


CHALLENGES IN THE REGIONAL ENERGY COMPLEX OF RUSSIA, UKRAINE, TURKEY, AND THE EUROPEAN UNION

Murat Necip ARMAN

 : 0000-0002-6873-206X

Aydın Adnan Menderes University, Aydın, Turkey

Barış GÜRSOY

 : 0000-0003-0537-3511

Aydın Adnan Menderes University, Aydın, Turkey

© The Author(s) 2022

ABSTRACT

This study claims that Russia, Ukraine, Turkey, and the EU form a regional energy complex. The concept of regional energy complex is derived from Copenhagen School's terminology of homogeneous regional security complexes. The asymmetrical relationship within this regional energy complex has made Turkey and the EU dependent on Russia, in terms of energy; and for Ukraine, it has created significant national security risks. The consequences of Russia's military operation in Ukraine, according to the research, have the potential to change the structures that Buzan characterizes as "structural choices" in this regional energy complex. As a result, both Turkey and the EU will need to develop new policies regarding energy dependence. In addition, we will analyze the prospect of Egypt and Israel forming a future partnership with Russia, Ukraine, Turkey, and the EU regional energy complex.

©2022. All rights reserved.

ARTICLE HISTORY

Received: 10/02/2022

Accepted: 30/03/2022

Published online: 10/04/2022

KEYWORDS

Regional energy complex, Energy dependency, Russian military operation in Ukraine, Structural options, Turkey-EU relations



1. Introduction

In this study, we discuss how the tense relationship between Ukraine and Russia can affect energy dependency relations in the region as we identify it as a regional energy complex. To begin with, Turkey, which has been a candidate for full membership in the EU since 1999 and began full membership negotiations in 2006, was involved in a political standoff with the EU in 2006, after the attempted entry of the Southern Cypriot (SC)-flagged container ship *Able F* (Talmon, 2006: 611). Turkey refused to let this ship into the Mersin port since the two states do not have an official recognition relationship. Croatia, which began full membership negotiations on the same day as Turkey in 2005, became a full member of the EU in 2013, but Turkey was only able to launch 16 of 35 negotiating chapters, with one of them being temporarily closed. The EU's The General Affairs and External Relations Council Decision of December 11, 2006, suspended eight of these chapters for violating Customs Union criteria, by Turkey. To add, the SC has unilaterally blocked six negotiating chapters. The energy title, which is the focus of our research, is one of the chapters that SC has unilaterally blocked. This event was an expected "train crash" for many authors, who study on Turkey-EU relations (Açıkmüşe and Triantaphyllou, 2012: 559).

Natural gas was discovered in the Eastern Mediterranean region in 2006, during the era when Turkey was suffering this problem with the EU owing to SC. The US Geological Survey forecasts that the Eastern Mediterranean basin has up to 122 trillion cubic feet of gas and 1.7 billion barrels of oil U.S. (Geological Survey, 2010). The natural gas issue has become an addition to the existing concerns between SC and Turkey, as a result of this discovery. By the mutual declarations of exclusive economic zones (EEZs) by riparian states on the region and exploration rights of Turkey, given by Northern Cyprus (NC); Eastern Mediterranean gas is proving to be a major political issue among Greece, SC, and Northern Cyprus (NC), and Turkey.

As a result of Turkey's attempts to engage with this state in oil and gas drilling, NC has granted a license to Turkish Petroleum Corporation (TPAO) for its offshore exploration. Turkey claimed that this license was given to her to protect NC's national

interests in the Eastern Mediterranean. Following this occurrence, disagreements of SC over possible gas deposits in the south of the island of Cyprus grew, and the US and the EU were occasionally involved in the matter (Grigoriadis, 2014: 130).

The EU's energy dependency problem is the main reason for its involvement in the aforementioned event. As a result, it's comprehensible that the EU sides with the SC in this issue, given that the latter is an EU member confronting an energy resource crisis. One of the reasons for this approach is that Turkey-Russia ties began to improve after Turkey shot down a Russian Air Force Suhoi Su-24 type aircraft on the Syrian-Turkish border on November 24, 2015, owing to a boundary breach (Budak, 2018: 62). Turkey opted to cultivate closer relations with Russia to avoid a revanchist move by Russia. The country's transatlantic links were hampered as a result of this rapprochement. As a result, Turkey, which had begun to have problems with the West, faced economic difficulties and increased its dependency on Russia for energy.

We think that the situation outlined above has the potential to change with the Russian military operation in Ukraine. The current hydrocarbon deposits in the Eastern Mediterranean, we stated before, might serve collaboration rather than conflict in terms of energy supply security for both Turkey and the EU. Following The Russian military operation in Ukraine in February 2022, NATO and the EU devised a united and robust response to the invasion, enacting fruitful economic sanctions against Russia. Turkey had taken a stance toward the West at the time, and this confrontation had the potential to alter the relationship's trajectory.

There are early shreds of evidence that Euro-Atlantic ties may strengthen after this invasion. Even European states, such as Finland and Sweden, who are members of the EU but are not members of NATO, have started to bring NATO membership to their political agenda (O'Dwyer, 2022). In addition, Switzerland, which has military neutrality, has stated that it will support economic sanctions (Shields and Koltrowitz, 2022). In addition to these examples, the candidacy applications of Ukraine, Moldova, and Georgia to the EU strengthen our claim.

This circumstance might be seen as hinting that shortly, the Euro-American relationship will become more tightly tied in global affairs. Turkey's Euro-Atlantic connections, which began to deteriorate in 2015, are expected to be bolstered at this

time. Turkey can contribute to this endeavor by helping to steer EU-Turkey ties in a positive direction, with the added benefit, of fostering collaboration on the Eastern Mediterranean hydrocarbon potential.

Theoretical background

In International Relations (IR), the Regional Security Complex Theory of Barry Buzan, one of the key theorists of the Copenhagen School, holds a significant role. In the aftermath of the Cold War, new conflicts in the international system, according to Buzan, would arise in subsystems within regions rather than on the axis of cultural, religious, or civilizational divisions. Regional security complexes are made up of regions with comparable security issues in terms of geographical areas. States (or other actors) might see regional security complexes as a series of security issues focused on specific geographic areas, where main threat perceptions are strongly interrelated and intense. Buzan attempted to interpret the non-traditional security concept by broadening its reach and adding additional threats and dimensions to the conventional military ones. These are the military sector, political sector, economic sector, social sector, and environmental sector.

Regional Security Complexes are composed of two or more states. A security complex is made up of two or more (geographically linked) states that have similar security perspectives. Security interdependence, whether positive or negative, was a defining feature of these states' ties, which had to be much stronger among them than with any other external party. The security pattern has to be deep and long-lasting, but not indefinite (Buzan et al., 1998: 15). To Buzan, there are four structural options for security systems are Status quo (the security complexes do not change if the balance of power shifts), internal transformation (the security complex's limit is determined by changes in power distribution), external transformation (when a state enters or exits the security complex, the security complex's exterior boundaries shift), overlay (the overarching priority of a strong state may result in the security complex collapsing) (Buzan, 1991: 215-220). Copenhagen School argues that there are two types of regional complexes: homogenous and heterogeneous regional complexes. Homogeneous complexes can

emerge in any security sector, including military, environmental, and societal security. On the contrary, heterogeneous complexes are regional complexes in which different security sectors are integrated. For example, the EU is a heterogeneous regional complex in which all security sectors are perceived alike by both states and non-state actors (Buzan et al., 1998: 17-18). In this research, we argue that Russia, Ukraine, the EU, and Turkey have formed a homogeneous regional energy complex that has evolved only in the energy sector.

Andrei V. Belyi devised the conception of Regional Energy Complexes based on the theory of Regional Security Complexes. To Belyi, regional energy security complexes are made up of energy-related interactions between two or more states in a specific geographic area, including an energy dependence connection and the perception of such dependency as a securitization (Andrei V. Belyi, 2012). According to this approach, the energy security complex can be defined as a geographical security complex. Russia, Ukraine, the EU, and Turkey are claimed to be regional security complexes in this sense. According to Elbassoussy, (2019: 324-325) due to the presence of a vast number of natural gas and oil pipelines across Ukrainian and Turkish territory, the EU countries and their lack of a direct geographical link to Russia can be neglected. Because of this interdependence, the region might be classified as a regional energy complex. The grounds for interdependence will be discussed in the next two sections.

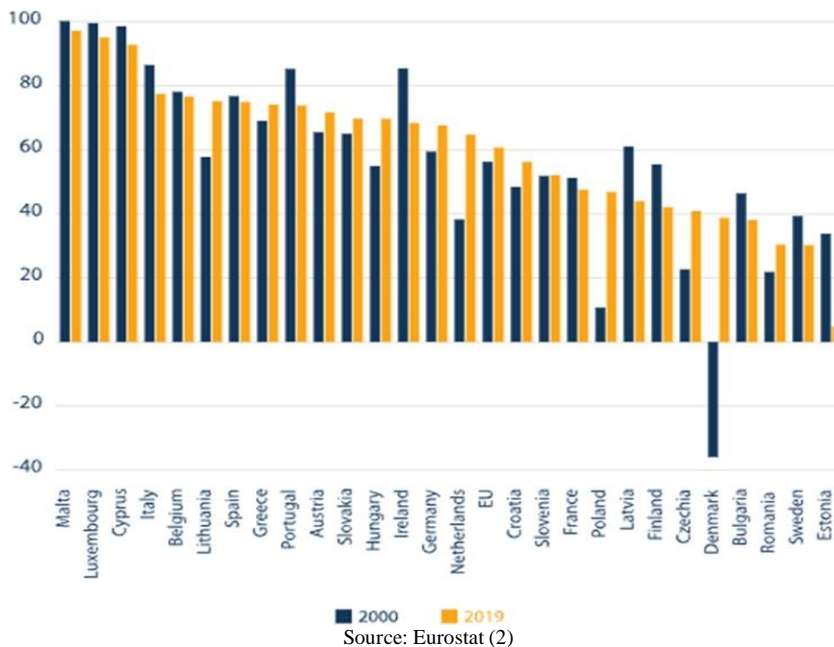
Energy Supply Security in the European Union

Energy supply security refers to states' and other international policy actors' need to meet their growing energy demands at reasonable prices, in sufficient quantities, and from stable and reliable sources. In addition, just like the other actors in IR, the EU also intends to build a strategy for ensuring energy supply security. The strategy's fundamental principle is to take steps to minimize energy consumption. The second step is to shift to new and more sustainable energy sources, and the third is to diversify the sources of energy. Two-thirds of the energy consumed by end customers is made up of 41 % petroleum products, 21% natural gas, 20.8 % electricity, 9.9 % renewable energy sources, 4.5 % thermal energy, and 2% others, in the EU. Europe imports more than half of the energy it uses, at a daily cost of more than €1 billion (Matsumoto et al., 2018: 1737).

While decreasing over time within the last decades, oil and petroleum products remain the EU's primary energy source. The following are the countries from which the EU buys crude oil, together with their import rates as of 2019: Russian Federation 26.9%, Iraq 9.0%, Nigeria 7.9%, Saudi Arabia 7.7%, Kazakhstan 7.3 %, Norway 7.0 %, Libya 6.2 %, United States 5.3 %, United Kingdom 4.9 %, Azerbaijan 4.5 %, Algeria 2.4 %, and others 10.9 % (Eurostat, 1). By 2030, it is predicted that imported energy would account for 70% of the EU's energy consumption.

The degree to which an economy relies on energy imports to satisfy its energy demands is referred to as energy dependency (Sözen, 2009: 4827). Countries that import energy from other countries or external sources form energy-dependent relationships with the countries they are importing energy from. The amount imported is influenced by the supplying country's political stability and energy use. Energy dependency is particularly problematic due to risks associated with energy transportation, which might result in higher energy import costs. EU states, which are dependent on foreign energy sources, have to undertake all these risks. The graph below depicts the evolution of EU nations' energy dependency ratios from 2000 to 2019.

Graph 1. Energy Import Dependencies of EU Member States (2019) (%)



As can be observed from the graph, there have been favorable adjustments in foreign energy dependency in several countries (Malta, Luxembourg, Cyprus, Italy, Belgium, Spain, Portugal, Ireland, France, Latvia, Finland, Sweden, and Estonia) during the last nineteen years. Lithuania, Greece, Austria, Slovenia, Slovakia, Hungary, Germany, the Netherlands, Croatia, Poland, the Czech Republic, and Romania all saw a rise in dependency rates. In fact, only Denmark is independent of foreign energy resources. When seen as a whole, the EU average reveals that dependency has increased, in 19 years.

This dependence makes the EU countries increasingly dependent on foreign resources, particularly on Russia, and makes them vulnerable to threats and blackmail from suppliers seeking to pursue their political goals. Similarly, the fact that some of the suppliers are located in volatile locations, such as the Middle East, Russia, and Caucasus region, means that any political risk in these fragile geographies may have a direct impact on the EU. Finally, the COVID-19 pandemic's detrimental impacts on energy logistics, which afflicted the whole planet between 2000 and 2021, have an impact on access to energy supplies and costs. As a result, currently, the EU is increasingly debating the question of energy supply security to limit political risks and minimize logistics issues. Since 2013, EU countries have invested 5 billion euros on 41 natural gas "Projects of Common Interest" (PCI), such as pipelines and import terminals, for this purpose. There is also criticism that owing to budgetary difficulties, roughly 9% of this money is wasted on inefficient or incomplete initiatives (Global Witness, 2021).

Establishing a physical link between the Caspian's natural gas resources to Europe is a strategic objective for the EU, particularly as part of the Southern Gas Corridor. However, the most significant difficulty in this area is the impact of developments on supply security of potential regional problems, as witnessed in the 2009 Ukraine-Russia conflict. Another objective is to lessen the dangers associated with public transit. Finally, strengthening wholesale competition is a priority to maintain price stability. As a net importer, guaranteeing energy supply security in all dimensions is therefore critical for the EU.

Energy Supply Security in Turkey

With a population of over eighty million people and a thriving economy, Turkey, one of the world's twenty largest economies, is facing an increasing energy demand. In the 1970s, domestic energy production met approximately $\frac{2}{3}$ of overall energy consumption; by 2020, that proportion had dropped to under $\frac{1}{4}$. Turkish policymakers are dealing with a variety of approaches to overcome the dependency problem, ranging from nuclear energy generation (Kaygusuz & Avcı, 2021: 1885) to expanding the hydropower infrastructure of the country (Billi et al., 2018: 760). Turkey also announced the discovery of a total of 540 billion cubic meters of natural gas, from the Tuna-1 well in the Sakarya Gas Field and the Amasra-1 well in the Sakarya Gas Field as a consequence of natural gas drillings in the Black Sea (Kavaz, 2021).

Among both EU members and candidate countries, Turkey has the largest energy dependency. While the EU has a 60 percent energy dependency ratio as of 2019, Turkey has a 70 percent dependency ratio. The other candidates and the potential candidates of the EU's energy dependencies are: North Macedonia has a 58.5 % dependency ratio, Serbia 35.6 %, Montenegro 32.9 %, Albania 31.5 %, Kosovo 30.5 %, and Bosnia and Herzegovina 27.3 % (European Commission).

Turkey, like the rest of the EU, is a net importer of energy. It regularly encounters issues that are quite similar to those faced by the EU in its dealings with Russia and the Middle East region. Due to its geostrategic location, Turkey, unlike the EU, has an extremely sensitive transition potential in terms of hydrocarbon resources transferred from the Caucasus, Eastern Mediterranean, Middle East, and Central Asia to Europe. It was built to deliver natural gas generated in Azerbaijan's Shah Deniz natural gas production to Turkey and EU countries via the Trans Anatolian Pipeline (TANAP), particularly in the Southern Gas Corridor. Turkey is critical for the EU in terms of delivering natural gas from TANAP to pipelines throughout Europe via the Trans Adriatic Pipeline (TAP). Aside from TANAP, the TurkStream project is a project that strengthens the EU's energy dependency on Turkey. The TurkStream, which is divided into two lines, has a total capacity of 31.5 billion cubic meters of natural gas.

These two pipelines were built to transport Russian natural gas to Turkey and other EU countries (Kakışım & Kodaman, 2019: 133).

The natural gas pipelines passing through Turkey are as follows: Russia – Turkey Natural Gas Pipeline (West Line), Blue Stream Natural Gas Pipeline, Eastern Anatolia Natural Gas Main Transmission Line (Iran – Turkey), Baku-Tbilisi-Erzurum Natural Gas Pipeline, Turkey-Greece Natural Gas Interconnection (Enerji Bakanlığı, 1). The oil pipelines transiting through Turkey are as follows: Iraq-Turkey Crude Oil Pipeline (ITP), Baku-Tbilisi-Ceyhan Main Export Crude Oil Pipeline (BTC), Trans-Anatolian Natural Gas Pipeline (TANAP), TurkStream Natural Gas Pipeline (TÜRKAKIM) (Enerji Bakanlığı, 2). When all of these pipelines are considered together, Turkey emerges as an energy hub connecting the Middle East, the Caucasus, and Europe.

Cooperation Opportunities

Turkey and the EU are in the same regional energy complex and are thought to have similar energy interests, risks, and possibilities. Any form of collaboration in this area would benefit both the EU and Turkey's energy supply security, and it will create a win-win scenario for both parties in terms of having shared neighbors and limiting the threats that these common neighbors' energy production prospects may pose. The limits and risks of this regional energy complex are forcing both the EU and Turkey to cooperate.

All dimensions of Turkey's EU integration process, which was disrupted particularly during the Syrian civil war in 2011, affect the energy cooperation of both parties, particularly in the Eastern Mediterranean. In terms of relations with Russia, Turkey's more constrained attitude in comparison to the EU countries has resulted in a crisis of trust between the two parties. However, the intractable nature of the energy issue is exacerbated by the lack of a solution to the Cyprus dispute, which is the principal determinant of Turkey-EU relations. Turkey has pursued an active foreign policy in support of the Turkish Cypriot people's right to an equitable share of the benefits derived from the Eastern Mediterranean's hydrocarbon reserves. The EU, on the other hand, saw

this strategy as a violation of the RS's sovereignty rights, as the EU recognized the RS as the island's sole sovereign state. Turkey and the EU, two major players in the same regional energy complex, have seen their collaboration options curtailed as a result of this circumstance.

The Russian military operation in Ukraine, which began on February 24, 2022, has the potential to alter the global political landscape. Because the economic sanctions that the Euro-Atlantic partnership began to impose on Russia in the days following the military operation began to change the partnership's disorganized image, which had emerged following the 2008 financial crisis and demonstrated that the partnership's members had begun to follow a closer common foreign and security policy. Despite its permanent neutrality, Switzerland has announced that it would cooperate in certain sanctions on Russia. This positive outlook has sparked discussion about northern European countries who are EU members but not NATO members, such as Sweden and Finland, joining NATO. Moldova, Georgia, and Ukraine, meanwhile, applied for full EU membership in the first week of March 2022.

Given this perspective, Turkey is likely to enter a restoration stage shortly, during which it will address its present concerns with NATO and the EU. This collaboration will produce a win-win scenario in which Turkey will overcome its economic difficulties, balance a period in which it is more involved with Russia on topics such as the S-400 acquisition and the Akkuyu nuclear power plant, and deepen the Euro-Atlantic connection. As a result, Turkey could expect to work with its European and American allies to extract Eastern Mediterranean hydrocarbon deposits and transfer them to Europe through the pipeline. Turkey's energy dependence stands at 70%, with oil and petroleum product imports from Russia accounting for the majority of this need.

Turkey and the EU are both highly dependent on energy, and this dependency is mostly based on Russia. We may now assert that Turkey has achieved geostrategic significance. The development of pipelines for oil and gas from Persian Gulf states is one way to break this dependency; another is to reach the prospective natural gas deposits in the Eastern Mediterranean via Turkey. Likewise, 60 % of the oil reserves of the Organization of Petroleum Exporting Countries (OPEC) are thought to be held in the Persian Gulf (Olanipekun & Alola, 2020: 1).

For a long time, Turkey's relationship with the EU, particularly over the Cyprus problem, has made collaboration on this topic impossible. In the Eastern Mediterranean, numerous crises between Turkey and Israel, as well as Egypt, made cooperation impossible. However, due to the new global polarization that began with the Russian military operation in Ukraine, these countries should indeed work together more closely. Turkey, which has been waiting for EU membership the longest, since its application for full membership in 1987, may now simultaneously secure energy supply security and begin the procedure that would permit this accession. As a result, expecting a new cooperative mechanism to arise in the Eastern Mediterranean and Gulf oil is not a realistic expectation.

With the aforementioned reasons, when we consider Buzan's structural options for regional security complexes, we might get to the following conclusions about the Russia, Ukraine, the EU, and Turkey regional energy complex:

Status quo: Although the results of the Russian military operation in Ukraine may hurt Russia's position in global politics, this will not change the existence of the regional energy complex. Because of their geographical positions, these actors will continue to have an energy relationship in the future. Measures taken to reduce dependency on Russia, on the other hand, may alter Russia's weight in the regional energy complex.

Internal transformation: As Russia's weight in the complex decreases, other actors may begin to develop relatively more independent policies with each other. For example, official EU candidacy for Ukraine and accelerating full membership negotiations with the EU for Turkey may be possible.

External transformation: Since the emergence of new engagements with the Eastern Mediterranean and Gulf countries to reduce Russian dependency, cooperation with Israel and Egypt of other countries will be essential. Then, these two countries may be part of the regional energy complex.

Overlay: After the Russian military operation in Ukraine, the overlay has largely ceased to be an option.

Discussion and conclusion

Even though energy supply security has been considered significant on the EU's agenda in recent years, the EU has opted not to take tangible actions in this area. Europe consumes an average of 155 billion cubic meters of Russian natural gas per year. The price of natural gas has soared by roughly six times in Europe, which imports 90% of its needs, in 2021 and the first quarter of 2022. Furthermore, owing to climatic circumstances, power output from renewable sources has declined. Finally, with the Russian military operation in Ukraine, the EU countries have astonished. The data we analyzed in our research demonstrated that the EU was unable to eliminate Russia as a source of energy; on the contrary, its dependency on natural gas increased.

It may be claimed that Russia is using Europe's energy shortage as a weapon (Collins, 2017: 4). Consequently, the EU issued economic sanctions in response to the Russian military operation in Ukraine, including areas such as finance, banking, commerce, and transportation, although energy was not included.

Weighing up both sides of the argument, Turkey, like the EU, is entirely dependent on Russian energy. This dependency is even above the EU average. Because Turkey is a NATO member, this dependency did not constitute a severe security threat for Turkey for a long time, but after the aircraft incident in 2015, Turkey found it difficult to break free from Russian pressure. Turkey's relations with NATO and the EU also deteriorated during that period.

Taking everything into consideration, the Russian military operation in Ukraine in February 2022 yielded significant repercussions that might alter the trajectory of world affairs. Ukraine, Moldova, and Georgia have applied for EU membership, while in Finland and Sweden NATO membership debates began. The fact that the Western alliance has begun to tighten ranks presents Turkey with new threats and opportunities. The most important risk is that the economic crisis in the country for the last two years may become chronic due to the rising oil prices, because of the war, and the fragility of the Turkish economy may increase.

While Russia's dominant position is diminishing in energy on Turkey and the EU, new opportunities may emerge on the regional energy complex of Russia, Ukraine, Turkey, and the EU. Turkey, whose geopolitical importance has the potential to increase because of this process, may seek more convenient ways to work through its issues with NATO and the EU. The EU's requirement to access hydrocarbon resources in the Eastern Mediterranean and the Persian Gulf states to dodge energy dependency is an opportunity for Turkey. Turkey can explore new collaboration prospects if it can overcome the difficulties it has had with Egypt and Israel throughout the 2010s. The most repressive problem at moment is the Cyprus issue. The issues Turkey has had on Cyprus for more than half a century appear to be the most significant impediment to this collaboration. Finally, if this problem can be managed with the strong assistance of the Euro-Atlantic cooperation, both the EU and Turkey may be able to solve their energy dependency problems.

Disclosure statement

No potential conflict of interest was reported by the authors.

Author Contact Information

E-mail: mnarman@adu.edu.tr
baris.gursoy@adu.edu.tr

References and notes:

- Açıkmeşe, S. A. & Triantaphyllou, D. (2012) ‘The NATO – EU–Turkey Trilogy: the Impact of the Cyprus Conundrum’, *Southeast European and Black Sea Studies*, 12 (4), pp. 555-573.
- Andrei V. Belyi, *Energy security in International Relations (IR) theories*, 2012, <http://rushkolnik.ru/docs/index-5049537.html>. [Accessed 11 March 2022].
- Avrupa Birliği Türkiye Delegasyonu, *Enerji Alanında AB ve Türkiye İşbirliği*, <https://www.avrupa.info.tr/tr/enerji-alaninda-ab-ve-turkiye-isbirligi-59>. [Accessed 11 March 2022].
- Bilgili, M., Bilirgen H., Ozbek, A., Ekinci, F. and Demirdelen, T. (2018) ‘The role of hydropower installations for sustainable energy development in Turkey and the world’, *Renewable Energy*, 126, pp. 755-764.
- Budak, E. (2018). ‘Discourse in News and Peace Journalism: The Case of Shooting Down of the Russian Attack Aircraft’, *Global Media Journal*, 9 (17), pp. 53-74.
- Buzan, B. (1991), *States and Fear: An Agenda for International Security Studies in the Post-Cold War Era*, 2nd ed., Hertfordshire: Harvester Wheatsheaf.
- Buzan, B., Weaver, O., and de Wilde, J. (1998), *Security: A New Framework of Analysis*, 1st ed., Boulder: Lynne Rienner Publisher, CO.
- Elbassoussy A. (2019) ‘European Energy Security Dilemma: Major Challenges and Confrontation Strategies’, *Review of Economics and Political Science*, 4 (4), pp. 321- 343.
- Enerji Bakanlığı (1), <https://enerji.gov.tr/bilgi-merkezi-dogal-gaz-boru-hatlari>. [Accessed 11 March 2022].
- European Commission: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_energy_statistics#Energy_trade
- Eurostat (1), *Energy statistics - an overview*, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview. [Accessed 11 March 2022].
- EUROSTAT,(1),https://ec.europa.eu/eurostat/statisticsexplained/images/9/95/Extra_EU_imports_of_natural_gas_from_main_trading_partners%2C_2020_and_first_semester_2021.png. [Accessed 11 March 2022].
- EUROSTAT (2), *From where do we import energy?* <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc2c.html#carouselControls?lang=en>. [Accessed 11 March 2022].
- Gabriel, C. (2017) ‘Russia’s Use of the “Energy Weapon” in Europe’, *Rice University’s Baker Institute For Public Policy*, pp. 1-8.
- Gerard O’Dwyer, *Finland and Sweden may take the unhurried route to NATO membership*, *Defence News*, 5 March 2022, <https://www.defensenews.com/global/europe/2022/03/04/finland-and-sweden-may-take-unhurried-route-to-nato-membership/>. [Accessed 11 March 2022].
- Global Witness (2021, February 22) *EU Companies Burn Fossil Gas and Tax Payer Cash*, *Global Witness*, <https://www.globalwitness.org/en/campaigns/fossil-gas/eu-companies-burn-fossil-gas-and-taxpayer-cash/>. [Accessed 11 March 2022].
- Grigoriadis, I. N. (2014) ‘Energy Discoveries in the Eastern Mediterranean: Conflict or Cooperation?’, *Middle East Policy*, 21 (3), pp. 124-133.
- Kakışım C. ve Kodaman, T. (2019) ‘Avrupa Birliği-Türkiye İlişkilerinde Enerji Diyalogu’, *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 34, pp. 124-139.
- Kavaz, İ. (2021, June 7) *5 Soru: Türkiye’nin Karadeniz’deki Doğal Gaz Keşifleri ve Ötesi*, *SETA*, <https://www.setav.org/5-soru-turkiyenin-karadenizdeki-dogal-gaz-kesifleri-ve-otesi/>. [Accessed 11 March 2022].

- Matsumotoa, K., Doumpos, M. and Andriosopoulos, K. (2018) ‘Historical energy security performance in EU countries, 82, *Renewable and Sustainable Energy Reviews*, pp. 1737-1748.
- Olanipekuni, I. O. and Alola A. A. (2020) ‘Crude Oil Production in the Persian Gulf Amidst Geopolitical Risk, Cost of Damage and Resources Rents: Is There Asymmetric Inference?’, *Resources Policy*, 69, pp. 1-9.
- Shields, M. and Koltowitz, S. (2022, February 28). Neutral Swiss Join EU Sanctions Against Russia in a Break with Past, Reuters, <https://www.reuters.com/world/europe/neutral-swiss-adopt-sanctions-against-russia-2022-02-28/>. [Accessed 11 March 2022].
- Sözen, A. (2009) ‘Future Projection of the Energy dependency of Turkey Using Artificial Neural Network’, *Energy Policy*, 37, pp. 4827–4833.
- Talmon, S. (2006) ‘The European Union– Turkey Controversy Over Cyprus or a Tale of Two Treaty Declarations’, *Chinese Journal of International Law*, 5 (3), pp. 579–616.
- T.C. Dışişleri Bakanlığı 1, Avrupa Birliği Başkanlığı, Fasıl 21 Trans Avrupa Ağları, https://www.ab.gov.tr/fasil-21-trans-avrupa-aglari_86.html. [Accessed 11 March 2022].
- U.S. Geological Survey (2010) *Assessment of Undiscovered Oil and Gas Resources of the Levant Basin Province, Eastern Mediterranean*, (Washington, DC: United States Department of the Interior), <http://energy.cr.usgs.gov/oilgas>. [Accessed 11 March 2022].

CITE THIS ARTICLE AS: ARMAN Necip Murat, GÜRSOY Barış. Challenges in the regional energy complex of Russia, Ukraine, Turkey, and the European Union. *International Journal of Humanities and Social Development Research*. Volume 6 (1), 2022.pp. 7-21.doi: 10.30546/2523-4331.2022.6.1.7