several points and areas are now considered as choke points in the open seas. Attacks appearing in the energy maritime areas are not limited to the terrorist attacks. Piracy and thefts in some parts have reached unacceptable levels.

As already mentioned, NATO's Strategic Concept which was adopted during the post-Cold War environment in 1991 mentions about the risks posed by rogue and failed states, the proliferation of weapons of mass destruction and other transnational

threats such as terrorism, ethnic or religious disputes. However the magnitude of several of these risks, especially of all kinds of terrorism was foreseen at a level of real threat. These assessments have been reformulated after 9/11 terrorist attacks.

Actually, attack on a 157,000-ton French crude oil tanker M/V Limburg in the Arabian Sea by a suicide boat in October 2002 was an eye opener. This was followed by a deadly attack, claimed by Abu Sayyaf Group, on Filipino passenger ship Super Ferry in 2004. Previously, USS Cole was the target of a terrorist attack off the coast of Yemen. Primary response to these attacks was shown at national and international level as counter terrorist operations at sea. Operation Active Endeavour, which was NATO's only article 5 operation on anti-terrorism initiated as support to the United States immediately after 9/11, to demonstrate NATO's solidarity and resolve in the fight against terrorism and to help detect and deter terrorist activity in the Mediterranean, is a good example of NATO-led engagement in the Mediterranean Sea, which was carried out from October 2001, until Operation Sea Guardian replaced it in November 2016. Operation Active Endeavour's mission was to "patrol the Mediterranean and monitor shipping to deter, defend, disrupt and protect against terrorist activity" (NATO Allied Maritime Command).

Besides terror oriented attacks, piracy and theft in several areas of the world are worth mentioning. As Hanson argues, "Although maritime piracy is a worldwide problem, there are several areas that track particularly high levels of pirate activity. These areas are the Gulf of Aden, near Somalia and the southern entrance to the Red Sea, the Gulf of Guinea, near Nigeria and the Niger River delta, the Malacca Strait between Indonesia and Malaysia, and the Indian subcontinent, particularly between India and Sri Lanka" (as cited in Sullivan 2010). According to the latest International Chamber of Commerce International Maritime Bureau (ICC IMB) piracy report, pirates and armed robbers attacked 43 ships and captured 58 seafarers in the first quarter of 2017, slightly more than the same period last year. The global report highlights persisting violence in piracy hotspots off Nigeria and around the Southern Philippines. Indonesia also reported frequent incidents. During this period, armed pirates hijacked two vessels, both off the coast of Somalia, where no merchant ship had been hijacked since May 2012. Four attempted incidents were also received. The same source cites that between 2010 and 2014 actual and attempted piracy attacks in the Southeast Asia jumped from 70 to 141 on a yearly basis. In 2016 alone, number of pirate attacks on tankers totaled 89 (ICC IMB n.d.).

Several countries or international organizations jointly acted to prevent and deter piracy in different parts of the world. One of these areas was off the Somalia Coast. Disruption of shipping in here was not only important for the main global maritime trade routes but for the ships delivering World Food Program humanitarian assistance to Somalia. A strengthened international response to piracy off Somalia came together in late 2008. NATO deployed it's first-ever counter-piracy mission, Operation Allied Provider, off the coast of Somalia in October 2008. The European Union and other countries also deployed naval ships to the region on counter-piracy missions, leading NATO to collaborate closely with partners as part of a broad coalition. NATO and EU together with some other countries deployed Counter Piracy Task Forces to the area (Knops 2012).

2.3.2.2 Conflict Zones and Other Risks

Together with the piracy-oriented risks, several of the land-based routes, that are pipelines, transit through conflict zones. Therefore, pipelines constitute yet another problem area for secure transmission of oil and gas from the production fields to the markets. The total length of the pipelines is estimated to be as 3.5 million kilometers, approximately, 64% of which carry natural gas, 19% petroleum products and 17% crude oil (Hopkins 2014). Pipelines carry about 40% of world's oil flows and most of its natural gas (Tyagi 2016). Luft and Korin (2003) point out that until recently, the major preoccupation of the pipeline industry has been on environmental, safety and maintenance issues. Occasional cases of vandalism, the human factor was hardly perceived as a threat to the world's vast web of oil and gas pipelines.

However this perception has now changed since pipelines running over thousands of miles and across some of the most volatile areas in the world have become rather attractive targets for terrorists.

By a simple explosive device terrorists can puncture a pipeline and render it non-operational. Due to their length, pipelines are very difficult to protect all over the globe. There have been numerous pipeline attacks in some other countries including Nigeria, Colombia and Pakistan. In Iraq, acts of sabotages against pipelines have become the biggest obstacle in bringing Iraqi oil back online. Even in the United States the 800-mile-long Trans-Alaska Pipeline System (TAPS) has been sabotaged, bombed twice and shot at more than 50 times. TAPS is not only within terrorists reach but also impossible to repair in the winter.

Another risk for pipelines is cyber-attacks. It was reported that in 2008, a section of the Baku-Tbilisi-Ceyhan (BTC) pipeline in Turkey was reportedly the victim of a targeted cyber-attack. The pipeline ruptured, exploded, and released 30,000 barrels of oil near Refahiye after hackers allegedly infiltrated the pipeline's security camera network, disrupted the network's security communication links, gained access to control equipment of a valve station, and increased the pressure in the pipeline (Bertrand 2015).

It is important to mention that terrorism, piracy and theft are not the only risks that the transportation of oil, gas and other oil derivatives are faced with. Geopolitics of energy should also take into consideration other risks or threats related especially to the sea-lanes of communication. On top of these risks and/or threats come the situations related to international crisis, which would hamper the free navigation. Free navigation would not be confined to political instabilities alone. As the concept of "geostrategy" suggests, geographical factors carry enormous importance in energy security. In this regard, critical points and areas of special strategic interest need special attention.

Incidents in these areas could be in different nature. Serious accidents may block a strategic passage whether they are very narrow, shallow straits or artificial canals. Turkish Straits, Suez Canal or Panama Canal are good examples for vulnerable passages. Among the other points and zones, The Strait of Hormuz, The Strait of Bab el-Mandeb, The Danish Straits, The Malacca Straits, The Strait of Gibraltar, Somalia's Coast and Gulf of Guinea are worth mentioning (Zaragoza 2016). Each

one of these passages are important for the delivery of oil, gas or oil derivatives from producing countries to the consuming ones. Main risks differ from one to the other.

For example, the Turkish Straits are both narrow and difficult to navigate with strong currents and difficult geographical features. According to the official statistics of the Ministry of Transport, Maritime Affairs and Communication of Turkey (MTMAC), 6041 tankers, 989, Liquefied Petroleum (LPG) or Liquefied Natural Gas (LNG) tankers and 2559 chemical tankers used the Straits in 2016 (Deniz Ticaret Genel Müdürlüğü—Directorate General of Merchant Marine).

As it happened several times in the past, collisions, vessels going on ground, spillages, fire or sinking may severely disturb the sea traffic causing disturbances to the hydrocarbon traffic from the Black Sea ports used by several producing countries in the Caucasus, Central Asia and Russian Federation. It is obvious that each geographical choke point or zone is important for certain states. Besides changes in security equilibrium, new hydrocarbon discoveries, new routes of transportation may increase the sensitivities of certain areas in this respect (Hernandez 2014). Mediterranean Sea is vital for several consumer European nations as well as the oil and gas producers in this region and its vicinity. Being a semi-closed sea, the Mediterranean constitutes a very good example to understand the dynamic nature of the geopolitics of oil.

2.4 The Geopolitics of Hydrocarbon Resources in the Mediterranean: A Historical Perspective

As it is already mentioned, Eastern Mediterranean is the meeting point of various competing civilizations, cultures and monotheistic religions. It is situated at the crossroads of the Middle East the route to India and China and the West, as well as the north and the south, joining the Indian Ocean with the Mediterranean and the Atlantic Ocean. The Suez Canal was opened in 1869 and cut the distance between Europe and the South Asia by 7000 kilometers and was the vital and shortest way between the East and the West, between the colonies and the colonial powers during those years. The dramatic benefits that the Canal has brought to world trade during those years still continue.

As such, this region has always been one of the most important crossroads in world trade and its geostrategic location between the West and the Middle East and South Asia has turned the Eastern Mediterranean into a source of rivalry and thus of instability for thousands of years. This instability has never come to an end with the evolution of the means of transportation, communication and technological novice. Developments in the region such as the opening of the Suez Canal, the increase in the importance of oil and gas in the modern world which are abound in the Middle East, the emergence of the Arab-Israeli conflict after the establishment of Israel and the Cyprus issue has contributed to the already existing instability, great power rivalry and violence in the region.

The geopolitics of hydrocarbon-based energy in the Eastern Mediterranean first emerged after World War I. After the discovery of oil Iran in 1908 a new element

was added to the strategic importance of the Middle East. European countries looking for new sources of supply, as well as the Admiralty in London recognized the global importance of this discovery was their oil-fired ships (Owen 2008). The Iraq Petroleum Company, IPC, which was established following the Armistice of Mudros (1918) between the Entente Powers and the Ottoman Empire at the end of the First World War, made yet another important oil exploration in the area in 1927 in the Former Ottoman Province of Mosul and it drilled wells in the Kirkuk's Baba Gurgur field. Following the exploitation of oil in the area, the Mosul-Haifa Oil Pipeline, also known as the Mediterranean Oil Pipeline had been built between 1932 and 1935. This pipeline, which was active for only 13 years, carried 1 million barrels of oil per day to the East Mediterranean. Its activity came to an end because of the Arab-Israel War of 1948.

Actually, due to the rising demand preliminary exploration work started in Iraq and Persia before 1908. However, 14 and "demand was rising even before 1914 preliminary exploration work was underway in Persia and Iraq, Middle Eastern reserves of oil were not yet as great a factor in international affairs as the became after 1945 (James 2001).

In the era we live in today, the geopolitics of hydrocarbons in this region is re-emerging. The discovery of hydrocarbon resources in the late 1960s in the Egyptian off shore, the concurrent discoveries of the Gaza Marine field in the Palestinian off shore by the British Gas Group in 2000, and finally of the Mari-B field in the Israeli offshore, added a new dimension to the geopolitics of hydrocarbons of the region. New ones in 2009 and 2010 followed these discoveries. The Tamar and the Leviathan fields of Israel were proved to hold large natural gas reserves. Recently, in 2015 the giant Zohr field at the Egyptian off shore has been discovered. According to the 2010 estimates by the US Geological Survey, the Levant Basin of the Eastern Mediterranean alone holds about 2.5 billion barrels of oil and 3.45 trillion cubic meters of natural gas reserves. According to the survey, the Nile Basin of Egypt is estimated to hold 6.3 trillion cubic meters and the Herodotus Basin, which is located in the far northwest, holds an estimated 3.5 trillion cubic meters of natural gas reserves (Schenk et al. 2010).

Current reserves are so important that they can significantly affect the energy safety and energy strategies of the European Union, the biggest market of energy resources in the region. Recent discoveries of hydrocarbons in this area make it a major potential energy field for Europe and beyond. These discoveries will definitely have repercussions in international relations and international law. Once the reserves are proved and production is fully started, transportation of it to the world markets would be another issue. At the end, discovery of hydrocarbon may constitute an opportunity or a curse for the overall strategic equation in this region and probably beyond.

Another aspect of these discoveries is the delimitation and proclamations of the Exclusive Economic Zones (EEZ) in the Eastern Mediterranean Sea. As a continuation and a result of old disputes, delimitation of maritime areas is about to become a major dispute in the Eastern Mediterranean, which is a semi-closed sea. The Aegean Sea is a well-known point in case. However, this is a dispute between only two

countries. In the Eastern Mediterranean, however, there are nine parties that need to reach an agreement on the delimitation of their exclusive economic zones based on equitable and reasonable principals and solutions. Any solution, which does not take the just rights of the relevant littoral parties into consideration, is doomed to fail and will lead to further instabilities.

On the other hand, last couples of years have been a period of transition for Middle East and Eastern Mediterranean countries as the discovery of the East Mediterranean natural gas reserves is a challenging case for the region The discovery of natural gas tensed up the geopolitical atmosphere in the region which has been the scene of Iraqi, Syrian, Palestinian and Cyprus conflicts. At this point, this tension both poses serious threats and provides opportunities in the field of energy in the region. These opportunities, which emerge from conflicts and cooperation in the region, and which might demonstrate a stable or variable pattern, are reshaped by the key strategies of the regional actors. While the borders of exclusive economic regions are discussed, various alternatives for transferring the potential hydrocarbon products to Europe, which presents the largest market worldwide, are on the agenda.

Developments of the Arab Spring, and especially the Syrian War coupled with the weakening of regimes, further deteriorated the instability in the Red Sea and the Mediterranean area. The states in the region are now divided into different geopolitical blocs as Sunni, Shia and the rest. Events in Syria and Iraq attracted the great powers to the region. One can expect that the interaction between these parties would have significant impact on issues of maritime trade including transportation of natural gas from the region.

As it has been pointed out, terrorist acts and especially those originating from the Eastern Mediterranean and the Middle East have become almost daily routine. Possible terror attacks against energy infrastructure at sea, the disruption of port operations and attacks on ships especially on oil tankers in this region should not be ruled out. Therefore, security and safety carries prominence in all areas including the transportation of the gas. While Israel, Egypt and South Cyprus, together with Greece are looking for other means to transport their gas safely to Europe, Turks and many others believe that pipelines connected to the Ceyhan terminal would be the best option.

Not only littoral countries but also global powers have interests in this region as well. Russia is concerned that the East Mediterranean gas would decrease dependency on Russian gas and it can lose its hegemony over the market. Europe is closely following the updates because it wants to diversify gas suppliers. The US is in favor of supply diversification in European gas market and reduced Russian presence.

2.5 Conclusion

Almost all major industrialized countries need large and reliable energy supplies in order to have sustainable development Likewise, most of the other industrialized countries in Europe as well as the newly emerging industrial powerhouses like China and India depend on foreign hydrocarbon resources. In this regard safe

transportation and stable economic and political environment, be at domestic, regional or multi-regional level are important. The above point together with the new security environment of post 9/11, has enabled energy politics and energy security—with its various aspects—to become a crucial matter in international politics.

Parallel to the rising importance of the of the global energy resources, the risks and threats possessed against the natural resources has also risen in four major areas. Firstly, the piracy and terrorist threats targeting hydrocarbon resources have significantly risen. Secondly, pipelines passing through conflict zones also constitute a problem regarding the secure transmission of oil and gas from the production fields to the markets. Thirdly, with the adoption of technological sophisticated facilities cyber-attacks have also become an area of threat. Finally, other risks or threats related especially to the sea-lanes of communication also dominate the global agenda.

Recent discoveries of hydrocarbons in the Eastern Mediterranean make it a major potential energy field for Europe and beyond. However, due to ongoing regional conflicts, the weakening regimes associated with the Arab Spring and the Syrian Civil War, and the competing interests of the global powers on region are diminishing the potential of energy fields.

All in all, like in other political outcomes, interests clashing at many points and economic benefits are the major drivers of energy geopolitics as well. It is clear that the geopolitics of hydrocarbons is not static but a dynamic concept. While the security problems related to hydrocarbons are real, the rapidly growing need of oil and gas will continue to increase dependency on these resources. This issue will continue to be an important issue of geopolitics in the years to come. Alternative sustainable energy sources may be the only way out of this dependency.

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