

UNIVERSITY OF PIRAEYS



**SCHOOL OF ECONOMICS, BUSINESS AND INTERNATIONAL STUDIES
DEPARTMENT OF INTERNATIONAL AND EUROPEAN STUDIES**

GRADUATE PROGRAM IN ENERGY: STRATEGY, LAW & ECONOMICS

Hellenic EEZ

—

Geopolitical Goals and Strategic Dynamics

From:

Markopoulos Andreas

R.N. 18035

Master thesis to:

Dr. Athanasios Platias

Dr. Petros Liacouras

Dr. Ioannis Konstantopoulos

Piraeus, November 28th, 2019

Table of Contents

Table of Contents	2
Abstract	6
Table of figures	7
1 Introduction	9
2 Energy resources and economic upheaval.....	10
2.1 Energean estimations and economic upheaval.....	12
2.2 Economic perspectives with the usage of Liquified Natural Gas	23
2.3 Ecological aspects associated with the exploitation of Natural Gas.....	28
2.4 Combined Cycle Units, Natural gas and its advantages	31
3 The EEZ of Cyprus and geopolitical goals of Greece.....	34
3.1 The EEZ of Cyprus and exploitation of its discoveries	34
3.2 The EEZ of Greece and potential discoveries.....	37
3.3 “EastMed and EuroAsia-Interconnector”	39
4 Strategy of EEZ delimitation and the impact of International Relations	43
4.1 Proclamation of the Hellenic Exclusive Economic Zone	43
4.2 Delimitation of exclusive economic zones	49
4.2.1 Turkey	52
4.2.2 Cyprus, Israel and Egypt.....	77
4.2.3 Albania, Italy and Lybia.....	81
5 Strategic dynamics and the Hellenic legacy.....	92
5.1 Hellenic Exclusive Economic Zone as National Strategy	92
5.2 Strategic partnerships in the Eastern Mediterranean.....	100
5.3 Decisive movements for the Hellenic EEZ and energean transformation	125
Conclusion.....	147
Reference list.....	150



ΥΠΕΥΘΥΝΗ ΔΗΛΩΣΗ / SOLEMN DECLARATION

(άρθρο 8 Ν.1599/1986) / (article 8 par. 4 of Greek Law 1599/1986)

Η ακρίβεια των στοιχείων που υποβάλλονται με αυτή τη δήλωση μπορεί να ελεγχθεί με βάση το αρχείο άλλων υπηρεσιών (άρθρο 8 παρ. 4 Ν. 1599/1986) / The accuracy of the information provided by this solemn declaration may be confirmed with data held by other authorities (article 8 par. 4 of Greek Law 1599/1986).

Με ατομική μου ευθύνη και γνωρίζοντας τις κυρώσεις (2), που προβλέπονται από τις διατάξεις της παρ. 6 του άρθρου 22 του Ν. 1599/1986, δηλώνω ότι: / On my own responsibility and being fully aware of the penalties (3) stipulated under article 22 par. 6 of Greek Law 1599/1986, I hereby declare that:

το έργο που εκπονήθηκε και παρουσιάζεται στην υποβαλλόμενη διπλωματική εργασία είναι αποκλειστικά ατομικό δικό μου. Όποιες πληροφορίες και υλικό που περιέχονται έχουν αντληθεί από άλλες πηγές, έχουν καταλλήλως αναφερθεί στην παρούσα διπλωματική εργασία. Επιπλέον τελώ εν γνώσει ότι σε περίπτωση διαπίστωσης ότι δεν συντρέχουν όσα βεβαιώνονται από μέρους μου, μου αφαιρείται ανά πάσα στιγμή αμέσως ο τίτλος. / the intellectual work fulfilled and submitted based on the delivered master thesis is exclusive property of mine personally. Appropriate credit has been given in this diploma thesis regarding any information and material included in it that have been derived from other sources. I am also fully aware that any misrepresentation in connection with this declaration may at any time result in immediate revocation of the degree title.

Ημερομηνία/ Date: 28/11/2019

Ο – Η Δηλ./ The undersigned:

Markopoulos Andreas

(1) Αναγράφεται ολογράφως. / To be written in full.

(2) «Όποιος εν γνώσει του δηλώνει ψευδή γεγονότα ή αρνείται ή αποκρύπτει τα αληθινά με έγγραφη υπεύθυνη δήλωση του άρθρου 8 τιμωρείται με φυλάκιση τουλάχιστον τριών μηνών. Εάν ο υπαίτιος αυτών των πράξεων σκόπευε να προσπορίσει στον εαυτόν του ή σε άλλον περιουσιακό όφελος βλάπτοντας τρίτον ή σκόπευε να βλάψει άλλον, τιμωρείται με κάθειρξη μέχρι 10 ετών». / «Anyone that knowingly declares false facts to be true or denies or conceals true facts by virtue of a written statement under article 8, may be sentenced to imprisonment for at least three months. If the same person intended to obtain benefit for himself/herself or for another person to the detriment of a third party, or if said person intended to harm a third party, s/he may be sentenced up to ten years imprisonment».

My master thesis is devoted to all the promoters and contributors of the Hellenic Exclusive Economic Zone, be it scientists, politicians, diplomats or the important basis of Greek citizens, who helped with their engagement to set the topic of the Hellenic EEZ on the political agenda. With the establishment of the Cypriot EEZ by the former forever remembered President of Cyprus, Tassos Papadopoulos, a new dynamic for Hellenism and its prospects arose as he paved the way for the establishment for the EEZ's rights of the Cypriot Democracy. That is why we will combine in this work the Hellenic EEZ with the Theory of International Relations, Game Theory and Power Theory.

Special thanks to

My family and friends, who supported me throughout the hard time of the examinations while they always believed in me.

My mother, who, remembering my childhood lesson as I listened to her saying to me; "Nobody would roll out the red carpet for you because everybody follows their own goals"

Special thanks to Dr. Nikos Lygeros, for his valued advice, his support and inspiration to further study the scientific field of strategy, while explaining chrono-strategy to me, connecting historical and future events, showing me chrono-strategy to geostrategy examples, as well as their differences within the historical range. Quote: "A goal which is not possible now, would not necessarily be impossible in the future".

Special thanks to my supervisor of this master thesis, Dr. Athanasios Platias, as well as Dr. Petros Liacouras and Dr. Ioannis Konstantopoulos, who helped me with their knowledge and experience in Geopolitics, International Relations and International Law, as well as with their time spent in order to support me completing this scientific paper.

Special thanks Dr. Elias Konofagos, Dr. Antonis Foskolos and Dr. Nikos Lygeros, who helped me with their research, maps and illustrations for many years, sharing their knowledge about the prospects and opportunities deriving from hydrocarbon utilization and exploitation in order to help bring along a sustainable development for the Greek economy.

Beside the above-mentioned researchers and scientists, I would like to thank all scientists, diplomats and other inspiring contributors such as Professor Theodore C. Kariotis. who is considered the " Father of the Greek EEZ", as well as Theresa Fokianou and last but not least, I want to thank the forever remembered Virginia Manasaki-Tavernaraki, who as a Regional Vice-Governor responsible for Energy and Industry in Crete, has produced great works, specifically in the energetic sector and promoted actions and projects, taking all relevant planning for Crete in the EEZ's context a step ahead.

I would also like to thank Athina Kechagias for her inspiration and support during the creation of this scientific work regarding the Hellenic EEZ.

Abstract

The purpose of this thesis is to apply the theory of power on the determination of Greece in world affairs, especially in the utilization of its energetic resources in the context of the Hellenic EEZ. I will analyze how the utilization of the Greek Sea power, which is dynamic and not static, in combination with the findings of hydrocarbons is creating the potential to develop a Hellenic leading role in the European Union. With the application of theory of decisions and game theory to the delimitation of the EEZ median-line on the basis of Voronoi diagrams, specific tools are used for a better overview in the context of EEZ delimitation strategy. This scientific paper illustrates, that the combination of Energy resource exploitation and the utilization of LNG Shipping as well as Greece's location as Energy transit will enforce the Hellenic Republic not only to a global maritime power for Energy transportation, but creates new balances for its geopolitical role in the European Union. An implementation of EU's energetic policy throughout the Hellenic Exclusive Economic Zone (EEZ) is done mainly via the East Med pipeline including the EuroAsia-Interconnector, both projects of common interests for the European Union. In order to answer the question, how the connection of natural gas reserve discoveries in Cyprus, Egypt, Israel and in Greece with the exercise and protection of the Hellenic EEZ meets the Energy demand of the European Union, a descriptive analysis is used. The context of EEZ strategy and international relations shows that Greek Energy projects are not only fulfilling geostrategic goals of the U.S.A. and other allies in the Eastern Mediterranean, but realizing a sustainable National strategy for Greece.

The thesis includes 6 chapters. Chapter two provides an overview about the scope of the Energy resources in the Western and Southern part of the Hellenic Exclusive Economic Zone, which can create a change phase to the economic and geopolitical position of Greece. The third chapter describes the development in the EEZ of Cyprus, as a direct transition to the East-Med project which creates an Energy Hub in the Eastern Mediterranean with the involvement of Greece. Then in chapter four, a Strategy of EEZ delimitation is described, combining international relations and developments in the Eastern Mediterranean with applying Decision and Game theory on selected countries and their interests. The fifth chapter analyzes with the theory of power, where geopolitical goals of Greece are realized, when interests of the U.S. Foreign policy and the European Union are met. Finally, the last chapter describes the conclusive outlook.

Table of figures

Figure 1 Crude oil price projections.....	10
Figure 2 Natural gas projections	11
Figure 3 Fields of Research.....	13
Figure 4 Giant discoveries type "Zohr"	14
Figure 5 Giant discoveries type "Zohr", South-West of Crete.....	15
Figure 6 Fields of Research.....	17
Figure 7 Estimated deposits of hydrocarbons	18
Figure 8 Giant discoveries type "Zohr"	19
Figure 9 East-Med Pipeline.....	26
Figure 10 Floating Liquefied Natural Gas (FLNG)	27
Figure 11 Greek Methane Hydrates	30
Figure 12 Marine blocks Cyprus	35
Figure 13 Consortia EEZ Cyprus	36
Figure 14 Geophysics Greece-Cyprus.....	37
Figure 15 Seismic similarities	38
Figure 16 Gas fields Egypt.....	38
Figure 17 EuroAsia-Interconnector.....	39
Figure 18 Expansion from 6 to 12 Nautical miles territorial sea	53
Figure 19 Projection EU marine waters	54
Figure 20 East Med pipeline alternative	57
Figure 21 UNCLOS vs. Turkish claims	59
Figure 22 Turkish line of equity with Eastern coastline of Libya.....	60
Figure 23 Voronoi diagram	63
Figure 24 Greek EEZ using the midline equidistance and Voronoi diagrams.....	64
Figure 25 EEZ of Castellorizo complex.....	65
Figure 26 Geographical Coordinates Castellorizo EEZ.....	66
Figure 27 Geological units of possible Oil (incl. Natural Gas) targets in the Eastern Mediterranean basins.....	73
Figure 28 Regional Cooperation	79
Figure 29 Established maritime boundaries of Cuba, U.S.A. and Mexico	80
Figure 30 Pyrrhus Reserves, Achilles and the Greek EEZ	83
Figure 31 Agreement Greece – Italy	84
Figure 32 Shelf-and EEZ equivalent marine area	86
Figure 33 EEZ of Libya and Gavdos through Voronoi diagrams	89
Figure 34 Hellenic EEZ.....	91
Figure 35 Pylons of Strategy	93
Figure 36 EEZ of Pontus region.....	97
Figure 37 European EEZs	100
Figure 38 Mackinder's Heartland Theory.....	101
Figure 39 Spykman's Rimland Theory	103
Figure 40 Infrastructure of a world power	105
Figure 41 Choke points for Oil routes.....	107
Figure 42 Ranking Shipping Owning Nations	110
Figure 43 Naval Power in the Eastern Mediterranean	115
Figure 44 Comparison Greek and Turkish fleet.....	115
Figure 45 EU Merchant Fleet.....	118
Figure 46 Mediterranean and Black Sea Basin	126
Figure 47 List of geographical coordinates Northern Cyprus.....	127
Figure 48 EEZ connection Castellorizo and Cyprus	129
Figure 49 Relation of states and energetic nodes	131

Figure 50 License connection of Hellenic and Cypriot EEZ	132
Figure 51 EastMed Pipeline and possible connections	133
Figure 52 Interconnections of all the Aegean islands	136
Figure 53 "EastMed" Pipeline	140
Figure 54 Greece's maritime and land concessions.....	142

1 Introduction

The Hellenic Sea Power was one of the marine pioneers in antiquity, as it made possible the trade of goods as well as the developing of culture, knowledge and technology which changed the destiny of entire empires. The beginning of the second millennium B.C. was confronting the cultures of the Eastern Mediterranean—Egypt, the Minoans and the Levantine Canaanites with the then aggressive/expansive Hittites of Asia Minor. They faced the threat of loss, be it their mutual trade connections and prosperity or their sphere of influence, and formed therefore military operations against their common enemy. The Mycenaeans, who have embraced the dynamics of the sea at that time, used the international geography of power (C. G. Reynolds 1974, 46). Today, the successor States of these ancient cultures in the Eastern Mediterranean made strategic steps towards an improvement of their political and economic relations, specifically between Egypt, Israel, Cyprus and Greece. They are facing new challenges of their goals to enforce the chances of prosperity in the Eastern Mediterranean. While the economic and political cooperation of Israel, Egypt and Cyprus as a result of the recently discovered natural gas reserves in the Exclusive Economic Zone (EEZ) of the Cypriot Democracy were initiated, subsequent important bilateral EEZ agreements with the Republic of Cyprus were realized as well.

Why is the realization of an exclusive right to explore and exploit in an economic marine zone of Hellenic EEZ an important strategic asset for the Greek nation? Are there interests who want to take advantage that the Hellenic EEZ is not proclaimed or delimited in the eligible marine fields of up to 200nm from its coastline? Why do global energy giants play a key role in the geopolitical chessboard? Which different interests in the Eastern Mediterranean influence the East Med and Euro-Asia Interconnector project, and why does Greece play a key role in the development of a common energy future for the entire European Union? Is the Hellenic Sea Power in the Eastern Mediterranean able to protect the economic and strategic interests of Greece and is it a step towards the change of the geopolitical position of Greece in actual fact? If the exercise of the Hellenic EEZ in the Eastern Mediterranean is of strategic importance for the European Union, is this concept of a different magnitude to the dispute for the Aegean Sea and the Castellorizo island complex, as it is for Gavdos, the most Southern location point of the E.U.? Which outlook we have, if we make decisive movements with the connection to the EEZ of Cyprus and Egypt, and why do these steps lead us to a decision of geopolitical upheaval for the Hellenic Nation?!

2 Energy resources and economic upheaval

Regarding energy resources of the Hellenic Republic and Economic prospects South of Crete and in the Ionian Sea, there are promising expectations for discovery of natural gas and or oil. Despite the expectations in the Eastern Mediterranean, one important result of the protection of a Nation's prospects inside its Exclusive Economic Zone, is the exploitation of its mineral wealth within its Seas. The empirical analysis of this chapter shows the potential provided by the exploitation of Natural gas and oil for the Greek economy as part of a National strategy, which will give us a good overview of the chances an economic valuation of the Hellenic EEZ will have. Besides the issue of the EEZ proclamation, two main questions have to be answered regarding the Hydrocarbon Licensing Rounds:

a) The hesitation in investments by Energy companies because of natural gas or petroleum prices, which was around 110 dollars per barrel 10 years ago, as opposed to today's 39-dollar price that is around 60 dollar per barrel in recent years (Nasdaq 2019, 1).

One important factor that creates a problem in the investment environment of energy companies is the price of oil. In 2010, the Greek government was informed of the necessary initiatives it had to take to raise and exploit Greek deposits, where oil prices began to recover from around \$ 80 a barrel the graph is illustrating below:

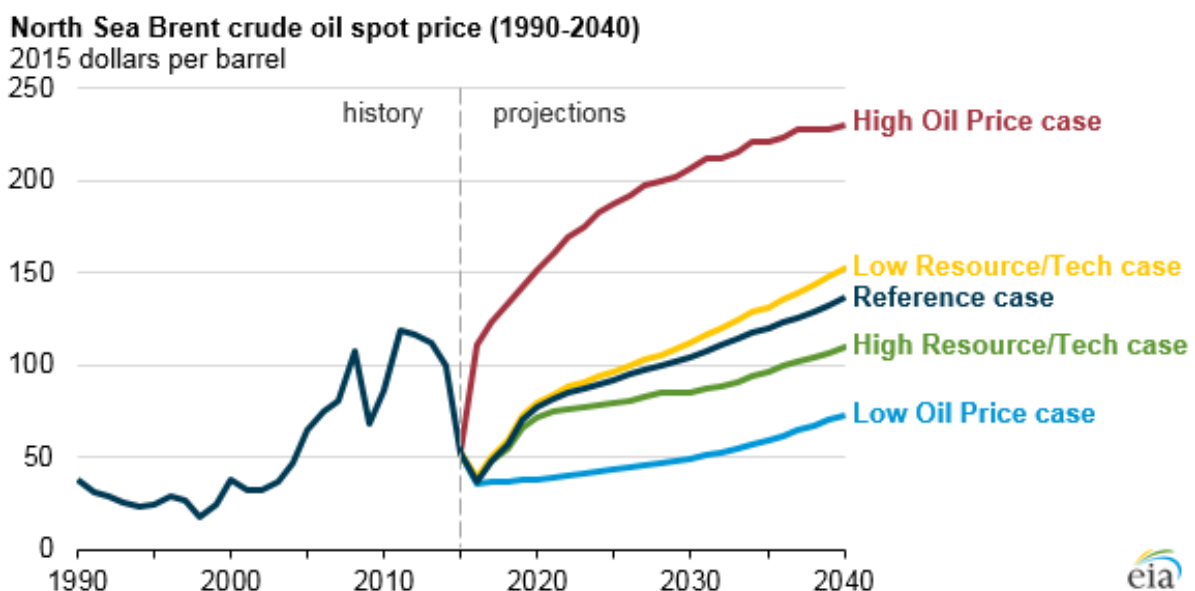


Figure 1 Crude oil price projections

(Singer 2016)

Taken into consideration the estimations of the Annual Energy Outlook 2019 of the U.S. Energy Information Administration (EIA), Oil and Natural Gas prices are affected by assumptions about international supply and demand and the development of U.S. shale resources (U. E. EIA 2019). The following trend is expected:

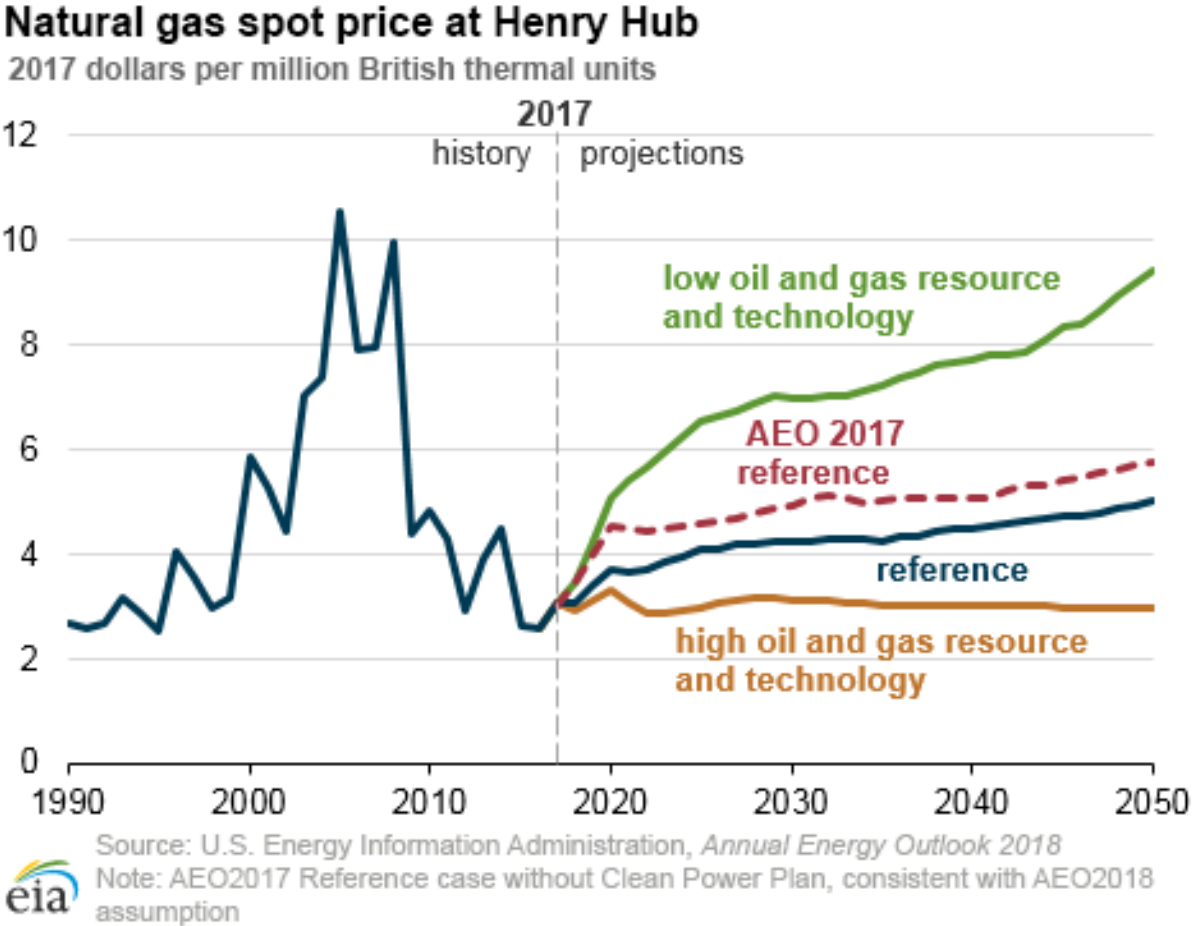


Figure 2 Natural gas projections

(U. E. EIA 2018, 1)

b) On the one hand, we could avoid the hesitation in regards to investments with a stable political and economic situation, and on the other hand we would normalize this situation with a better situation for investments. By adapting this context in a decision tree, we can see in detail how we have a progress in the notion of timing for the proclamation of the Hellenic EEZ.

This requires a strategic decision tree. Initially immediate enactment of the EEZ apart from the practical necessity, will transmit determination and seriousness outwards. Then progressively the delimitations with neighboring states which concern a cooperative framework will occur. We will see in detail in the next chapters.

2.1 Energean estimations and economic upheaval

In the Exclusive Economic Zone (EEZ), beside other fields of investment, as in Renewable Energy, minerals resources, fishing, a polycyclic effect of the EEZ is the development of the Hellenic economy, not only in the marine industry, but in the energetical and technological sector as well.

On the basis of Law 4001/2011 under paragraph 1 of Article 156 amended Article 2 of Law 2289/1995 (NATIONAL PRINTING HOUSE 2011, 3873) as follows:

«The right of research, exploration and exploitation of hydrocarbons present in land in under-lake and under-sea areas in which the Greek Republic exerts correspondingly sovereignty or sovereign rights in accordance to the provisions of the United Nations Convention on the Law of the Sea, as ratified by n. 2321/1995 belong exclusively to the Public and its exercise always regards the public benefit. »

This Law was the basis for the creation of the Greek Hydrocarbons Management Company (GHMC SA). The GHMC SA under the law, will manage the rights of the public research, exploration and exploitation of hydrocarbons, will organize the hydrocarbon licensing rounds in order to conclude in contracts for exploration and exploitation, will assess the applications and will grant the research licenses (NATIONAL PRINTING HOUSE 2011, 3873).

Published data exist from five large marine regions, according to Norwegian Nordic Explorer Petroleum Geo-Services (PGS) and Greek scientists' surveys, at an international conference held in Barcelona. The capital of Catalonia, invited the established convention of the American Association of Geological Petroleum (AAPG), which is considered an notable institution in the world oil industry, where over 1,000 scientists, engineers and executives from all major foreign oil groups presented the seismic data packages of "PGS" to be sold to major oil companies such as Italian "Eni", French "Total" and American "Chevron" and "ExxonMobil" (Fintiakis 2013, 1). Included is the area west of Corfu to the borders of our territorial waters with Italy, the corresponding area west of Kefalonia, the marine fields west of Katakolo and Pylos in the wider Gulf of Kyparissia as well as for representative points south of Crete, from the prefecture of Chania to the prefecture of Lasithi, near Koufonisi island. See here the graph of surveys in Greek seas.

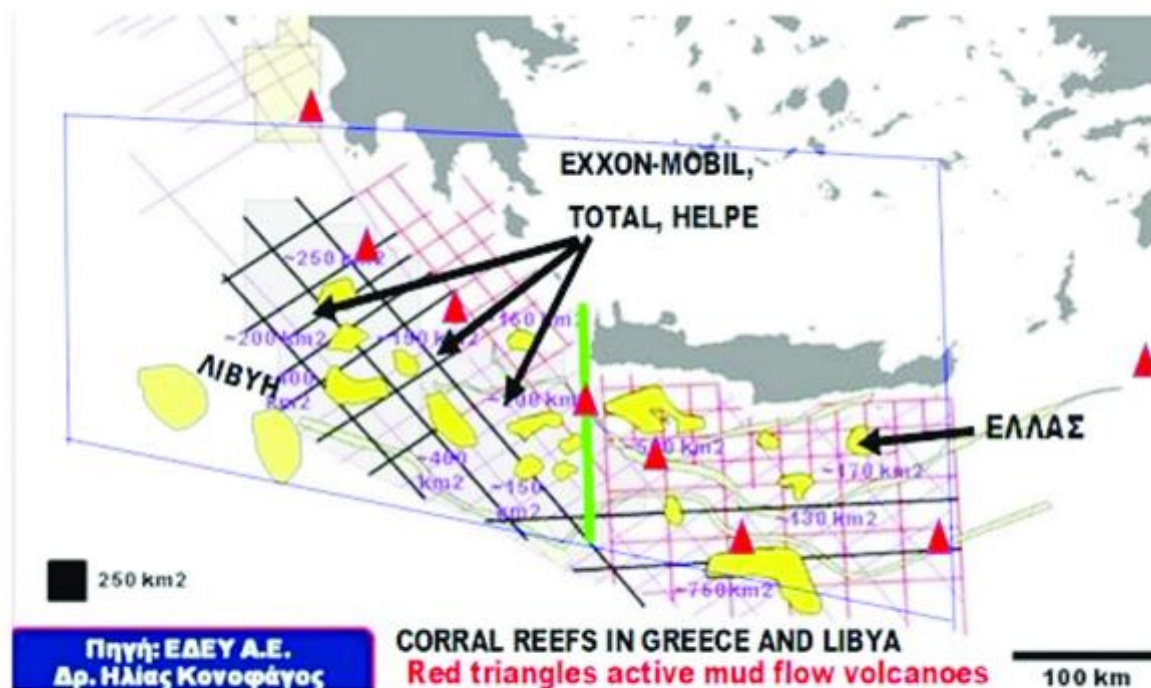


Figure 3 Fields of Research

(Tanea.gr 2012, 1)

In 2018, the findings at a newer conference with Jason Robinson, vice president of the commercial department of PGS, Dr Spyros Bellas, two scientists of the Ministry of Environment and Energy (ΥΠΕΚΑ), who were on board the Nordic Explorer during its four months trip from the Ionian sea to Crete, and Antonis Angelopoulos, president of the Association of Greek Geologists, published in a specialized international audience selected seismic tomographic images within the Greek seas at depths, from 3,000 km to 5,000 km, the deepest point of the Mediterranean near Pylos, where the Greek trench begins (Φ. Γ. Fintiakis 2013, 1).

Greek scientists of the EDEY / RIS presented the geophysical data of the Norwegian company PGS to also another two international conferences held in London in October 2017. These data showed that under Crete there are at least 16 exploitable natural gas targets / fields, see the map below.



Εικόνα 3. Στόχοι τύπου Ζορ δυτικά και νοτιοδυτικά της Κρήτης μαζί με τις τοποθεσίες των λασποηφαιστείων που εκλύουν φυσικό αέριο από τα μέσα του Τεταρτογενούς χωρίς να αλλοιωθεί το θαλάσσιο περιβάλλον (Μπασιάς, 10 Σεπτεμβρίου 2018).

Figure 4 Giant discoveries type "Zohr"

(Basias 2018, 1)

It is difficult to assess the exact quantities of natural gas we expect to find there before drilling takes place. Of course, a first estimate can be made based upon the number and size of the targets in comparison to those found within the hyper gigantic “Zohr” reserve of the Egyptian EEZ, which is also a coral reef, as are the targets below Crete. “Zohr” occupies an area of 100 square kilometers and a depth of about 700 meters with a deposit of 0.8 trillion m³ of natural gas (Νικολάου 2015, 1). Whereas, target reserves below Crete, southwest of Elafonisos, occupied an area of 650 square kilometers, a second target around the island of Gavdos extends to an area of 700 square kilometers, and a third one 190 kilometers south of the Heraklion Prefecture’s good ports of 750 square kilometers. If the depths of the coral reefs are as deep as the depth of “Zohr”, which can be determined by the geophysical data of the PGS company that carried out the studies, then the quantities of natural gas expected in only 3 of the 16 underwater deposits are about 16.8 trillion m³. This should be the minimum quantity south of Crete. The maximum is estimated at 27.2 trillion m³ of natural gas (Foskolos 2018, 1).

These quantities of natural gas transported in equivalent oil drums correspond to a minimum of 108 billion barrels of oil and up to 175 billion barrels of oil equivalent. Saudi Arabia reserves are in fact less than 100 billion barrels, although it claims it obtains 264 billion barrels. If the 264 billion barrels were the case, then they would not have an average daily production of 10 million barrels. Estimates of natural gas reserves below Crete will finally be confirmed by drilling which will begin by EXXON-MOBIL, TOTAL and ELPE as fast as it is technically possible (Foskolos 2018, 1). An indicator of scope and probability of successful discoveries through the exploitation of an exclusive economic right deriving from Greece's EEZ plots, is the sold data and the geophysical data, purchased by the consortium of EXXON-MOBIL, TOTAL and ELPE, as well as ENI, NOBLE and DELEK, as companies of great interest. A picture of the geophysical characteristics is shown below, illustrating the similar geology of Libyan Sea, close to the EEZ of Greece. The picture to the right showing the Cypriot-Egyptian geology and we see the same schemata of underground area which consists of a potential greater seize and therefore a big expectation of Natural Gas amounts to be exploited:

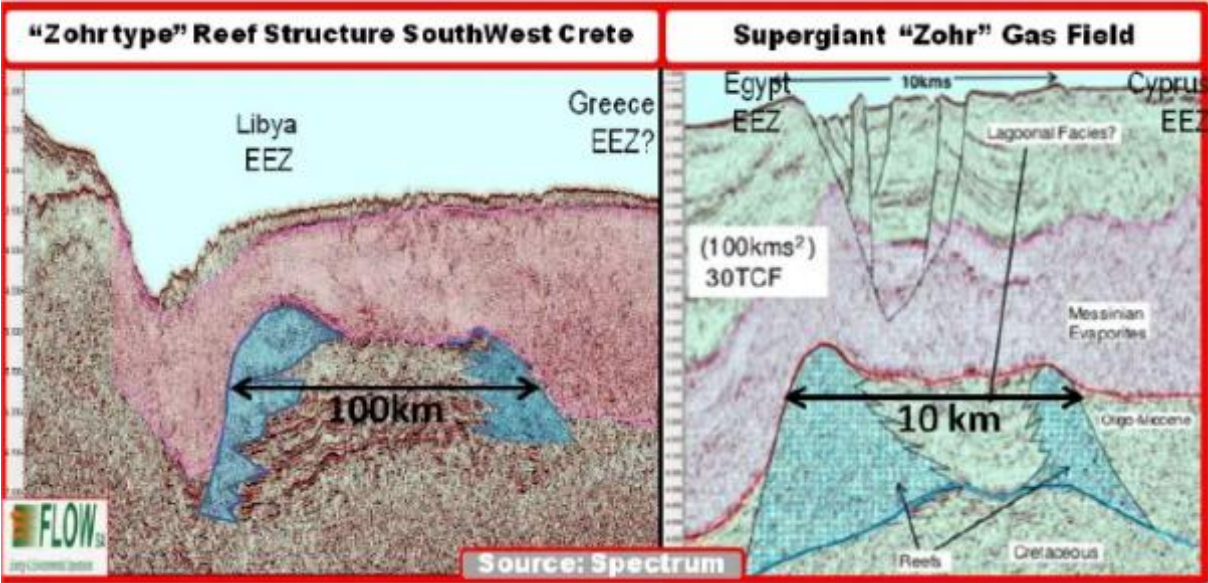


Figure 5 Giant discoveries type "Zohr", South-West of Crete

(Papasachos 2017, 1)

Therefore, the first three companies offered bids for the exploitation of 2 marine blocks situated, west, southwest and south of Crete, and which are 2 times larger than the Peloponnese as such, with 8 exploitable natural gas deposits, and have filed a research budget of \$ 12.5 billion, with the cost of each drilling at about \$100 million, it's obvious that these companies intend to make over 100 drilling attempts in order to discover natural gas. It goes without saying that all drillings will not occur in one year.

As a result, both the Greek state and the big oil companies accept that there are economically exploitable reserves under Crete, otherwise they would not take a coordinative risk of non-discovery (Foskolos 2018, 1).

If the value of natural gas reserves is based upon an estimation of 16.8 trillion m³ and a natural gas price of \$ 8/1000 per cubic feet or 1 Gigajoule (Gj), to \$ 4.746 trillion and based on 27.2 trillion m³ natural gas at \$7,689 trillion. 20% of the value of the deposits is taken by the State whereas 5% goes to Regional Crete. Upon on this estimation, the creation of tens of thousands of jobs can be created, lasting for at least 50 years with average earnings of 4000 euros per month. As the public expects to receive a benefit due to the employee's income taxes simultaneously (Foskolos 2018, 1), we will have a first economic effect for many years, which results to a steady benefit to the Greek economy and as an effect of tax income, to the Greek State. The same estimations for the potential discoveries were done at the Med Petroleum Summit organized by IN-VR Oil & Gas in 2018, which showed that the energian data in Greece has reached phase change. The President and CEO of the Hellenic Hydrocarbon Management Company, Yiannis Basias, clearly said that the natural gas in Crete (in the marine area south of the island) is estimated to be up to 30 trillion cubic feet. In terms of oil, the deposits amount to three billion barrels. This leads to an estimated income of about 600 billion euros for the Hellenic State at a depth of 25 years, where this money can start to flow into the State's funds from the start of the signing of the operating contracts, when received fees, created jobs, income from the exports and new secondary effects of economic growth changes the Greek economy (ToBHMA 2019).

In the graph below, we have an overview of the research plots, were licenses for the companies of exploration were given:

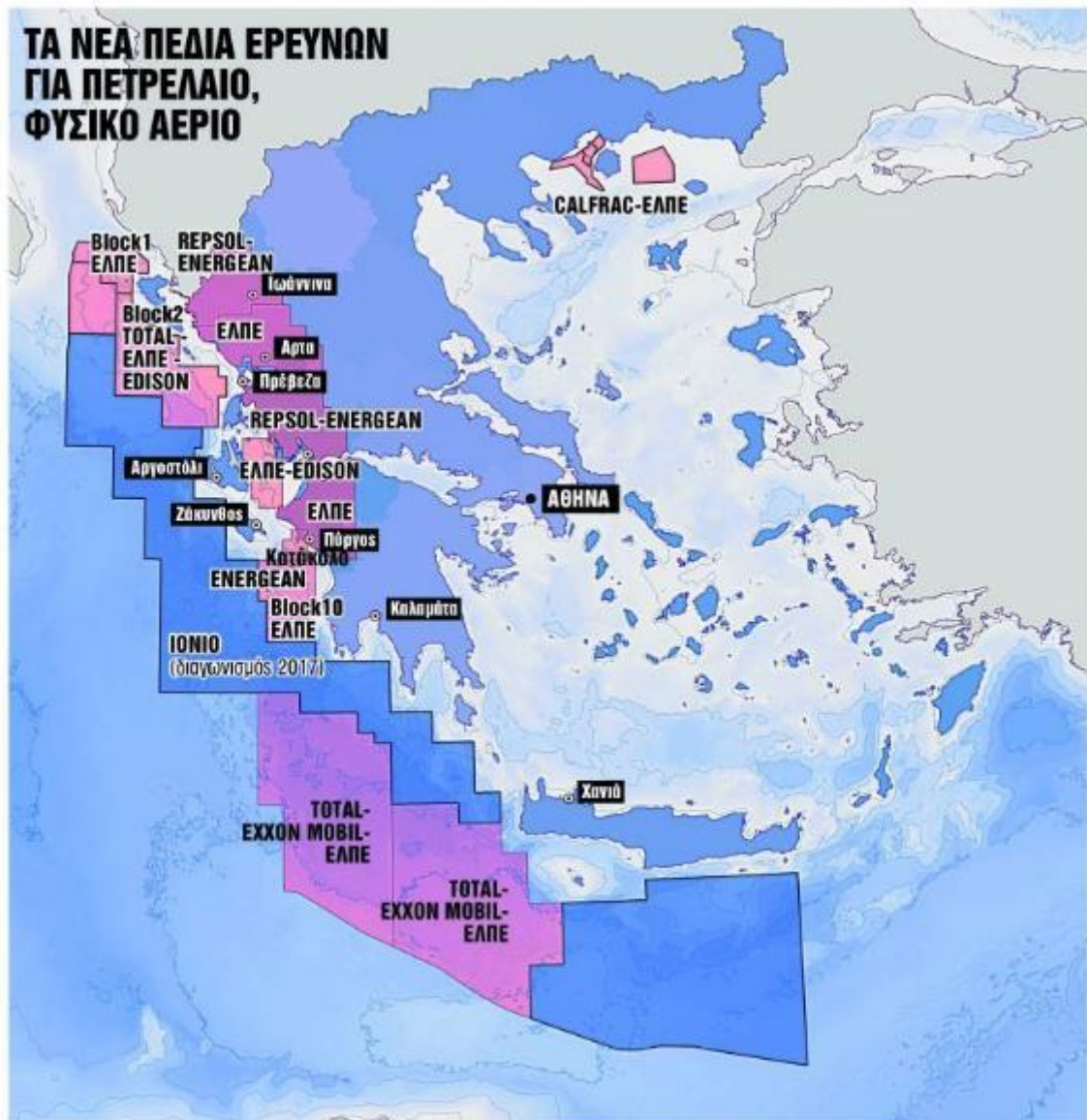


Figure 6 Fields of Research

(ToBHMA 2019, 1)

According to Mr. Basias (Bassias 2019 , 9), the estimates for the deposits are based not only upon the geological similarities between the regions of western Greece and those where the Zohr hypergigantic reserve was discovered, but also because of the similarities which exist in the areas south of Crete and those where the deposits Calypso and Onesiforos are located in Cyprus. Based on these geophysical data, expectations vary, but lie at least as much as the amounts of hydrocarbon discoveries, the map below is showing:

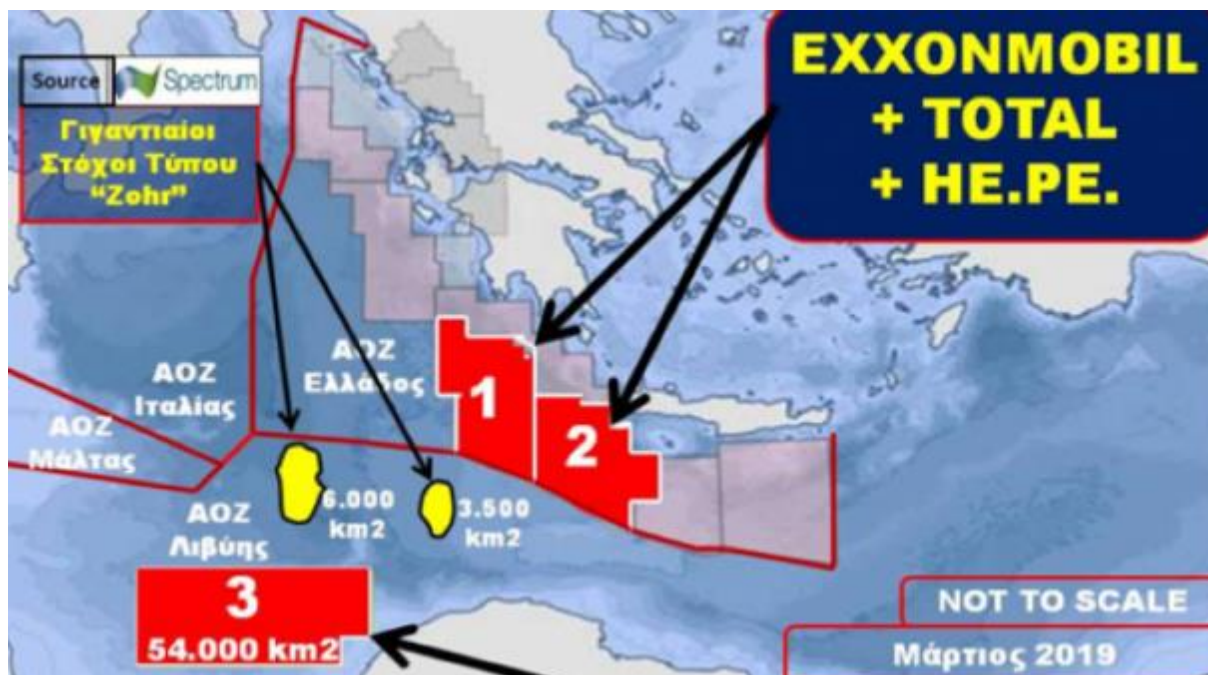


Figure 7 Estimated deposits of hydrocarbons

(Conophagos 2019, 1)

However, the affected countries must deal with high exploration cost, around \$100 million per drilling, as well as the complexity of getting into the markets.

These barriers are also a reason, that main actors like the Energy Giants “Exxon Mobil” and “Total”, as they not only have the capability to manage the costs, these companies have the technology and experience to make more successful findings possible, e.g. the new discovery on offshore Cyprus EEZ, named “Glaukos”, with a Natural Gas deposit of 5 to 8 trillion cubic feet and a high quality of Natural Gas (Νικολάου 2015, 1). For strategic reasons, the cooperation with the French “Total Group” and the American “ExxonMobil”, the largest oil company worldwide upgrades Greece as a country as well as an investment location. The estimated Natural Gas reserves due to seismic researches and similarities in the region, were a significant reason for the decision to invest and ask for a license in the two areas, South of Peloponnese and South-West of Crete as well, as shown below:



HYPERLINK "<https://www.iellada.gr/diplomatia/eni-kai-bp-miloy-n-gia-terastia-koitasmata-dipla-stin-kriti-kai-i-ellada-koimatai>"

Figure 8 Giant discoveries type "Zohr"

(Conophagos 2019, 1)

These two sea areas are 20,058.4 km² West and 19,868.37 km², were proclaimed as plots for hydrocarbon exploitation in 2017, following the interest shown by the companies themselves. The reason for the summary of the previous plots by the companies were less the sharing of non-discovery risks, than the increased chance to find Natural Gas and to create an incentive of higher benefits for the companies (Energypress 2016, 1). Here, the companies take into consideration the whole market development for energetic resources. Firstly, the global energetic resources will continue to grow as emerging markets increase their demands. Energy is one of the most growing markets for investments, where for years the oil production will continue to rise as prices remain high and even though natural gas has been the less desirable hydrocarbon, demand is emerging, while investors in liquefied natural gas (LNG) facilities are slowly catching up (Key industry sectors for global growth n.d.). Secondly, these global players from France and the U.S.A., are both members of NATO, permanent members of the U.N. Security Council and France like Greece is in the European Union. Of course, economic interests outweigh the security-related interests in the medium term, as affordable Energy is a must for this kind of investment, but in the long run the security aspects, like the access and

control of energy resources are at least equivalent. Especially considering the dependence of the respective European Nations for available energy, which is the same time affordable with competitive prices for the industrial and transport sector beside others (Eurostat 2017, 1).

Finally, Greece will have to open a very important decision tree relative to Methane Hydrates. The estimations of Energy organizations, as the U.S. Energy Information Administration (EIA) until 2013 were, that in a global context, the energy resources of the eastern Mediterranean represent less than 1 percent in regards to proven reserves of Oil and Natural Gas (U. E. EIA 2013, 4). The recent discoveries in Israel and Cyprus, and mostly the Hyper-Giant reserve Zohr in 2015, changed the estimations by significant levels. Zohr is now one of the 20th largest gas fields worldwide and all expectations by Energy companies, as the Italian ENI (Eni.com 2015, 1). Extractive industries require substantial infrastructure development to access remote areas, support extraction and transport products to market. Investing in infrastructure is a high potential to create jobs and boost employment. In we take the example of a case study by the 17th Africa OilGasMine Trade and Finance conference and exhibition (17th Africa OilGasMine Trade and Finance Conference and Exhibition 2015, 10), the spending of one billion dollars on road construction in the United States is estimated to generate about 6,000 direct jobs, 7,790 indirect jobs and 14,000 induced jobs. An economic effect of this job development is, that access to infrastructure services provides job growth by allowing businesses and households to increase their output and productivity, lower barriers to entry for start-ups, an economic effect of all key industries. IRIS, the International Research Institute of Stavanger in Norway, published a survey of employment in the industry, which showed a total of 330 000 employees, with 186 000 directly and 144 000 indirectly employed in petroleum and petroleum related industries in 2014 (Norskpetroleum 2014, 1). Here, we are taking into consideration Upstream, Midstream and Downstream activities of exploration of Natural Gas and oil, which creates much more jobs than a few hundred people on an oil platform. For Greece and the partners in the East-Med project, as well as other investing companies, the potential utilization of which will require hundreds of thousand people in the primary and secondary sector in depth of 30-40 years is a priority. The moment Greece will need at least two liquefaction plants for the exploitation of its reserves, it will take about 4.000 to 5.000 people to construct each of them and as a positive effect of a growing demand, both the primary and secondary sectors will create more than 100,000 jobs, according to an estimation of Dr. Antonios Foskolos (D. A. Foskolos 2019, 1). Having taken into consideration the growing effects of employment in key industries, like the energy sector, people will work progressively on each one of these plants for the next twenty-five years.

In view of the strategic reserves we have the reduction of global warming and the competitiveness in new technologies promoted by the EU. We could make a competition of (non) conventional hydrocarbons. Having comparable economic incentives - reciprocal benefits and the challenge of finishing the extraction process we will be led to decisions which unlock a strategic mix for Greece as well as the entire EU.

Opportunities

One important opportunity for the promotion and development of the Natural Gas energy sector is to apply for EU funding. This could potentially increase the starting capital of any energy-related project as well as its success. The EU Commission has developed and supported a lot of PCIs during the past years. This is obvious from the funding that many projects received from the EU. The Union wants to build a developed cross-border energy infrastructure which will consist of smart grids, cross-border carbon dioxide networks and natural gas infrastructure, all of which were part of the first call for proposals under the Connecting Europe Facilities (CEF) initiative.

The capital is heading towards projects that will strengthen the internal EU energy market, secure a constant energy supply and will help EU transition into clean forms of energy. Since 2014, a total of €2.5 billion in CEF funding has been awarded to 113 projects in the electricity, smart grids and gas sectors (EC 2018, 1). Also, in January 2018, the EU members have approved the Commission's proposal to invest €873 million in key European energy infrastructure projects.

A good example of a project that received CEF funding is the development of a Croatian LNG terminal and the construction of a liquefied natural gas evacuation pipeline from the terminal site in Omisalj to Slobodnica, a total of €16.4 million of EU assistance was granted to the project. Other examples are the CyprusGas2EU project (€101million) and the Malta-Italy Gas interconnection (€3.7 million).

As we can see our project that is related to energy can easily attract EU's attention and funding since EU could take advantage of the electricity generated through the natural gas power plant to increase other Balkan states energy security such as Bulgaria and Romania that have been highly dependent on Russian gas (LNGWorldNews 2018, 1).

This project can also be strongly correlated to other projects in the area that will increase its feasibility and sustainability. The planned construction of an LNG terminal near the northern

city of Alexandroupolis plays a critical role in the above-mentioned statement. The project is undertaken by Gastrade which is part of “Greek energy group” “Copelouzos”. The facility, has an estimated annual capacity of 6.1 billion cubic metres (bcm), and will try to supply natural gas to southeastern Europe via another natural gas pipeline scheme that will cross through Greece, the Greece-Bulgaria Interconnector (IGB). The IGB and the LNG terminal can also be connected to Trans-Adriatic Pipeline (TAP), which has been under construction in order to transport Caspian natural gas to European markets (Reuters 2018, 1). A second project is a 400kW interconnection line between the substations of Maritsa East in Bulgaria and Nea Santa in Greece and it will be of approximately 150 km in length. Based on the European Commission’s projections for the construction of the Greek part of this interconnector between Bulgaria and Greece, the target is to reinforce the existing 400kW regional grid, increase cross-border energy transactions. The project also will try to take in the expected future renewable energy generation in northeast Greece and in the northeast and southern regions of Bulgaria (Green Energy News 2018, 1). Both of these projects can increase our natural gas power plant significance and attract the attention of EU and potential future investors.

These projects can receive funding from the EU under the Connecting Europe Facility Initiative (CEF), it has to be included in the Projects of Common Interest (PCI) of the EU. So our project ought to have a significant impact upon energy markets and market integration of at least two EU countries, boosting in this way competition on energy markets and helping the EU’s energy security by diversifying sources as well as contributing to the EU’s climate and energy goals by integrating renewables in order to be included in the PCI list (INEA 2018, 1).

The total number of Greek scientists abroad in the middle of 2017 was estimated at more than 250,000, while 200,000 are estimated to have fled after 2010 (L. Labrianidis 2013, 8). The human factor, especially the one that has received a high level of education, is crucial for the growth of the Greek economy. The outflow of scientists abroad is a major loss of a developmental, social, cultural and national dynamics. This problem in Greece is caused by an inconsistency between supply and demand of highly trained personnel. On the one hand, there are a lot of graduates from Greek Universities and on the other hand Greek companies do not produce a lot capital intensive products that require a skilled workforce. For the above-mentioned reason there are a lot of skilled unemployed scientists that can be employed by us with a low cost. Besides EU subsidies from ESPA-related projects, the networking platform called, “Knowledge and Partnership Bridges”. As a national initiative of the General Directorate of Strategic and Private Investments of the Ministry of Economy and Development, important

preparations were realized by the National Documentation Centre of the National Hellenic Research Foundation since 2017 (S. a. Labrianidis 2019, 1).

The already mentioned Hydrocarbon Law 2289/1995 and amendment 4001/2011 provides that the region where the marine deposit is located and not the entire marine land that may be most affected will receive 5% of the Greek State's earnings and 20% with environmental and educational program objective (NATIONAL PRINTING HOUSE 2011, 3876). These funds can actually help the regions in their development and they incorporate this energy component in their strategic development so that residents can see in the most practical way all the benefits of utilizing Greek EEZ even locally. Another important effect is the workforce, which will be needed in future to fill thousands of jobs either in the primary field of hydrocarbons, or in the secondary. The preparation of higher education in Greece is necessary, as regards investing in quality undergraduate and graduate degree programs.

For this reason have been created the following masters: "MSc in Oil & Gas Technology" at the Technological Educational Institute of Kavala (TEI Kavalas 2016, 1), Graduate Program in module "Petroleum Engineering at the Polytechnic University of Chania, the Graduate Program in module" Petroleum Engineering sections participating: The Department of Geology, Aristotle University of Thessaloniki, the School of Mining Engineering - Metallurgy of the National Technical University, Department of Geology and Paleontology, University of Athens and the Economics Department of the Democritus University of Thrace. Greece also have a similar sector: "International and European Law of Energy" in the Faculty of Law Democretian University of Thrace, and the graduate program "Energy: Strategy, Law & Economy" at the University of Piraeus. These positive samples show, that Greece is able to proceed with programs in order to create opportunities to the research level, as this will enforce the emergence of even more jobs.

2.2 Economic perspectives with the usage of Liquefied Natural Gas

How could every sector of the Hellenic economy, reform its competitiveness and become a lucrative location of investments? The Hellenic Economy could withstand the financial and economic crisis, which endangered the wealth of many developed and developing countries in the inter-dependent economies of the EU member states as well as in the entire world. Direct investments can change the economic conditions of the entire region, as other countries in the European currency zone and its neighbours improved their current economic conditions in order

to obtain long-term stability and stable growth in the future. The natural gas reserves of Crete constitute a strategic advantage and there are many cases that we need to observe in regards to them. A strategic cooperation of the states, as well as the oil companies of the U.S.A., Egypt, Israel, Jordan, France Italy, Cyprus and Greece is evident as an alliance re: Energean security and economic interests is evident, while simultaneously, that forms the main driver of the “EastMed” and the “EuroAsia- Interconnector” pipeline which constitute projects of common interest. The natural gas resources of Israel are of great importance for the EU and this is a great opportunity for Israel to gain more energetic independence. The acceleration of natural gas production and marketing processes were delayed after the great discoveries in each of those countries EEZ's. For example, the Leviathan reserve which constituted one of the greatest discoveries for over a decade is not yet exploited. Furthermore, the EU cooperation with Israel is essential for the coherence of the Mediterranean and Europe's energetic security. Here, the project “EuroAsia-Interconnector” connects Greek, Cypriot, and Israeli power grids through the world's longest submarine power cable. That constitutes an additional major Project of Common Interest for the European Union and is seen as an energetic highway which is bridging Asia and Europe. Receiving natural gas from a pipeline or a Liquid Natural Gas (LNG) terminal, a connected or close to delivery-built power plant is making possible the transmission of the demanded volume of electricity from the distribution companies to the industrial consumers. To satisfy the growing demand for natural gas, production ought to expand into less prolific than the more expensive-to-produce areas, which will put upward pressure on production costs (AEO 2018, 63).

LNG technology is seen as a factor of decreasing production and delivery costs. One area of technology, which can be seen as a new positive development is the LNGL's proprietary Optimized Single Mixed Refrigerant (OSMR®) liquefaction technology, which has the prospect of lower capital and operative expenditures, e.g. LNGL has applied for patent protection for its OSMR® technology, which is believed that it will require notably lower capital investments, as well as lower operating costs (Edisoninvestmentresearch 2014, 3).

A new development of the Natural Gas trend is the widespread extraction of natural gas from shales, “Hydraulic fracturing”, a technique of unconventional gas production. Using a stimulation technique with a mixture of water, (gas-bearing) tight sands, fine-grained sandstones or carbonates with a low permeability, known as “hydraulic fracturing”, as a special recovery process and technology to facilitate gas, which is highly dispersed in the rock, rather than occurring in a concentrated underground location (EPA 2017, 1). This development

resulted in an expansion in US natural gas supply that was not expected two years ago. After a predicted period of relatively low natural gas prices, the natural gas industry and its partners are heavily promoting gas-fired power generation as part of the solution to global warming. How much extraction from shales will become common in other parts of the world is an unanswered question today, but if the trend develops it will have consequences for other types of generation (Breeze 2010, 135). Liquefied natural gas (LNG) has become a competitive and sustainable option for energy production, be it electricity, heating or other global commodities. With the technology of LNG, it is possible to use re-gasified LNG from any receiving terminal, trading the same resource in order to prepare for energy production and immediate consumption. LNG is already shipped in special ocean-going ships (tankers) between export terminals where natural gas is liquefied, and import terminals, where LNG is returned to its gaseous state, is seen for many countries as a flexible energy production, (EIA, <https://www.eia.gr> 2018, 1) where demand can be adjusted if needed.

An important element here is the improved economic relations of Cyprus with its neighbouring States and the natural gas discoveries within the EEZ of the Republic of Cyprus, Israel and Egypt lead to an additional political platform called East Med natural Gas Forum (EMGF), where the cooperative countries cooperate in the extraction, production, transportation and distribution of both oil and natural gas within the Eastern Mediterranean. The participating states of the organization “EMGF” are Egypt, Cyprus, Greece, Italy, Israel, Jordan, and the Palestinian Territories and a good will is obvious for future chances in order to overcome political differences and disputes in the future due to a closer cooperation in the economic sector (Geropoulos 2019, 1).

The European Union promotes the energetic integration of the projects such as the “East-Med” and EuroAsia-Interconnector, which for the EU constitute Projects of Common interests (PCI) in order to enforce an energetic network in Europe. The export of natural gas allows the supply of natural gas both to the Egyptian domestic market as well as to further away exports to 3rd countries, improving the development of the Egyptian, Cypriot and the Israeli economies after the first effects, e.g. the increase of each states’ Gross-Domestic Product (GDP), the map below indicates.

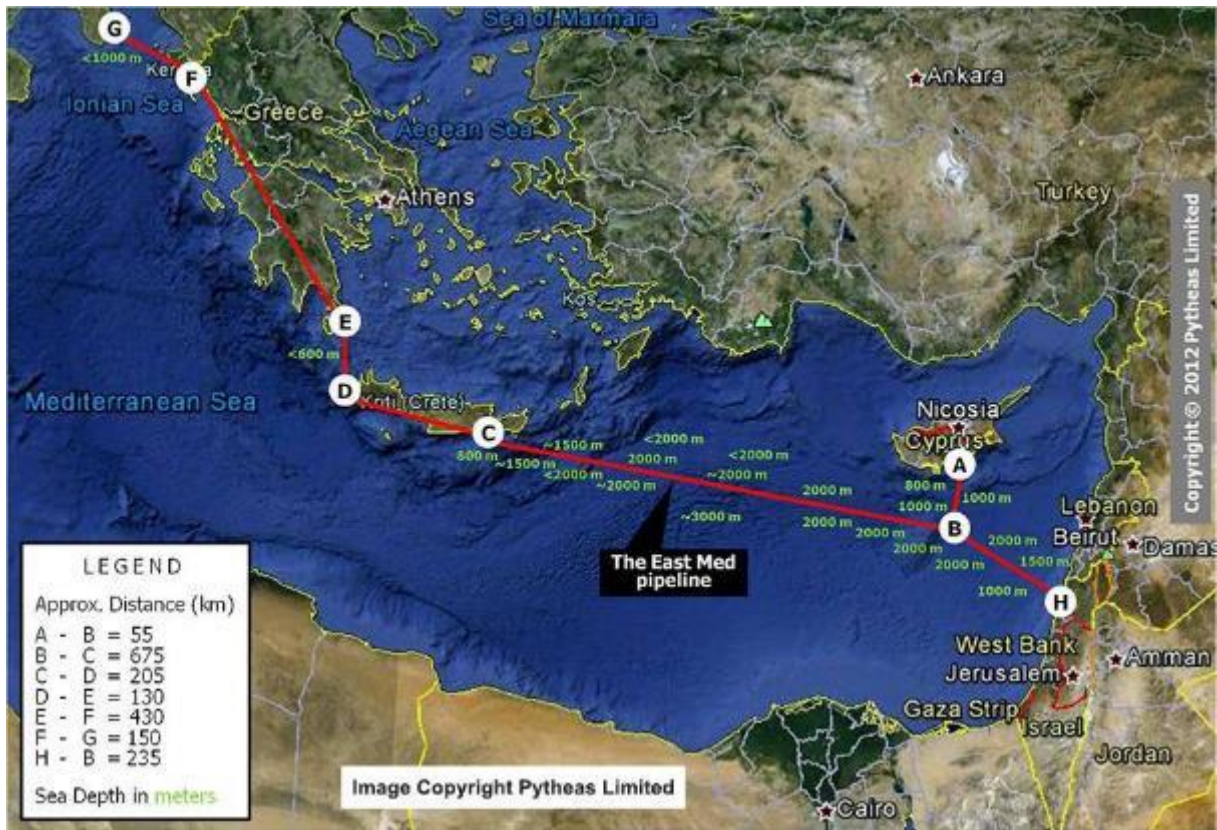


Figure 9 East-Med Pipeline

(Pytheas 2014)

The decisions which have been taken or should be taken in the future will be influenced mainly by common interests in the Eastern Mediterranean. This framework will enforce the East-Med Energean networks which constitutes project of Common interests (PCI) for the EU.

Elias Konofagos, former General Director of the Hellenic Petroleum – Upstream Oil and Gas Division and President of the Energy Committee of the Academy of Athens and Nikos Lygeros (Konofagos 2015, 1), who worked inter alia as strategic advisor of the Greek military, proceeded in the following analysis for the strategic usage of LNG as an energy source:

<< According to the more accurate seismic data, we have many deposits at different depths depending upon which of the marine blocks from 12 to 20, those reserves are located at. That is a strategic level in terms of exploitation and it becomes the initiation of a new energetic infrastructure. >>

An example you can see on the map below:

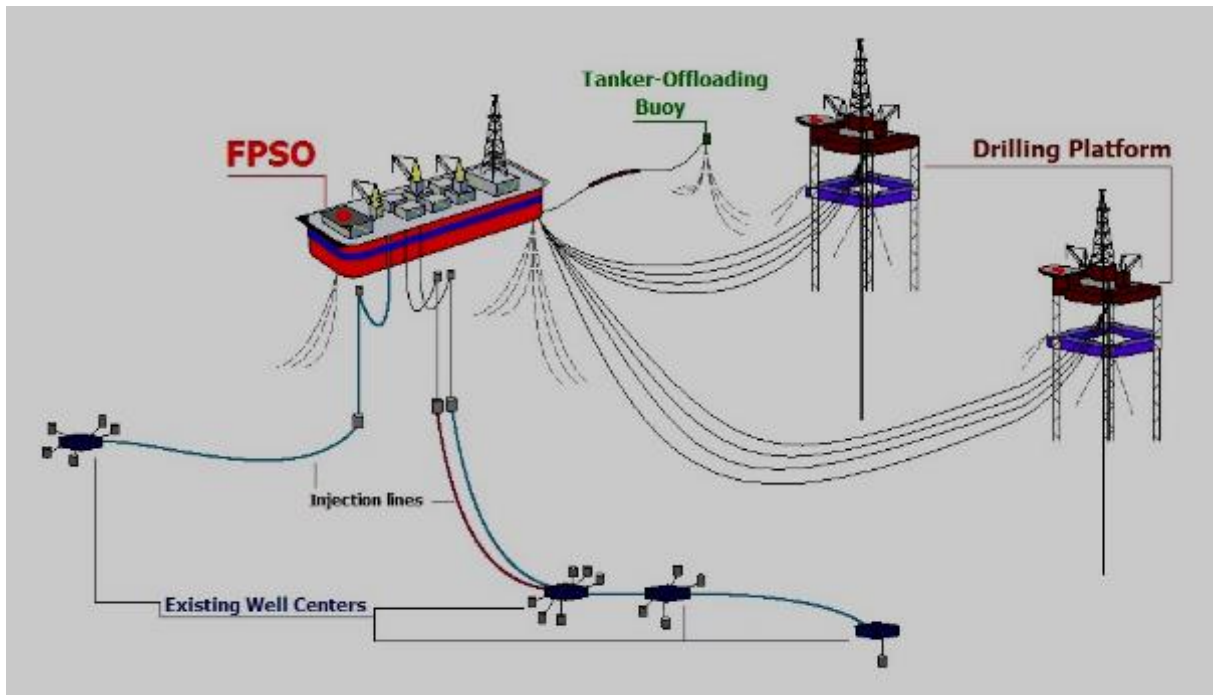


Figure 10 Floating Liquefied Natural Gas (FLNG)

A Floating Production Storage Offloading (FPSO) as alternative solution for the estimated Natural Gas deposits in Cyprus, Egypt, Greece and Israel in regards to the necessary infrastructure is possible. If the deposits are relatively close to land, a landfill may be established. If the deposits are distant and have to be transported over long distances and there is easy ground for laying a pipe, the same is applicable. Should there be a huge difficulty for the pipeline, the FPSO is the fitting solution. This system uses a converted natural gas processing tanker and storage space. If an LNG production on the ground is needed, there is a FLNG solution called Floating Liquefied Natural Gas. And this method, depending on needs and requirements, has different scales and is purely a matter of strategic will, because the technical solutions for South of Crete are ready-made (Conophagos 2015, 1).

About the gasification stations in the EU and countries in the Mediterranean we have several gasification stations in Spain, France and recently at Revithoussa in Greece. Revithoussa despite transportation system upgrade, will require even larger investments for the future. A preparation in areas of Greece, including the ports of Piraeus, Thessaloniki and Kavala as well as Alexandroupolis is needed as well, starting specific studies not only tin order to manage the natural gas in Cyprus later on, but also to be prepared for our own quantities upon the

declaration of our EEZ. A big relief in this context was the ASFA (gastrade) of Alexandroupolis, the Independent System Natural Gas of Alexandroupolis represents a modern, innovative and high-tech project that is consisted of an offshore floating receiving unit, a storage and gasification of Liquefied Natural Gas and of a submarine and an onshore pipeline system from where natural gas will be forwarded to the National System (Transport) natural Gas (ESFA) and from there to the end-consumers (ASFA 2013, 1). With the creation of sufficient storage and infrastructure traffic we will promote benefits that will determine the port of Piraeus in transit as well. It is worth mentioning that the port of Piraeus will commercially connect Asia with the West, it will have cheaper and shorter transfers in contrast to the Northern European and the Black Sea ports, therefore Greece is be able to accommodate large commercial vessels, and finally, there will be no time gaps in functionality because of good weather conditions, which would be obviously advantageous to the Greek Nation and would make Piraeus a world trading player (Tzanetis 2015, 1).

Several lecturers at the World Gas Conference in Paris, France studied the aspects of the global market for natural gas. They come to the conclusion that until 2030 Natural gas demand is expected to double and for this reason Europe must have the infrastructures to support it. Since the events of Fukushima the market was concentrated on Asia but will slowly return to the West by Europe playing a balancing role mainly because of the available quantities that Europe will have (Leifheit 2015 , 1).

2.3 Ecological aspects associated with the exploitation of Natural Gas

The objective of greenhouse gas emission reduction, endorsed by the European Council in March 2007, is to reduce EU emissions by at least 20% by 2020 compared to 1990 levels, and by 30% if other industrialized countries commit themselves to pay similar efforts in the context of a global agreement on tackling climate change after 2012. The energy sector, which is collectively responsible for about 78% of total EU greenhouse gas emissions, agriculture (10%), followed by industrial processes (9%) from the period of 1990 – 2017, according to the Annual European Union greenhouse gas inventory 1990 – 2017 and inventory report 2019 (Juvyns 2019, 1). A focus therefore should always be the energy resources, the effect of the same resources for the environment (not only the climate).

Currently, the European Commission assigns emission rights to the Member States for the distribution to each installation at a later stage. At the end of each year, installations ought to

return the rights charges corresponding to emissions produced. Businesses that keep their emissions below their rights can sell their rights over. Those who have difficulty aligning emissions with their rights can choose either to take measures to reduce their emissions - for example to invest in more efficient technologies or to use less carbon-intensive energy sources - or to buy the additional rights they need on the market, or a combination of these two possibilities. A determining factor for these choices is probably their relative cost. In this way, emission reduction is achieved with the best cost-effectiveness ratio.

The EU Emission Trade System (ETS) was launched on 1 January 2005 and from the beginning of the first commitment period of the Kyoto Protocol, during which the EU and other industrialized countries have to meet their targets for reducing greenhouse gas emissions. The revision of the Directive by the European Commission (EC) balances the need for economic efficiency and fair sharing between industries and Member States, ensuring greater predictability for industry. It establishes a predictable trend of emission reductions which the sectors covered by the ETS are required to achieve. Energy-intensive industries, but also energy-intensive services which need low-cost energy and incentives to use energy resources with low output of greenhouse gas emissions (E.C. 2015, 1).

The methane hydrates belong to the non-conventional hydrocarbons because it is not technically feasible to be mined yet. The methane hydrates are substantially natural gas entrapped into ice. They are enriched in water and have been solidified by high pressure and low temperatures that prevail in deep sea areas. We know about their existence since 1930. Methane is a greenhouse gas with a global warming potential of 28, which is 28 times more potent than carbon dioxide over 100 years. In the last years the energy attention has strongly turned to this because the Japanese company JOMEG has confirmed the production of methane's gas from hydrates' layers in 2013 and is targeting that five years from now there will be actual gas production from it (Gayle 2013, 1). The global reserves that researchers expect in methane hydrates are up to at 21,000 trillion cubic meters, recent estimates who are focusing on the rate of fluid flow within the sediment column are around 3000 Gton (C) carbon in clathrate and 2000 Gton C in methane bubbles (Buffett 2004, 1). It is important to note that methane hydrates combine a unique analogy. Exploiting such large amounts of energy instead of uncontrolled escape as it is the case in many regions by nature, would reduce the global warming phenomenon by thirty times. The reason for that is that "We have entered into a vicious cycle." As the temperature increases, the temperature of closed seas increases even more, with more methane released into the atmosphere and a further temperature rise. Therefore, because the methane (being released

gradually from the sea area) is thirty times more toxic than Carbon Dioxide, its combustion will convert it into Carbon Dioxide (Anderson 2014, 1). Greece is estimated to have the largest reserves of methane hydrates in Europe and this is supported by European Union institutions including Geophysics of Trieste, GEOAZUR of France, University of Barcelona and University of Bremen.

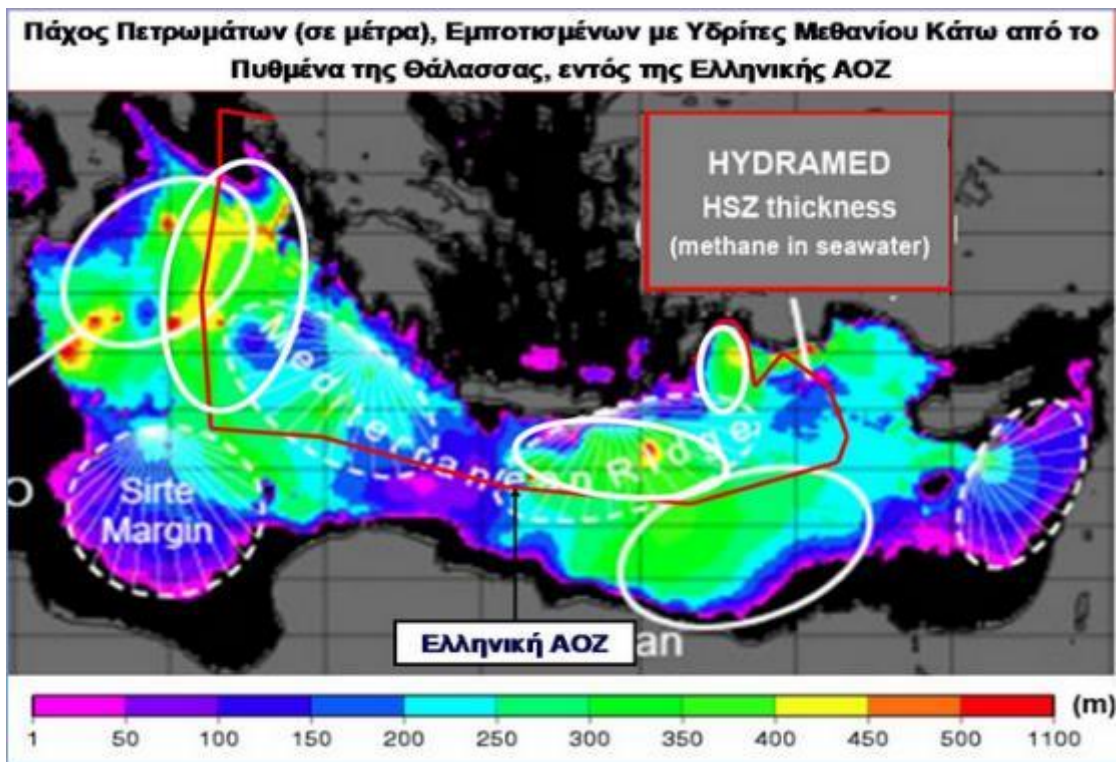


Figure 11 Greek Methane Hydrates

(Lygeros 2014, 1)

The major areas as shown in the picture above are south of Crete and in the Castellorizian area as well, where there is an estimated 40 trillion m³ of natural gas, Lefkada and Preveza, where there is an estimated 10 trillion m³ of natural gas. We have a total of 50,0 trillion m³ of natural gas. These data could represent four hundred years of energetic Greece and could effectuate 1,765 Trillion dollars toward the Greek state, in a depth of one hundred years, based on calculations by Dr. Antonis Foskolos and Dr. Nikos Lygeros, with the overall estimation of the Natural Gas reserves in the Greek EEZ (Foskolos 2014, 1). It is also a major question for future generations to use this chance of minerals Nation wealth, be it for Greek or other European end-consumers. Here, we can combine economic with ecological targets and take a first step for the reduction of greenhouse gas emissions. As a second step, the increase of sustainable production

alternatives with renewable energy resources will be realized up to the point it is possible for mankind. As the main promoter and pioneers of Green energy and climate protection, the European Nations are supporting cleaner energy resources for the production of electricity like Natural Gas as an alternative to lignite or oil. For the islands of Crete e.g., we have a concrete improvement of the environment as a result of the exchange of heavy oil with Natural Gas (LNG), detecting the nature landscape around the Cretan ports of LNG tanks traffic. This new green infrastructure can be used as a paradigm for future European and Non-European importers of Natural Gas.

2.4 Combined Cycle Units, Natural gas and its advantages

Natural Gas (NG) as a source for energy production, be it heat source or just electricity, changes the industrial sector of energy production of Greece. The key feature of the combined cycle units is the use of the exhaust gas heat of one or more gas turbines, in order to produce steam, in a steam generator, and then to move a steam turbine. The structure of such a unit is like the lignite unit with some differences: the fuel raw material is NG, and so there is no need of a dryer, conveyor belts and mill. Furthermore, there are no particles in the pollutants, which are settled on the steam generator pipes. The advantages of such a combined cycle unit are the following:

1. **Efficiency:** Is defined as the usable electrical energy generated from the plant's divided by fuel energy. The expansion of the gases from the combustion chamber as well as the use of the exhaust gases, leads to highly increasement of the efficiency, due to their high temperature, and it reaches to 55%, which is 20% more than the efficiency of the traditional thermal units. Combined Cycle Power Plants (CCPPs) today achieve efficiencies ranging from 52 to 61%, depending on the above factors and on environmental conditions such as air inlet and cooling temperatures, and fuel utilization rate (including the use of commercial heat) of above 85% with CO₂ emissions of less than 325 g/kWh.
2. **Fast response to disturbances:** Gas turbines have a high take – up rate (20% per minute).
3. **Environmentally friendly:** The emissions are considerably lower than other fossil fuel thermal plants, not only due to the relatively high combined cycle efficiency, but also the high proportion of hydrogen relative to methane (CH₄), the key component of the natural gas. Furthermore, the usage of catalysts, diminish the emissions of nitrogen

oxides and sulphur, as well as, carbon monoxide, are reduced to much lower levels than those of other thermal production units.

4. **Cogeneration:** In cases where there is a simultaneous demand for electricity and heat, cogeneration can take place. (Γρηγόριος 2010, 1)

Even though, the Combined Cycle Units have been applied in power plants since the 1970s, in the 1990s the use of that technology for the production of electricity became more famous, due to the low emissions. Comparing the efficiency and the greenhouse emission levels of all type of fossil power plants, the combined cycle power plants (CCPPs) constitute the most sustainable, more efficient and reliable power generation technology available at present. Furthermore, CO₂ emissions, from this type of a power plant, are around 57% lower than those from state-of-the-art hard coal-fired plants. (Willnow 2013, 1)

But what makes the CCPPs take over the old-fashioned plants? They are based on the latest developments in gas turbine technology that allows the highest mass flow, lower losses in compressors, turbine inlet temperature above 1,500°C and optimized pressure ratios to meet also the requirements of a high-temperature steam end. Fully water-cooled generators and high-temperature steam turbines also contribute to the lowest CO₂, NO_x and SO₂ emissions as well to the highest efficiency for all fossil power plants. By using innovative steam generators, in the associated steam/water cycle, the power plant accomplishes the increasement of the efficiency from around 50% to 60%, over the past years (Willnow 2013, 1).

CCPP plants have been constructed in several countries all over the world. the five biggest CCPPs in the world are placed in Japan (3), in Russia and Taiwan.

In Greece there are 6 CCPPs: one in Korinthos with capacity 434MW, one in Agios Nicolaos in Viotia, with capacity 420MW, (www) one in Lavrio with capacity 378 MW, (www1) in Thessaloniki with capacity 400MW, in Thisvi in Viotia, with capacity 420MW, (www2)one in Komotini with capacity 476 MW (Komotini power plant 2004) and there are plans for one more in Alexandroupolis (Copelouzos.gr 2010, 1).

Other Advantages & Disadvantages of Gas turbine power plant

To begin with the pros of the CCPPs:

1. Natural gas is very suitable fuel and where this is available cheap, it is an ideal source of power in gas turbine.

2. Gas turbine plant is smaller in size and weight compared to an equivalent steam power plant. For smaller capacities the size of the gas turbine power plant is appreciably greater than a high-speed diesel engine plant; but for larger capacities it is smaller in size than comparable diesel plant. If size and weight are main considerations such as in ships, aircraft engines and locomotives, gas turbines are more suitable.
3. The initial cost is lower than an equivalent steam plant.
4. It requires less water as compared to a steam plant.
5. It can be started quickly and can be put on load in a very short time.
6. Maintenance cost is low.
7. Any poor quality and wide variety of fuels from natural gas to residual oil or powdered coal can be used.
8. The exhaust of the gas turbine is free from smoke.

However, no one can deny that no technology is a panacea. Every new discovery has its disadvantages too, as the CCPPs. The disadvantages of that plant are following:

1. Major part of the work (66%) developed in the turbine is used to drive the compressor. Therefore, network output of the plant is low.
2. It requires special metals and alloys for different components because the operating temperature (2000°C) and speed (100,000 rpm) are very high.
3. Part load efficiency is poor compared to diesel plant.

Comparing the above mentioned, it is obvious that such a power plant is seen as eco-friendly, and can produce more in a shorter period, comparing to traditional power plants. (Mechanical Engineering 2012, 1)

The effects of an economic development, utilizing Natural resources and the Greek shipping fleet, while creating a new infrastructure for energy, makes urgent a decisive Greek Foreign policy, responding to the new challenges in the Eastern Mediterranean. The framework conditions of energy infrastructure and economic development are also influenced by Cyprus, which is of greater strategic importance to Greece than ever before. How the Cypriot EEZ is interconnected in actual fact with the Hellenic EEZ and Greece's geopolitical goals, will be described in the third chapter.

3 The EEZ of Cyprus and geopolitical goals of Greece.

The promotion of the energetic integration of the East-Med pipeline, as well as the Euro-Asia Interconnector, is not only an economic benefit for the cooperative players, but from strategic interest for Greece, as it is able to increase its geopolitical role in the region. The following chapter will show the effects of the Cypriot gas discoveries for the expectations of Natural Gas and oil exploitation within the Hellenic EEZ. Additionally, the successful implementation of main energetic projects as the EuroAsia-Interconnector with the involvement of Cyprus will illustrate, that it is in the interest of the Greek Foreign Policy and as a result makes possible a geo-economic upgrade of Greece to be part of an Energy Hub of the European Union.

3.1 The EEZ of Cyprus and exploitation of its discoveries

After a strategic move regarding the delimitation agreement of the exclusive economic zones between the Republic of Cyprus and the Arab Republic of Egypt on the 17th of February 2003 (UN, Division for Ocean Affairs and the Law of the Sea: "CYPRUS", United Nations, Office of Legal Affairs, 2004, 1), a new strategic cooperation with the neighbouring countries begun. In 2011 Lebanon and Israel (UN 2011, 1) (UN 2011, 1), agreed to the delimitation of the EEZs with Cyprus as well. As in the case of Cyprus a part of its EEZ overlaps a part of another one country's EEZ, whose coasts are located opposite those of Cyprus, the delimitation of the two EEZs took place after their agreement, in accordance with the national law of Cyprus Law 64 (I) of 2004 (Cypriot Ministry of Foreign Affairs 2016, 1). If the agreement does not take place, then the rights of both states are until the middle of the two states' distance from the two base lines from which is measured the sea side (Kariotis 2012, 1).

These agreements, combined with the discovery of large volumes of energetic mixture (Israel, Cyprus, Egypt & Greece), constitute factors of mutual strategic benefits for all involved players. This was all triggered by the discovery of the large reserves in both Leviathan and Tamar within Israel's EEZ, which was accompanied by the great discovery in the Aphrodite natural gas reserve within the Cypriot maritime block 12 (Panagoulis 2018 , 1). At the map below (Conophagos et. al. 2016, 1) there are presented various research marine blocks, presented with the research permits given to the southern part of the EEZ of the Cypriot Republic. Maritime blocks "2", "3", "9" in ENI / KOGAS, maritime blocks "10", "11" in TOTAL and "12" in NOBLE / DELEK.



Figure 12 Marine blocks Cyprus

Regarding the Aphrodite deposit (maritime blocks 12), until 2015 there were already exploitation plans with the construction of a Liquefaction terminal at Vasiliko, based on initial estimates, after the first drilling A1. Estimates are talking about discovering 5-8 tcfg (trillions cubic feet of natural gas) (Nikolaou 2015, 1). The discovery of the hyper-gigantic Zohr reserve in 2015 within the Egyptian EEZ (containing 850 billion cubic meters of natural gas) was quite decisive as it was located close to the maritime block within the EEZ of the Republic of Cyprus (Nikolaou 2015, 1). The presence of “ExxonMobil” within the Cypriot EEZ, which is the largest oil company worldwide in collaboration with another giant “Qatar Petroleum”, regarding the exploration of the more promising maritime block 10 of the Cypriot EEZ is of particular interest. The recent entry of the French Total consortium with Italian ENI into the 7th block of the Cyprus Exclusive Economic Zone with 50-50%, as well as the entry of the French energy colossus in blocks 2, 3, 9 and 8, demonstrates once again the long-term interest of France and Italy to invest in the Energy exploitation of Cypriot mineral richness. In particular, Energy Minister Giorgos Lakkotrypīs Mr Lakkotrypīs announced that the Council of Ministers approved the licensing of Item 7 in the 50-50% Total and ENI consortium and Total's entry into the remaining ENI divisions that were not licensed by Total, in particular Total in block 2, where Total will enter with 20%, in block 3, where it will itself enter with 30%, in block 9, where the French company will enter with 20%, and in block 8, where Total will enter at 40%. He recalled that in block 8, ENI was 100% (Euro2Day 2019, 1).

In an official statement of the 30th of July, 2019, the minister noted: << "We believe that this arrangement will strengthen the consortium both technologically and in a geopolitical context - all necessary to enable them to proceed seamlessly with their drilling operations".>> (Euro2Day 2019, 1)

For pieces 2, 3, 9, where ENI had 80% and Kogas 20%, the minister explained that Total would receive the percentages from the Italian colossus, see the map below.

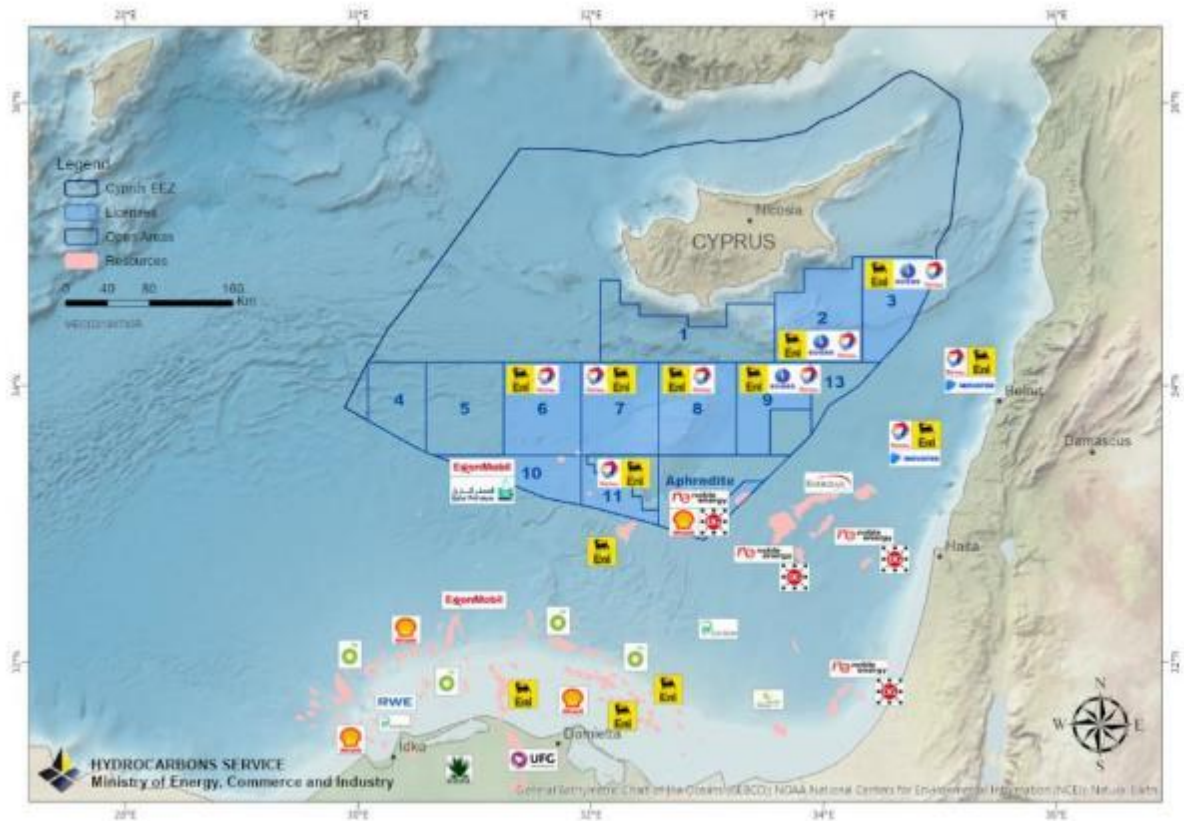


Figure 13 Consortia EEZ Cyprus

(Christou 2019)

Minister of Energy G. Lakkotrypīs said that it is estimated at the end of 2019 with the beginning of 2020 to have a total of nine boreholes from all licensees in the Cyprus EEZ for the next 24 months. These are exploratory and confirmatory drills, he said. This ruling creates a Franco-Italian umbrella in the EEZ, where the French have shown the strongest determination to defend their interests, which is why President Anastasiades promoted it (Euro2Day 2019, 1).

3.2 The EEZ of Greece and potential discoveries

One reason for Greece to protect the rights of the Cypriot EEZ, is the connection with the Hellenic EEZ due to the island complex of Castellorizo. This connection is part of the strategic claim from Greece for the Herodotus basin, and is characterized with the same geological similarities (physiography) for potential discoveries as was in the Levantine Basin case. Years ago, the French institute for Petroleum (IFP) in 2010, as well as further studies from the Beicip-Franlab International Oil and Gas Consulting, showed results of electro-magnetic research in the region of the Greek Sea borders between Greece and Cyprus, which is seen in the map below:



Figure 14 Geophysics Greece-Cyprus

(Conophagos 2011, 9)

The same estimations due to the geological physiography are done from Dr. Nikolaou, Konstantinos, technical Advisor for Energean Oil & Gas, where he compares the discoveries in Cyprus and Israel, which have the same physiography with “Messinian Salt”, see below:

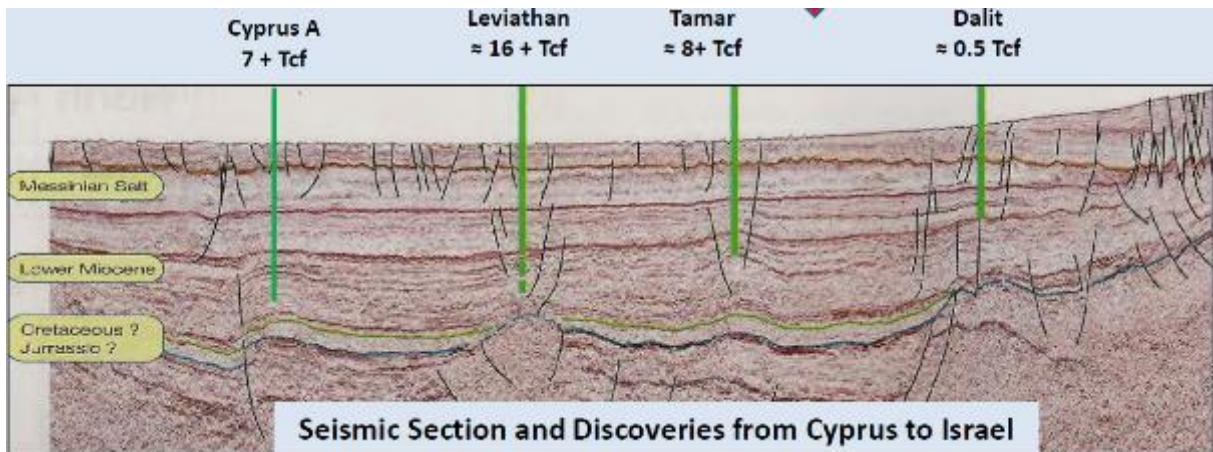


Figure 15 Seismic similarities

(Nikolaou 2012, 22)

Finally, we have a better overview for the geological similarities and expectations due to electromagnetic research for the sea regions of Eastern-Greece and Egypt, where Egypt started to utilize its successful discoveries, as after the finding of the hypergiant deposit “Zohr”, the offshore prospect “Nour” was announced by the Italian company “ENI” (Sertin 2019, 1). As we can see, the gas fields in the North of Egyptian EEZ Unit are close to the Hellenic EEZ, which have similar characteristics of the physiography.

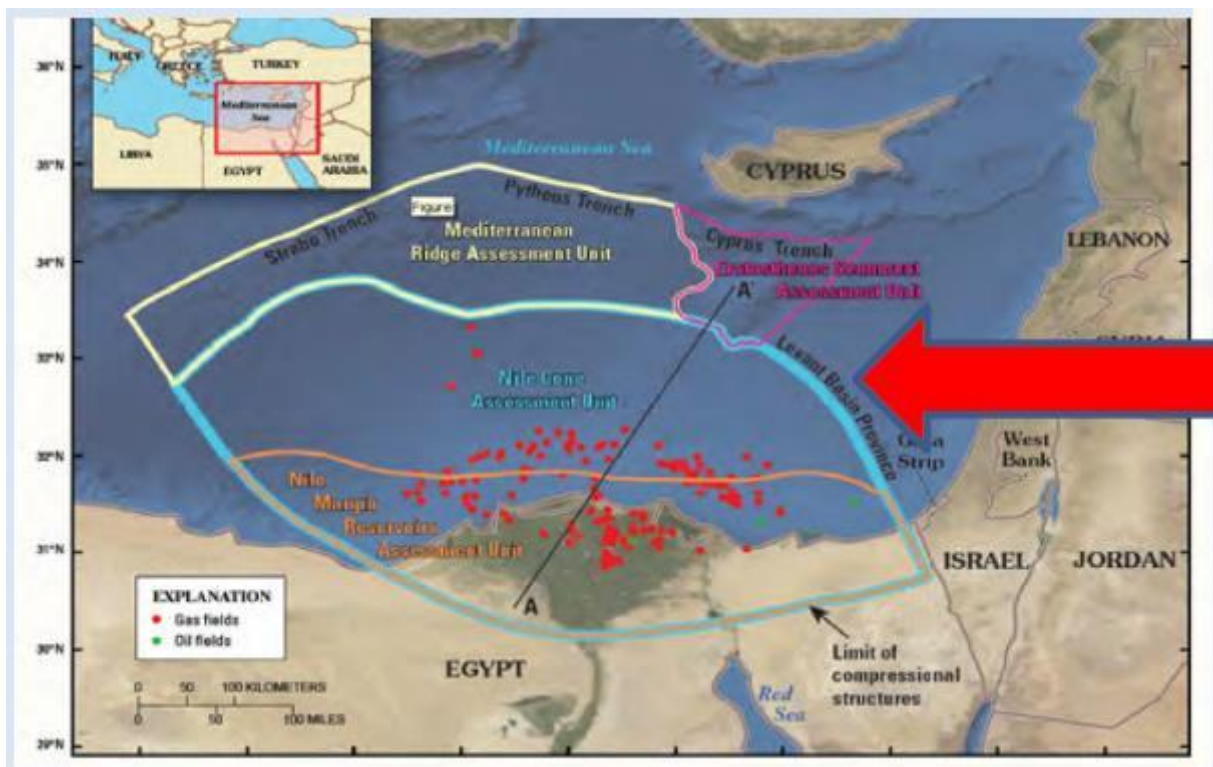


Figure 16 Gas fields Egypt

(Nikolaou 2012, 22)

3.3 “EastMed and EuroAsia-Interconnector”

A strategic cooperation for the states as well as the oil companies of the U.S.A., Egypt, Israel, Jordan, France, Italy, Cyprus and Greece is evident as an alliance re: Energean security and economic interests, while at the same time it is the main driver for the “EastMed pipeline” and the “EuroAsia-Interconnector” projects. The natural gas resources of Israel are of great importance for the EU and this is a great opportunity for Israel to create more energetic independence. The acceleration of natural gas production and marketing processes were delayed after the great discoveries in its EEZ. For example, the Leviathan reserve which constituted one of the greatest discoveries for over decades is not yet exploited. In this context the role of the EuroAsia-Interconnector pipeline emerges, which is shown in the map below

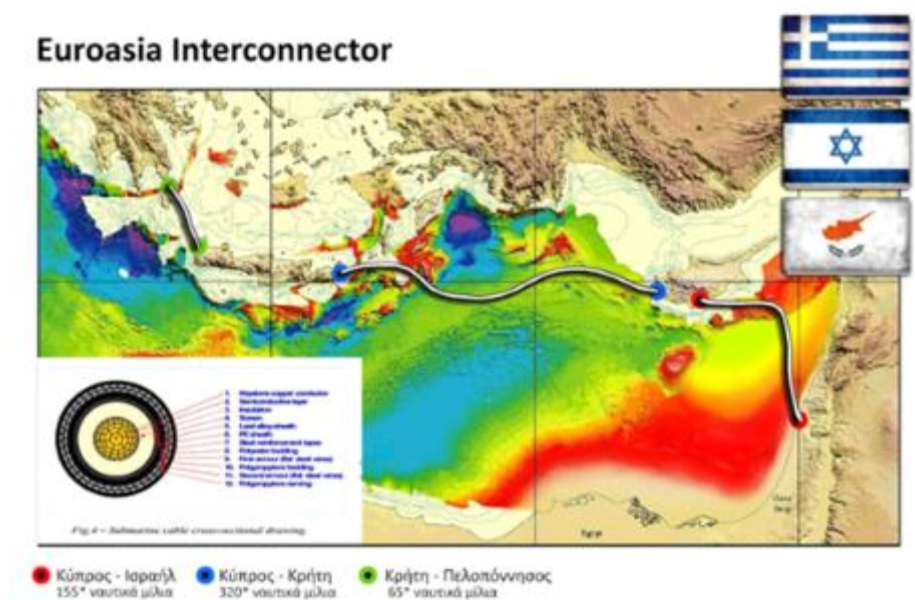


Figure 17 EuroAsia-Interconnector

(Lygeros 2012, 1)

The pipeline Euro-Asia Interconnector, a project transporting electricity connects Greek, Cypriot, and Israeli power grids to provide up to 2,000MW to the Greek island of Crete, is already defined as project of common interests (PCI) by the E.U. (EuroAsia interconnector 2018, 1). Using Natural gas reserves from Cyprus and Israel, improves the Energy mix for Greece and decreases dependency from importing other energy sources. Here, the objectives can be expanded as there are: More Energy security (additional availability and relative affordability), a more integrated European energy market (mostly for gas, but also electricity network is affected), more Energy efficiency with the usage of Natural Gas, instead of coal

power plants (Γρηγόριος 2010, 1). The goal for Energy security is part of the energy policy of the European Union, where reduction of dependency from 3rd party countries outside the E.U. plays a main role (EU Factsheet 2015, 1). With the implementation of the East-Med project via Crete, the transport of natural gas from the off-shore gas reserves in the Levantine Basin (Natural Gas exploitation of Egypt, Cyprus and Israel) to Greece, makes the Hellenic Republic to and Energy Hub. The potential conjunction with the Poseidon and IGB pipelines into Italy and other European regions, using the pipeline route “GREITA” transports natural gas to the Italian national gas transport system. This energian progress cannot play only a key role in the solution of the Cypriot dispute, but the same time gives the Hellenic Nation an economic advantage which enhances its Hard Power to size its influence in the Eastern Mediterranean (EuroAsia interconnector 2018, 1). Furthermore, the EU cooperation with Israel is essential for the coherence of the Mediterranean and Europe's energian security. The project “EuroAsia-Interconnector” e.g., connects Greek, Cypriot, and Israeli power grids through the world's longest submarine power cable. It constitutes an additional major Project of Common Interest for the European Union and is seen as an energy highway which is bridging Asia and Europe. Regulatory approval of electricity interconnection and cost allocation between Cyprus and Greece on October 10, 2017 and March 21, 2018 constitutes a historic decision for Cyprus, ending its electricity isolation. Ioannis Kasoulides, has joined the EuroAsia Interconnector on March 30, 2018 as Chairman of the Strategic Council (EuroAsia interconnector 2018, 1). The Official Journal of the European Union published on April 17, 2018 a call for four tenders for construction of Stage 1 with estimated budget €3.27 billion. On January 10, 2019 EuroAsia Interconnector Ltd, project promoter, has issued tender documents for contracts worth €3.5bn, for the design and construction of the “EuroAsia-Interconnector” (EuroAsia interconnector 2019, 1). Due to regional turmoils in the East Mediterranean region and the fact that 1/3 of Cyprus is unlawfully occupied, in order for Cyprus to obtain energian security, a reliable and robust energian infrastructure is required. The EuroAsia Interconnector will connect Cyprus to the European network terminating its isolation once and for all. This change of phase would change the situation subsequently for Greece and is convenient with the future Energy goals of the European Union, as the following development is affected which are:

- Energy security, solidarity and trust
- A fully integrated European energy market
- Energy efficiency contributing to moderation of demand
- Decarbonizing the economy
- Research, innovation and competitiveness.

(EU Factsheet 2015, 1)

The political and economic relations of Cyprus and its neighbouring States has changed also, and an initial strategic step towards this improvement of the relations between Israel, Lebanon and Egypt is their bilateral EEZ agreements with the Republic of Cyprus. This development with the subsequent strategic cooperation agreements between Greece, Israel, Egypt and Cyprus, lately Armenia included, created new alliances in fields of Energy and security, from the years after the delimitations of EEZ agreements of 2010/2011 (Ekathimerini.com 2019, 1). Israel, as part of the East-Med promoters, has gained a better cooperation with its neighbours, e.g. the energy collaboration with Cyprus (Agreement between Israel company Delek and Noble Energy to develop the marine blocks “Kalypso” in the EEZ of Cyprus) as well as with Egypt. The Cypriot government agreed to take a smaller share of the revenues from the development of its undeveloped Aphrodite field in order to allow Noble Energy, Shell and Delek to pipe gas from Aphrodite to the natural gas liquefaction station facility plant “Idku” in Egypt (Ford 2019, 1). This development can be a good example of a further Energy cooperation for the EuroAsia Interconnector, as soon as the Greek parliament will finish its obligations to confirm the participation, as expected (EnergyPress.eu 2019, 1).

The Energy companies Total, ENI and Exxon Mobil have already decided to invest in the Cypriot EEZ and at the same time the countries of origin (even if many shareholders are from foreign countries) support Cyprus economically and politically as far as possible, as their economic interests meet with the interests of the Cypriot state. The decisions to be taken by Greece is, to continue promoting the energy integration of the projects “East-Med” and “EuroAsia Interconnector”, taken into consideration that they constitute projects of common interests for the E.U. in order to strengthen its economic and energy independence. The connection of these projects with similar energy projects in the Hellenic EEZ, promotes long-term investments of the same kind of Energy companies. One example is the recent contract for exploration and exploitation with TOTAL, as executive operating partner for Hellenic Petroleum and ExxonMobil. The signed contracts for Energy oil-companies such as ExxonMobil and TOTAL, in consortium with Hellenic Petroleum, secure an eight-year research and exploitation license in two Hellenic offshore marine blocks situated south and south-west of Crete (Ekathimerini.com 2019, 1).

Besides the benefits for the cooperative players, the strategic step for more Energy independence for the E.U., the energy deposits of Cyprus play a key role towards the liberation of Cyprus, a long-term goal of the Hellenic Foreign Policy. The economic burden for the Cypriot Democracy in a scenario of unity with the occupied part of Cyprus without benefits from its EEZ deposits, would have to be paid for more than a decade, as it was with the Unity with West and East Germany, which needed to take loans and it lasted to be paid within 15 years. A future Cypriot Unity, based on the incomes from Natural Gas deposits of the Cypriot EEZ, could make possible an immediate unity. Even if this scenario seems difficult today in the moment the Cypriot people are facing Turkish violations of the Cypriot EEZ, a first step was done with the proposal of an escrow account by Cypriot President Anastasiadis. This fund of hydrocarbons would be ready for all Cypriot people from 2022, which would safeguard the Turkish Cypriot community's share from the natural gas proceeds. This proposal includes the pre-condition that Turkey adopts the UN Convention on the Law of the Sea and agrees to delineate its exclusive economic zone (EEZ) with respect to that of Cyprus (Ekathimerini.com 2019, 1). The example of Cyprus shows, how even a small island State, even though playing in a rational context without fears, it managed to invest in the energetic future of the EU. If we are realistic in the context of decision evaluation of the Cypriot political elite, a strategic decision was made that also affects Greece and its future geopolitical position.

4 Strategy of EEZ delimitation and the impact of International Relations

From a universal historical point of view, geopolitics - the dialectic of power, space and time - has a history dating back to the time of the ancient civilizations. According to Montesquieu, the totality of a spirit of one people's law is not only a quasi-arbitrary sum of laws, including the separation of power of a state, but an expression of the natural environment, the history and the "character" of a people (Ammon 2009, 1). Each state in their international behavior tend to achieve improvement or at least the stability of their national power. In this chapter, a strategy for the Hellenic EEZ and the different interests is analyzed, combining international relations and developments in the Eastern Mediterranean with applying decision and game theory on strategies of the Greek EEZ. With the basis of international and bilateral relations, economic interests and the common interests of the involved actors, realistic scenarios of EEZ delimitation with the Hellenic EEZ will be emphasized more clearly.

In order to give answers to the strategic decisions for the Proclamation of the Hellenic EEZ, we have to ask the right questions - main questions for the EEZ are:

- Is the proclamation of the Hellenic EEZ, to have the sovereign exclusive economic rights supported by the Convention of the Sea of the Law, the first next step to be done? and how does Greece need to delimit the exclusive economic zones with all affected countries?
- Is the protection of Greeks sovereign rights of its economic sea zones by proclaiming the existence of these areas, e.g. the complex of Castellorizo, sufficiently prepared?

4.1 Proclamation of the Hellenic Exclusive Economic Zone

In 1958, as the technology was developed to exploit offshore resources, the Geneva Convention was developed as a consensus, so the exploitation should be under the control of the coastal State. It did not grant sovereignty over the continental shelf but rather sovereign rights to explore and exploit, not limiting the rights of other nations to make use of the seabed for submarine cables and pipelines (Treves, 1958 Geneva Conventions on the Law of the Sea 2019, 1). The regime of continental shelf is similar to that of the EEZ but the rights it grants are limited to the seabed and subsoil. Here, the sovereign rights of the coastal state over the continental shelf exist ipso facto and ab initio, do not depend on occupation, effective or notional, or on any express proclamation and, therefore, can be exercised at any time" (Kastrisios 2017, 1).

Geologically the continental shelf is an area adjacent (natural prolongation) to a continent or around an island extending from the low-water line to the depth at which there is usually a marked increase of slope to greater depth. The continental shelf in international law itself differs from the continental shelf in geology (Liakouras 2019, 10).

As a result, the legal continental shelf has to be disentangled from the continental shelf in its geological notion that is well-known physical feature of the seabed. The continental margin is seen though as the physical extension of the landmass of the coastal state with the margin composed of the continental shelf (a platform at relatively shallow depths), the continental slope (the break of the platform towards the deep ocean floor), and the continental rise (the rea beyond the slope which merges with the deep ocean floor) (Liakouras 2019, 24).

According to the Legal data of the Exclusive Economic Zone (EEZ) in the 1982 United Nations Convention on the Law of the Sea Part V of UNCLOS, in which the EEZ is regulated, we are well aware that the rights conferred to the coastal State are extremely large. They concern not only the exclusivity of the exploration, exploitation, and conservation of natural resources in the water column, in the seabed, and in the subsoil within the economic zone, but also the exercise of the coastal State jurisdiction for the purposes of installation and use of artificial islands, installations, and structures, in order to monitor scientific research at sea and to protect the marine environment against pollution.

In comparison to the sovereignty over totally restricted and usually exclusive rights to the state and its permission for registered companies to use living natural resources commercially, e.g. fishes, the major sovereign right recognized to coastal states in the Exclusive Economic Zone (EEZ) is to control the productivity maintenance of biological resources including fisheries in general, where the coastal state determines the allowable catch (fishing) and set its own investing capacity (Leanza et.al. 2014, 5).

In regards of the Hellenic EEZ, it is important to mention that by proclaiming an EEZ, the exercise of rights is not secured, if parts of the EEZ is disputed by other affected states. Security in exercising sovereign rights is determined by agreement with all states involved by claims in the area, based on International Law. With the delimitation of the EEZ with the other country affected, the exercise of rights is secured “de facto”, at least on the legal basis, be it by the regime of continental shelf or EEZ, dependent of choice made by the involved countries (Liakouras 2018, 51).

The difference between the territorial sea and the exclusive economic zone is that the first confers full sovereignty over the waters, whereas the second is merely a sovereign right which refers to the coastal state's rights below the surface of the sea. The only criteria of EEZ are the distance of 200 nautical miles from the baseline. It is the “recognition of territorial claims of coastal States over waters adjacent to their coasts, giving them sovereign rights of economic character over a large area of sea that extends to 200 nautical miles (nm) from the baselines from which the breadth of the territorial sea is measured” (Leanza et.al. 2014, 2).

One direct result of an exercising exclusive economic right is the example of the fisheries management, usually adhering to guidelines set by the FAO, which provides significant practical mechanisms for the control of EEZs. The Exclusive Fishing Zone, an already common step in terms of UNCLOS as it can be understood to amount to a sub-category of EEZ. According to an approach, the “fishery zones”, ‘fisheries protection zones’, ‘ecological protection zones’ and ecological and fishery protection zones’ have been claimed by a number of Mediterranean coastal States and can therefore in terms of UNCLOS be understood to amount to a sub-category of EEZ (MRAG Ltd 2013, 16). Because such zones derive from the rights conferred on coastal States to claim an EEZ, they are described as “derivative zones”. In a similar way, Spain has recently acquired a “fishery protection zone” in the Mediterranean, in which Malta (25 nautical miles) has already adopted such a zone, too. The basic legal regime under international law regarding the management and extraction of fish and other marine living resources is provided by UNCLOS. In seeking to ensure the sustainable use of marine living resources this regime seeks to reconcile the development of efficient fisheries with resource conservation and management (MRAG Ltd 2013, 27), (UNCLOS 2018, 1)

An Exclusive Economic Zone, which has to be proclaimed, grants rights for the coastal country, outside the territory and the subsidiary, on the length of the water balance and the surface of the sea air, also described as the superjacent water column and airspace. An exclusive economic zone (EEZ) extends beyond and is adjacent to a country's territorial seas. Therefore, it extends 200 nautical miles from a country's own coastline, and outside its territorial sea and sovereignty. The rights of an EEZ exist after the special declaration from the coastal State and is from every island state, or coastal state with islands from interest.

Negotiations at the United Nations Conference in 1980 resulted in Article 76 of the LOSC. Article 76(1) provides two alternative criteria determining the outer limits of the continental shelf beyond 200 nautical miles:

- (i) the limit of the outer edge of the continental margin (geological criterion) or
- (ii) a distance of 200 nautical miles (distance criterion)

(Liakouras 2019, 35)

In the Mediterranean Sea, the distance between the baselines of all recognized States opposite to each other is in each single case less than 400 nautical miles, therefore, the legal regime which applies in the absence of an EEZ is that of the high sea, even if, everywhere, the seabed and subsoil form part of the continental shelf. The Hellenic Republic consists of an archipelago", a group of islands, including parts of islands. Even if by CLOS, the islands are not legally counted as a an archipelago state, interconnecting waters and closely interrelated islands, waters and its natural features which historically form an intrinsic geographical, economic and political entity, a positive characteristic of these islands is the close distance, e.g. between Rhodes and Ko, forming also one continuity of the continental shelf area until Ro, the Castellorizo island complex.

The countries Albania, Italy, Libya, Egypt, Cyprus, Turkey (With two triple points of contact between Greece, Italy, Albania and Cyprus, Greece, Egypt) are bordering with the Greek EEZ. Until now Greece has progressed with treaty only to delimit the continental shelf with Italy in 1977 (in which were considered the islands, for instance Othoni and Strofades).

The estimations and already discovered Natural Gas findings of Greece in its claimed exclusive economic zones at the sea boundaries with Egypt and Cyprus were shown already in the previous two chapters. But the same time, Greece is ought to secure a legal basis of exclusive economic rights towards any coastal state in the Eastern Mediterranean, which recognizes the UNCLOS of 1982 or/and acts as collaborative partner in the EastMed project and/or exploitation of Natural Gas in the Eastern Mediterranean. According to the Dr. Theodore C. Kariotis, Member of the Delegation of Greece to the United Nations Conference on the Law of the Sea for many years, beliefs that one of the most important events in the 50-year history of the Republic of Cyprus took place April of 2004, when the President of Cyprus, Tassos Papadopoulos, proclaimed an Exclusive Economic Zone with Law 64/2004. Firstly, it improved the position of the Cypriot state, proclaiming its sovereign exclusive exploration right, be it in a future negotiation or dispute for the maximum or even close to a maximum benefit for the same state. Secondly, whenever a contract for exploitation is to be signed, the state is in the position to impose economic embargo from the beginning of an illegal offshore operation by another state, e.g. within a zone of an island EEZ as the case of Cyprus showed. Here, we have

to mention that Cyprus negotiated and delimited with Egypt previously their sea boundary of their EEZ.

In order to give the rights answers, we are sure that the models of decision and game theory are playing a productive role, while data knowledge is necessary. Examining this process, we should know that by taking a decision, we are trying to obtain a good result from data we have in the context of each scenario, where we have the normative decisions, including the unique and unpredictable factors (Hansson 2005, 1). The application of decision theory, is the building block that will help us later on to illustrate with the example of game theory, analyzing critical steps for the proclamation and delimitation of the Hellenic EEZ. The decision theory has a wide application scope, in daily life, in philosophy, economics, computer science and in many other sectors we need to make choices among a range of options (visible or not). It is also connected with Game Theory. Decision Theory deals with the choices of people while Game Theory deals with the interactions of individuals' decisions (National Academy of Sciences 2001, 1). The three stages that separated the decision-making process were:

a) Discussion on the principles that will be useful as a basis for a theme, b) Opinions to converge and being tried together in a small number, which will be included in a larger number of general views and c) The real choice is between two alternatives above. The aim of Decision Theory is the direct behavior in a number of options as we mentioned (Hansson 2005, 1).

The reasons why Greece ought to make the decision to formally declare its EEZ, and to then prepare the EEZ delimitations with its neighboring states by bilateral agreements, is clearly based on the potential benefits, created by the future exploitation of its mineral richness through its EEZ deposits of natural gas and oil. The Hellenic EEZ declaration combined with a delimitation of its sea boundary with neighbouring states is the main driver of Greece's strategy, where we use Decision and Game Theory in order demonstrate perspectives and dynamics, where the topology of the country and its improved geo-economy meet geopolitical goals. Greece has the second largest EEZ in the Mediterranean, if we utilize its notion of geographical power and make the necessary decisions in order to prepare the Hellenic EEZ, Greece can act as a player in world affairs of the European Union.

Any declaration by a State Party must take care of its own interest and its chances of comfort in getting prompt and judicious results that should reflect its legitimate aspirations from the Convention. In order to assess advantages and disadvantages of the available options and to

make right steps, which becomes necessary before any EEZ delimitation and declaration, we use Decision theory in order to find optimal results:

In the Decision Trees we follow two basic steps as decision-making procedure. The first is the so-called forward path in which there is identification of the decisions that should be taken due to the decision maker. This includes all the events that can happen and the decisions that may arise every time. The second step is called backward pathway and has to do with the analysis of the decision's problem. In this step we need to study all impacts starting from the end until we head until we head to our final decision (Hansson 2005, 1).

For more precision we proceed in the following categories:

1. Definition of the problem
2. Obtaining information
3. Production of possible solutions
4. Estimation of Solutions
5. Selection of an effective strategy

Game theory deals with decision making under uncertainty and conflicts of interests. The theory shall help understanding the world, be it in the economy, sociology, anthropology, political science and even a bunch of procedures that include human relationships. Its purpose is to interpret various situations involving two or more persons (the so-called players) that operate with strategy and try to make decisions (Hansson 2005, 1).

The balanced, non-zero-sum game, called Nash equilibrium, named after American mathematician and economist John Nash. This idea shows a balance between the strategic choices of the players and the expectations that led them on these acts. Following Nash's theory, the players manage to transform the game to negotiation. This negotiation could lead to a specific agreement (and then the classical Nash equilibrium ceases to apply), if the game admits a unique subgame perfect Nash equilibrium and agreement is reached immediately with rational players (Nobel Seminar 1994, 180). According to the Greek mathematician Dr. Nikos Lygeros: "John Nash showed that in each static game with a finite set of strategies, there is at least a state of equilibrium, corresponding to strategic options, which provide the optimum requital for both players." No player can achieve something better by changing his strategy, while the other's strategy remains unchanged (Lygeros 2015, 1). Indeed, apart from the fact that even if both players decide to maximize their requital, there is a probability for both to come to the worst possible outcome, as it is the case in a chicken game (DeCanio 2011, 182). This game will

enable us to think about the strategies which will be necessary to apply in the context of Greek EEZ.

With the described tools of Decision- and Game Theory, we will approve these arguments of positioning and analyse the chances and challenges for the Hellenic Exclusive Economic Zone, as a strategic decision of historical importance.

4.2 Delimitation of exclusive economic zones

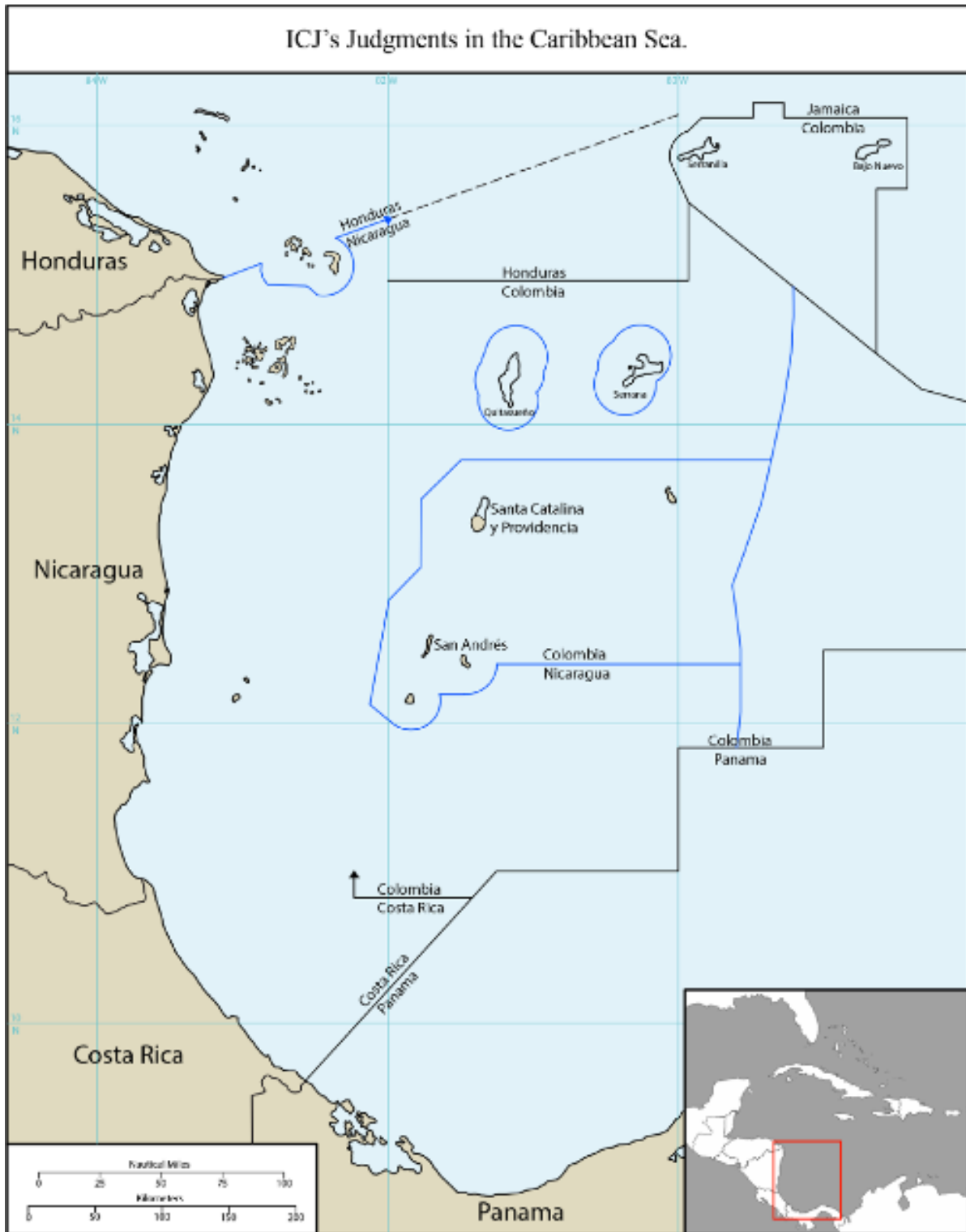
In order to reach a delimitation result of two States, both agree upon the procedure. If not, the two states are able to appeal to the International Court of Justice for a solution. State practice in continental shelf boundary agreements over the past 40 years has shown that the midline equidistance principle has been used in over 70 % of agreements. Islands may be given only partial effect of specified distance around them in determining the median line. But it depends on the general configuration of the coasts as well as any special or unusual features, the physical and geological structure, the natural resources, and the element of a reasonable degree of proportionality that should be brought about between the extent of the shelf appertaining to the states concerned and the lengths of their respective coastlines, measured according to their general direction (P.B. BEAZLEY 1982).

Unless the use of a straight baseline system is accepted by the two adjacent States, application of a perpendicular line rule will be difficult to conceive when concave or convex coastlines are at issue, or when various islands are situated in front of the coast of the States (Fellow 2006-2007, 50). But the number of islands owned by member states of the E.U., also the majority of advantages for the states with islands, resulted in a European policy of application to the law of the sea, which is supporting the inclusion to use the median line, as it provides the most obvious solution, either with islands (MRAG Ltd 2013, 19).

By the end of 2018, more than 140 countries had claimed 200- mile EEZs or had established a 200-mile Exclusive Fishing Zone (EFZ) (O. o. United Nations 2018, 1). Greece had not enacted EEZ while certified the UNCLOS III since 21/07/1995. All the EEZs from neighbouring states of Greece are less than 400 nautical miles way. So, it should unilaterally make the establishment of EEZ which is a continuation of the Law 2289/1995, as amended by the law for hydrocarbons “4001/2011”.

One critical question on a legal basis here remains, if a state meets the requirements of equity to shift the delimitation line and give more maritime areas to the State with a longer coastline without calculating and comparing the ratio of the attributed areas to the relevant coasts. It is true that a State with a long coast can have an area of maritime jurisdiction greater than if it had a short coastline, if the midline equidistance is not applied. If in a judicial scenario of the court in den Hague, the scope of a possible outcome with islands coastlines is used only, it would not result to a desired effect of Greek islands EEZ. In a scenario of delimitation between the Greek and Turkish EEZ Greek islands using the notion of midline equidistance, we would get an effect of the islands, which is in the interest of Greece (Fellow 2006-2007, 49) what we will illustrate in this subchapter.

Despite minor differences between the treaties in the area between Colombia and Nicaragua, all of them delimited the overlapping of the maritime projections of the riparian States, giving full effect to islands of a geographical archipelago, similar for the Greek islands, as it is visible in the map below where Colombia got an effect of its islands with a big distance:



(Solimano 2017, 15)

As shown in the map, all parties involved, recognized the Colombian sovereignty over its islands, ASA ("angle, side, angle") and delimited their maritime entitlements, taking into account the 82nd meridian, claimed by Colombia. Thus, Colombia acquired a larger share of

the south west Caribbean particularly considering the relatively small size of its islands, ASA and the distance of its continental coast (Solimano, Nicaragua, Colombia, and the ICJ - Making and Unsettling the Maritime Order in the 2017, 4).

How the Hellenic state is able to proceed separately with each State in bilateral delimitation agreements in order to secure legally its exclusive rights of exploitation, including its islands, we will analyze on the following section, where applicable by Decision- and Game theory for potential delimitations.

4.2.1 Turkey

An Exclusive Economic Zone of a coastal State can play a key role in the defined strategy of a country. In the system of straight baselines, the Greek State applies the basis of midline equidistance, not as an act of cutting off Turkey from the high seas, as the EEZ of Egypt is creating an additional extension between all states in the in the Eastern Mediterranean (UNCLOS 2018, 1). Additional difficulties for Turkey occurred in the past, when the Turkish negotiating part is maintaining to declare that the Aegean Sea is a semi-closed Sea, and therefore a special circumstance. In the case of the delimitation agreement of the countries of the former Soviet Union together with Bulgaria and Romania, the agreements were based on the midline equidistance, even though we have a closed Sea, here the Black Sea (Euxinos Pontus) with the Crimean Peninsula, getting full effect in regards of a continental shelf (©. United Nations 2018, 1).

One argument from Turkey is, to not have enough EEZ based on equity, taking into account the coastline of Turkey and its EEZ between the islands Cyprus and Castellorizo. But the same time Turkey is not recognizing the sovereignty of the Cypriot Democracy at all, therefore its claims are not based on good will. Therefore, Greece and Cyprus answer together with a further collaboration with Egypt, as I explained in differences of EEY strategy of Greece and Turkey.

For the Aegean, Turkey refers to the Geneva Agreements, which was applicable until 1982, before the Convention of the Laws of Sea in Montego Bay removed most ambiguities, in regards of the EEZ rights of islands. Although the continental shelf was recognized on inhabited or habitable islands, it was not clear whether the term was legal or geological only. The term 'continental shelf', combined with the relatively short distance from the land - continental or islet -, occupied a certain geological complexion, and this view is strongly supported by Turkey today, while the CLOS was not signed by Turkey in 1982. Turkey therefore pays attention to

the fact that the islands of the eastern Aegean are officially called "Aegean" rather than "Greek" islands. (Ignoring or forgetting the fact that this sea is dedicated to "Aegaeon" to the father of Theseus, the ancient Greek mythical figure). In addition, these islands are said to be a geological extension close to the Turkish mainland and thus rely on the Turkish continental shelf, even if these islands belong to Greece. This can support their argument that islands do not have a continental shelf (geological) exceeding the same time six (or less) miles, which is equivalent to our territorial waters. As a matter of fact, Turkey threatened with war in 1995 ("Cassus Belli") if Greece reaches 12 miles expansion, as allowed by international law.

The later United Nations Convention in Montego Bay, which came into force in 1994 and was not signed by the United States, Israel, Venezuela and Turkey, improved this disadvantage. Thus, it is clear that the islands, offering human life have an exclusive economic zone and a continental shelf, both extending up to 200 nautical miles from where inland waters begin. The extension and extension of the distance criterion - 200 miles - significantly (not completely) mitigates the importance of the geological criterion. This change was compounded by the Judgments of the Hague Tribunal of 1985 and later in 1986 in the Maltese-Libyan case (©. United Nations 1986, 1), which was already expressed in the 1982 court ruling. Turkey's fear is not only to have a less portion of hydrocarbons in the Aegean, but to accept in future that the Aegean is a Greek Sea, as the map below illustrates, in case the Hellenic Republic makes use of the right to expand its territorial sea from 6 to 12 Nautical miles:

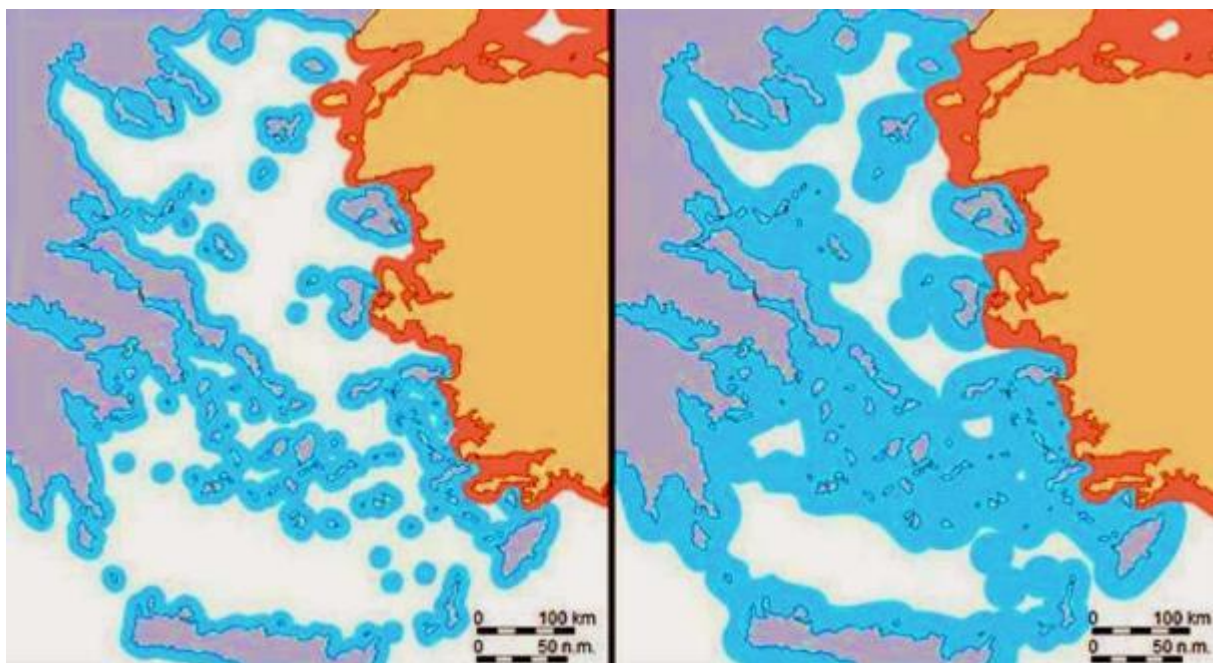


Figure 18 Expansion from 6 to 12 Nautical miles territorial sea

(Serfare 2018)

As the territorial sea can be seen as a direct question of security as far the dispute between Greece Turkey, it is not the same question as the EEZ, as the coastal state does not enjoy territorial sovereignty but sovereign rights over economic resources within it. The extension would influence indirectly the EEZ in their importance of islands with sovereign territory, as this is part of International Law as well. But it is hardly an issue of security for Turkey, if Greece delimits its sea boundary with Egypt, Cyprus, Libya or Italy.

In case of the Eastern Mediterranean, Turkey is any case not enclosed from one other state and its EEZ. Even in the scenario where the Turkish exclusive economic zone is bordering with Cypriot and Greek EEZ on the basis of the midline equidistance, Turkey's EEZ from the bay of Attalia until the Syrian border is from significant size, as it is visible in the map below, showing the official claims by the Cypriot Democracy:

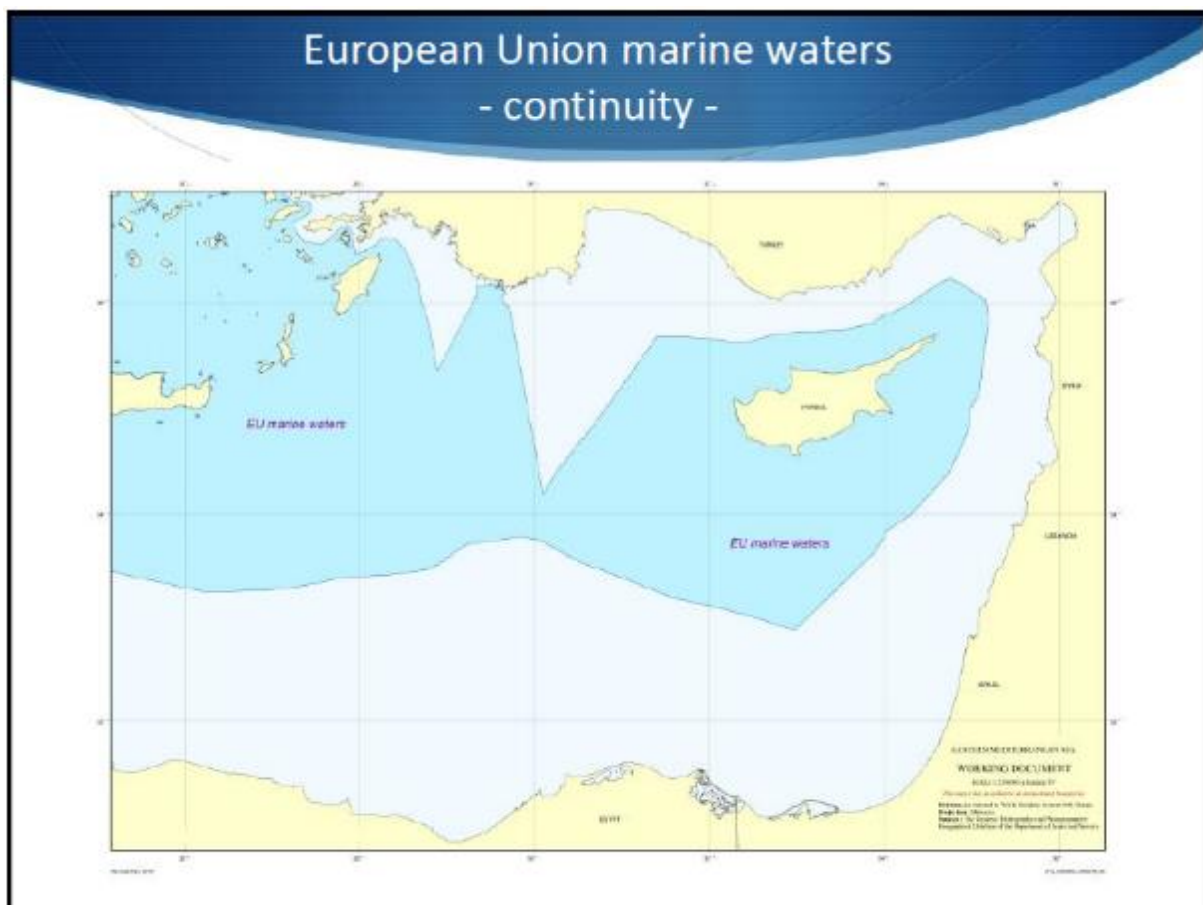


Figure 19 Projection EU marine waters

(Tzionis 2019)

If the two States, Greece and Turkey do not agree upon the procedure, the limit of the zone is the median line or the equidistance line from the respective baselines from which the breadth of the territorial sea is measured. This method of legal entity can be applied by Lebanon and Cyprus EEZ delimited zone, until Lebanon will officially ratify an agreement with the Cypriot Democracy. Greece, as it did in 2011 with the Hydrocarbons law “4001”, is able to make its EEZ existence and/or delimitation public, by a notification of the published Official Gazette of the Republic, as it is done by the Cypriot Republic in 2004 and 2014 (Office of the Law Commissioner 2014, 3). The moment the Greek state exercises these rights as Cyprus did already, oil and gas companies are not only granted exploration rights as it is already done on- and offshore in West-and Southern Greece. For the time of exploitation of mineral resources e.g. in the EEZ from Greek island of Castellorizo, the moment Natural gas resources are found, an exploitation contract is possible to be renegotiated in the context of the exclusive economic zone, granted to any state claiming this right, since decided by the UNCLOS at Montego Bay in 1982 (Treves 2018, 1).

In the case of Greece and Turkey we have plenty of issues, as the Turkish EEZ claims are not based by International Law, but characterized by anachronism with publications of island-occupied maps as well. If an EEZ towards coastal states needs to be delimited, in case of disagreement between neighbouring states, the dispute is referred to the competent international court for a decision by common agreement.

In case of a stability and decrease of the tensions and an opening of Turkey to gain an agreement with Cyprus and Greece, there are already case examples where at least two countries were in a dispute for many years and found a solution within the dispute settlement framework under the 1982 UN Convention on the Law of the Sea.

As we saw in the second chapter, the highest volume of hydrocarbons is estimated in the Eastern Mediterranean, not in the Aegean. That is why, Turkey emphasizes much more on his claims in the sea boundary with the Cypriot EEZ and in the area of Castellorizo and Rhodes, partly until Eastern Crete. This is one reason why the Turkish administration today tries to break the connection of the Hellenic EEZ and the Cypriot EEZ. In the case of Turkey, we have not only the geographic configuration including the Aegean islands influences the delimitation, but the different political and geostrategic goals of both states create a challenge for a solution on a legal basis. The reason is, that the situation is critical to Turkey and its plans to become a regional power, as the development in the East-Med project without a participation of Turkey becomes more and more reality. One reason for Turkey’s aggressive gunboat policy is to

prevent a fallout on Turkey's geopolitical goals to become an energy hub. Cyprus passed recently the licensing of marine block 7 in the 50-50% Total and ENI consortium and Total's entry into the remaining ENI divisions that were not licensed by Total. This marine block is clearly inside the EEZ of Cyprus, if we use the basis of UNCLOS, but is also in the claim of continental shelf of Turkey, not based on UNCLOS as it is ignoring the island state of Cyprus. As a simultaneous move, Turkey wants to create facts with their presence, sending as much as possible exploration vessels into the Cypriot EEZ in order to provoke the involved actors in the Cypriot EEZ. One mid-term goal of the Turkish regime is to gain a military base in Cyprus, mostly in the Northern occupied part of Cyprus. As a result, a further control to Syria and the Eastern Mediterranean would have been accepted officially by the other states in the region.

Even if Greece still does not play officially the Mediterranean game on EEZ, for Cyprus and Turkey it has begun already for many years. There is no denial that due to this fear of being excluded from the Natural Gas deposits, a major "enemy" against the East-Med project with Cypriot sovereignty is Turkey, who tries to gain from the NG discoveries as well, in order to find a way to get involved in the exploitation of discoveries, even if inside the EEZ of the Republic of Cyprus.

One significant characteristic is that Turkey is a country geographically close to regions that hold rich oil and natural gas resources, most of which regions have conflicts or disputes. There are pipelines under construction, which can be characterized as risk investments. Conflicts in Armenia, Azerbaijan, in the Caucasus region including South Ossetia, Abkhazia, Crimea and Donbas may also cause significant problems for Turkey's pipeline plans (Rahimov 2019, 1). With the implementation of the EastMed pipeline project, Turkey will not be able to control the Cypriot state, its Energean deposits and the routes of resources towards Europe – An additional critical security item for the E.U. and its energy goals, which Turkey is well-aware of, as the following map illustrates well:

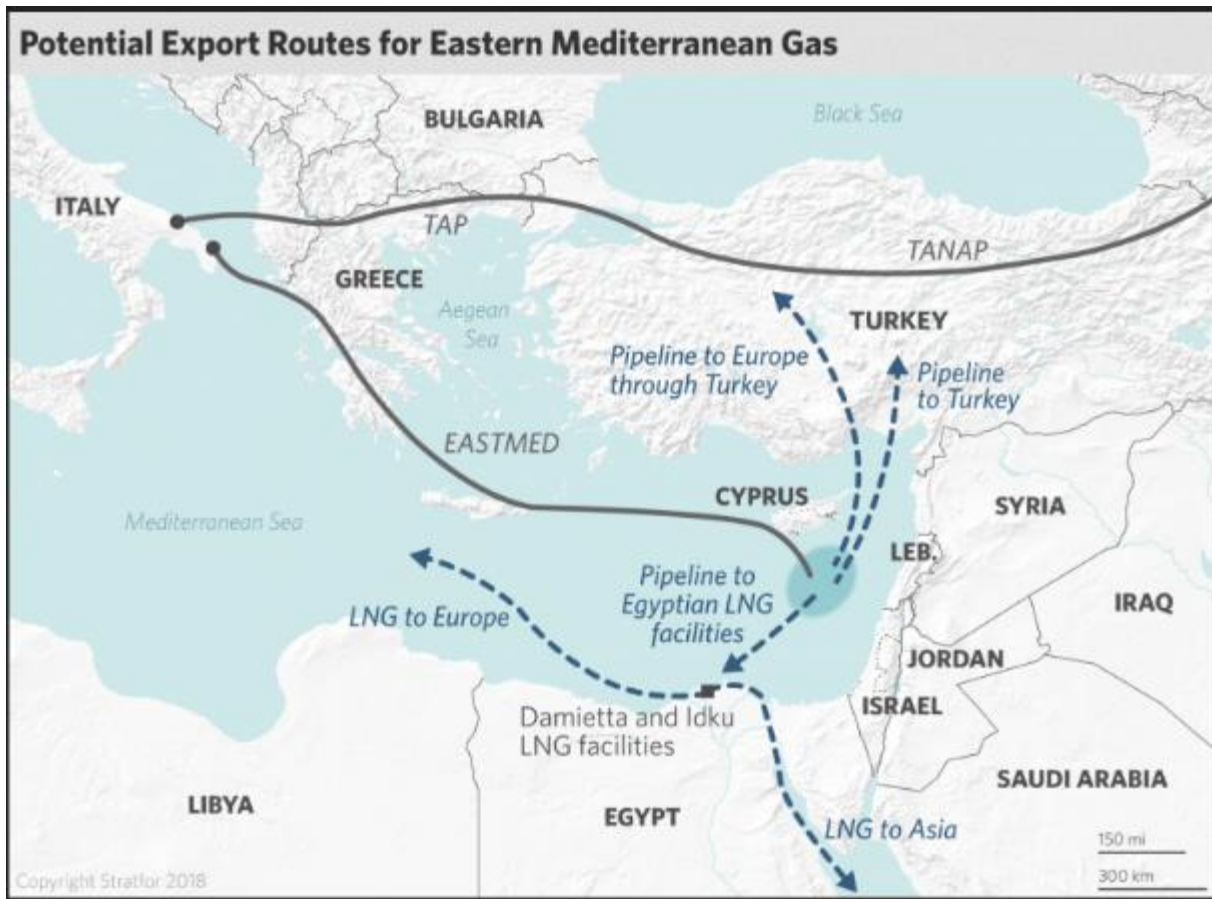


Figure 20 East Med pipeline alternative

(Samir 2019, 1)

The dispute is less motivated by the official statement by Turkey, that it aims to secure the rights of the Turkish-Cypriot population of Cyprus, and more to the fact, that Turkey is not able to participate in the energetic projects of the Eastern Mediterranean, where the countries and its participating companies are recognizing de facto the EEZ of Israel, Egypt and Cyprus, committing themselves and signing agreements of Natural Gas exploration and exploitation.

Additionally, not only the Turkish government tries to put across the point that the resources belong also to Turkish Cypriots of the island, communicating concerns about the Turks who live in the north side of the island since 1974 – it ignores of course the fact that the Cypriot government has accepted that the benefits of the exploration will belong to all citizens of the Cypriot Democracy (Peter 1960, 1). Based upon the treaty of Zurich and London 1960, five communities are recognized: the Armenians, the Greek-speaking Cypriots, the Latins, the Turkish- Cypriots and the Maronites (UN 1960, 10). Even after the illegal occupation of the Northern part of the Cypriot Democracy by Turkey, only Cyprus is recognized as a state by the United Nations, backed by the European Union including the force of guarantee for Cyprus,

Greece, Turkey and the United Kingdom, with respect to the treaty of 1960 (Boura, General Assembly Security Council, Oceans and the law of the seas 2017).

Turkey's political and economic actions towards Cyprus, which remains occupied in the past 45 years, is part of the Turkish anachronistic policy towards any Non-Muslim or Non-Turkish speaking population inside or outside its state entity since the 20th century. After the occupation of the Northern territory of Cyprus back in 1974, the interests of Turkey for the Cypriot Democracy were obvious with the settlement of Non-Cypriot Turkish citizens. For Greece it is not in the interest to have a Cypriot state without sovereignty, as it is not only a goal for Turkey to undermine the sovereignty of Cypriot's EEZ, but to prevent any development of unchangeable facts in the Eastern Mediterranean, which excludes the Turkish influence. As we described already, Turkey is a main opponent of the exercise of a Hellenic EEZ, because it makes impossible to realize Turkish goals of becoming a central power in the Balkan region, the Mediterranean up to the Near East (Grigoriadis 2010, 4). That is why the Foreign Policy of Turkey shows a maximalist view for the claims of Turkey in the Eastern Mediterranean, precisely because it does not feel bound by international laws, but accepts only the right of the stronger. One example for this behaviour is the political dispute between Turkey and Cyprus, resulting lately regarding Turkey' provocations in parts of the EEZ of Cyprus, with Turkish vessels of exploration or exploitation. As an answer the EU responded not only with a solidary statement, regardless of whether a ship started trial drilling without success, the violation of the exclusive rights of Cyprus' EEZ is considered as illegal and therefore European Foreign Ministers decided first sanctions (Tidey 2019 , 1). With the development of a diplomatic isolation of Turkey as a first step of the Cypriot government to use its political weight inside the European Political Tableau, Cyprus tries to use its Energy deposits as a political tool in order to create pressure upon the Turkish government. Turkey so far, continues using a policy of offensive violations of the sovereign rights of Cyprus, be it in the not delimited/defined zones of the Cypriot EEZ, with even militaristic attitude towards the people of Cyprus. It should be noted, that Turkey acts towards Cyprus as if the Cypriot state was not an already recognized state by the U.N. and the E.U.. After the occupation of the North of Cyprus 1974 – with the two resolutions 541 and 543 by the United Nations Security Council in 1983, the invasion of Turkish forces to Cyprus was convicted illegal (legally invalid) (Council 1983). The Foreign policy of Turkey, even to threaten Cyprus as a state, is demonstrated trying to create de-facto circumstances also in the North of the Cypriot EEZ. The occupational regime started to grant plots to map of “Turkish Petroleum”, where it's obvious, that not only they violate the Cypriot

EEZ in general, but with F and G, marine plots 1,2,3,8,9,12,13 specifically (CORPORATION 2011, 11), as we can see in the map below:

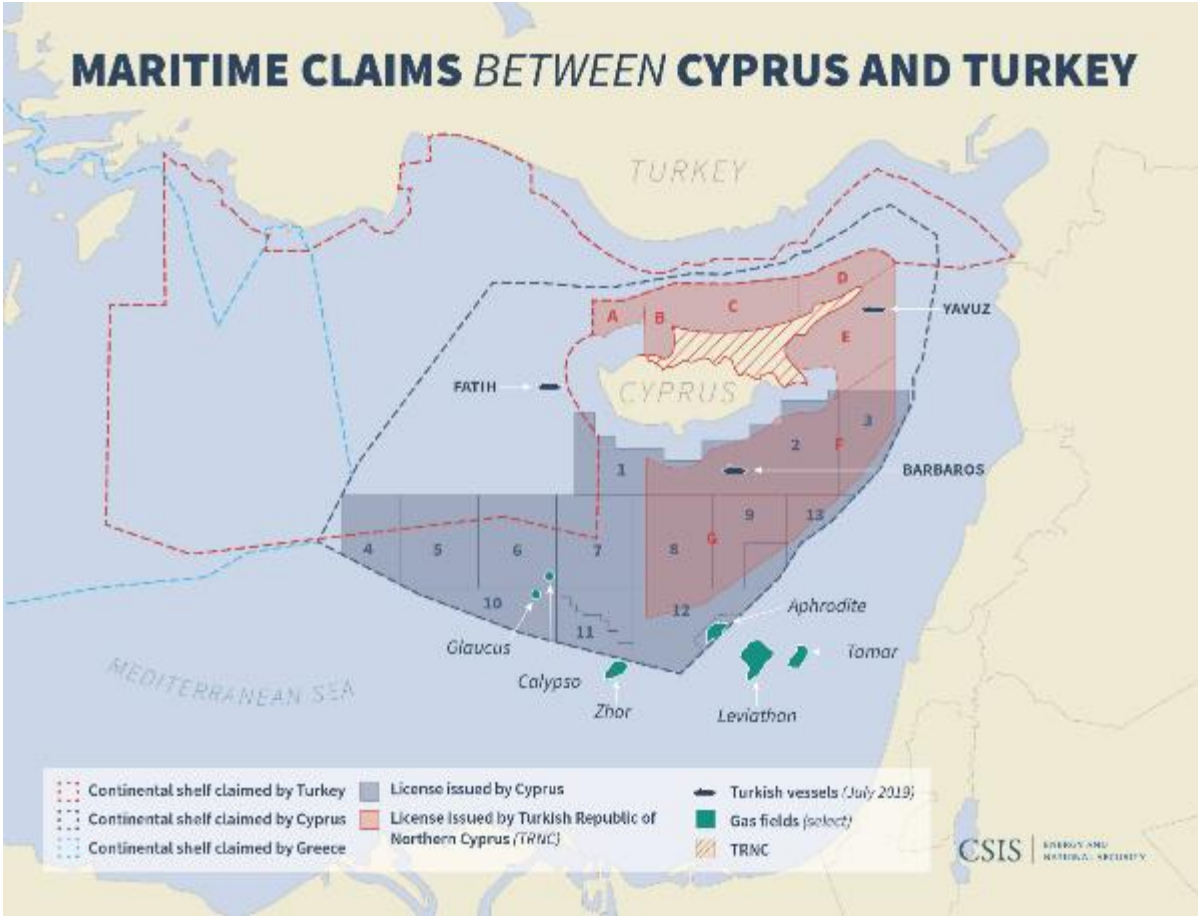


Figure 21 UNCLOS vs. Turkish claims
(Tsafos 2019)

Turkey was trying to question the demarcations between Cyprus and Egypt, Lebanon and Israel, making offers to these states, although they avoid to touch on to them with F and G. Obviously, they avoid the Aphrodite reserve, in order not to have also problems with Israel, which would cause the whole effort of their propaganda to collapse. According to researcher Dr. Lygeros, if we want to understand the main interests of Turkey and the ongoing conflict with Cyprus, we should be aware that <<the Turkish government wants to avoid consequences of the Cypriot EEZ and is more concerned about the utilization of the Cypriot natural gas and oil reserves, if the negotiation in regards to the solving of the Cypriot issue do not to take place in advance>> (Conophagos 2015, 1). The Cypriot administration tends to be open for these kinds of assurances; in case the dispute is in the final stage (Hadjoannou 2019, 1). Of course, the island complex of Castellorizo is not even shown on these maps, as Turkey wants to illustrate their position of non-recognition, for any right of islands' EEZ. While Turkey publishes constantly

maps of their desired extension of continental shelf (see below), it ignores the same time systematically the islands of Greece including Crete, Rhodes and Karpathos, which by UNCLOS can have effect for Greece as well.

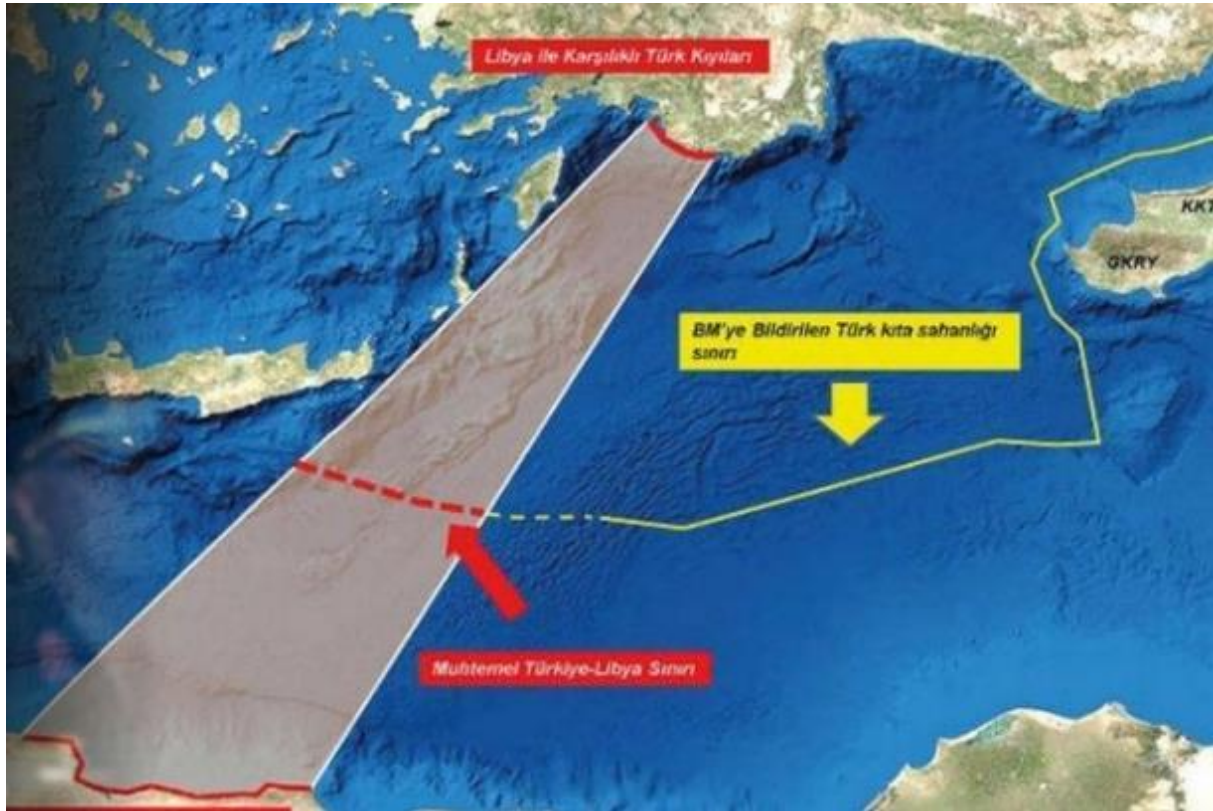


Figure 22 Turkish line of equity with Eastern coastline of Libya

(Sofokleous In 2019)

Not by luck, Turkey same time accuses Greece of violating the Libyan EEZ and influence for these goals the conflict in Libya, while they violate the EEZ of Cyprus (Ekathimerini.com 2018, 1). No Libyan government made this kind of claims and Greece of course, won't accept an outcome, that the Greek islands do not have an EEZ. Turkey, with an additional extension of their continental shelf including claims of Greek islands, is caused by Turkey's interests of expansion, which are started for years already in the Near- and the Middle-East, as well as the old Islamic-based influence in South-East Europe and in the Mediterranean lately in Libya (Bar'el 2019, 1).

If necessary, Cyprus, backed by the European Union, should counteract with specific economic and political sanctions further, in order to practically defend its exclusive rights of resource exploitation, based upon the International Law of the Sea (UNCLOS). An important step would

be the economic exclusion of the National company “Turkish Petroleum” and/or Turkish Airlines, as a sign for the Turkish Government, that neither Greece, nor other members of the European Union are able to accept threats like the usage of military violence without consequences. Significant sanctions by the E.U. can be promoted by Greece in the context of the method of hybrid war from Turkey towards the E.U., as the verbal extortion with the potential threat of opening the borders and to push Greece and other E.U. countries with illegal immigrants, or even a number of refugees from Syria who live in safety in Turkey for years now (Economist.com 2019, 1). The reason for this conclusion is, that a change phase negotiation with Turkey cannot be realized for Cyprus, if the costs for Turkey to challenge the sovereign rights of Cypriot EEZ are not higher for them as their policy of presence with Turkish vessels.

Greece and Cyprus, member states of the European Union, insist on their sovereign rights of EEZ. Both know very well that the E.U. do support the legal rights based on UNCLOS, as the recent statements by EU-officials demonstrated from the beginning of the violation of Cyprus EEZ by Turkish vessels (ToBHMA Team 2019, 1). The reason is that Turkey has a totally different official claim in regards to their self-set right towards a bigger portion of an EEZ excluding all islands in the Eastern Mediterranean. Greece, in opposite, sets their claims mainly on the basis of International Law, specifically, by the Convention of the Law of Seas. Under these circumstances, it is difficult to get to an agreement where both countries, Greece and Turkey are having different interests in regards to the Cyprus EEZ and the borders of connection to the Hellenic EEZ. Additionally, a judicial platform as the International Court for Law of the Sea in Hague (is not accepted from Turkey until now), constitutes as last resort of decision. In a Game – theoretic outcome for an EEZ delimitation we have a result, called “Pareto-efficient“, as there is no other outcome that makes every player at least as well off after a negotiation (Shor 2001-2006).

If the method of straight baselines is applicable under paragraph 7, economic interests peculiar to the region in the Eastern Mediterranean may be taken into account, in determining particular baselines (UNCLOS 2018, 1). Beside the legal and diplomatic steps for the political elite in Athens, the issues with Turkey are not ending with the proclamation of the Hellenic EEZ. The challenges begin with the protection of the exercise of Greek EEZ rights. The necessity of pending delimitation contract offers with Egypt and Cyprus as well historical circumstances, we will analyse in the next chapter.

Cyprus supports the notion of EEZ, both, Greece and Cyprus support the midline equidistance as well. In order to reach an agreement with the neighbouring countries, Cyprus delimited in 2010 with Egypt their EEZ borders, afterwards Cyprus proclaimed an EEZ. The additional delimitations with Israel and agreements with Lebanon supported the position of Cyprus towards sovereign rights of its island state.

Turkey claims the whole area around Cyprus, e.g from 33-35.5 longitude, which is connected with their intention to get de-facto access to hydrocarbon volumes as well as their intention to control the coast to the Syrian-Turkish border, in opposite to the occupied Northern and Eastern Cypriot mainland. Additionally, we have the geopolitical goal of Turkey to have much more influence in the Near East (including Israel), whereas the control of the Eastern Mediterranean including the recognized Cypriot state is sought.

In our analysis, we will make use of the median line procedure, and as a tool in order to find an equidistance midline, we use the Voronoi diagrams as method to show the EEZ planes. This is the foundation of the midline which indicates the midpoint. In mathematics a Voronoi diagram is a partition of the plane in regions according to the distance from points on a specific subtotal of the plane. It was developed by the Russian mathematician Georgy Feodosevich Voronoi (1868-1908). Euclidean distance or Euclidean metric is the "ordinary" straight-line distance between two points in Euclidean space. With this distance, Euclidean space becomes a metric space. Each line in the below figure comprises of points which are equidistant from two cores, and the set of those points forms the Voronoi diagram in this field (Gärtner 2010, 106). An example of a diagram is shown below:

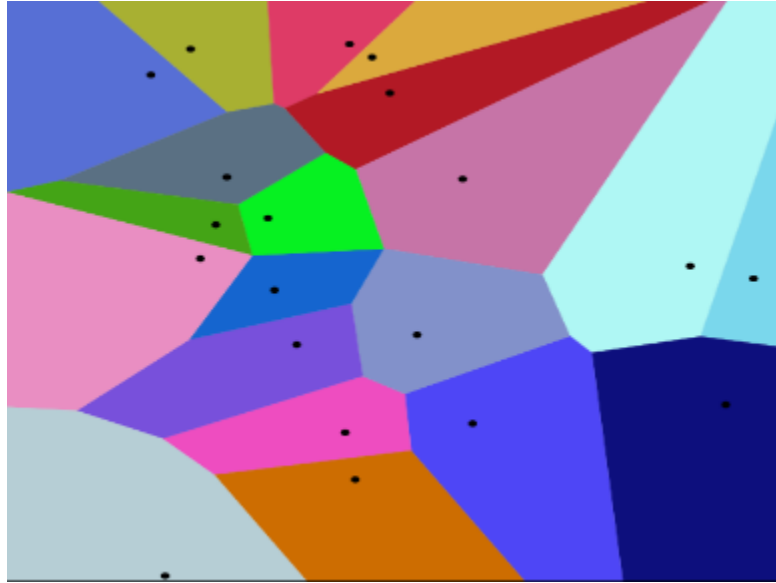


Figure 23 Voronoi diagram

(Ertl 2015)

Applying the method with Voronoi diagrams we observe that the islands play an important role in the remote delimitation procedure, as the distance of the core from adjacent cores increases, and the cell of that core, too. Correlating the coastline with each island as a core within the EEZ context (concerning 200 nm), we can realize that it enhances the States with many and mainly remote islands. The Voronoi diagrams, include from the start a dynamic due to computational geometry and topology, which allows not only the Delaunay triangulation but an entire topo-strategic process. This type of schema, is applied to be contextualized in the classical strategy.

According to mathematician Dr. Nikolaos Lygeros (Lygeros 2009, 1), << the notion of geometry as part of topo-strategy, exploits the geographical vision, focusing on elements that are more fundamental from a mathematical point of view and therefore more basic from a geopolitical point of view>>. The analogy would consist in seeing only the geometrical aspect of geography. Topo-strategy aims to promote strategically topological notions but also to put in place a strategy adapted to the places (topos).

For Greece, the map below shows the effect for this method.

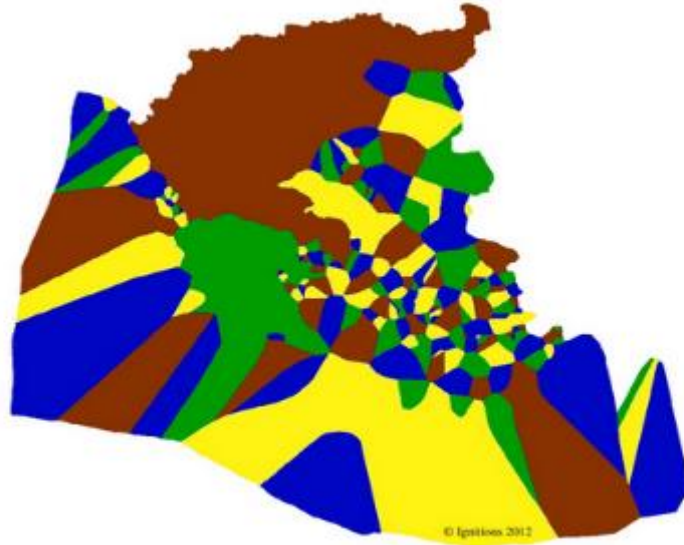


Figure 24 Greek EEZ using the midline equidistance and Voronoi diagrams

(Lygeros 2012, 1)

In this figure we see the dynamics of Greek (theoretical) EEZ in connection with its islands arising from the Voronoi diagrams.

Applying the Voronoi diagrams, we have a good example illustrating how a single island (“Strongyli”, part of the complex of Castellorizo) strengthens topologically the notion of an EEZ, as we see in this map below.

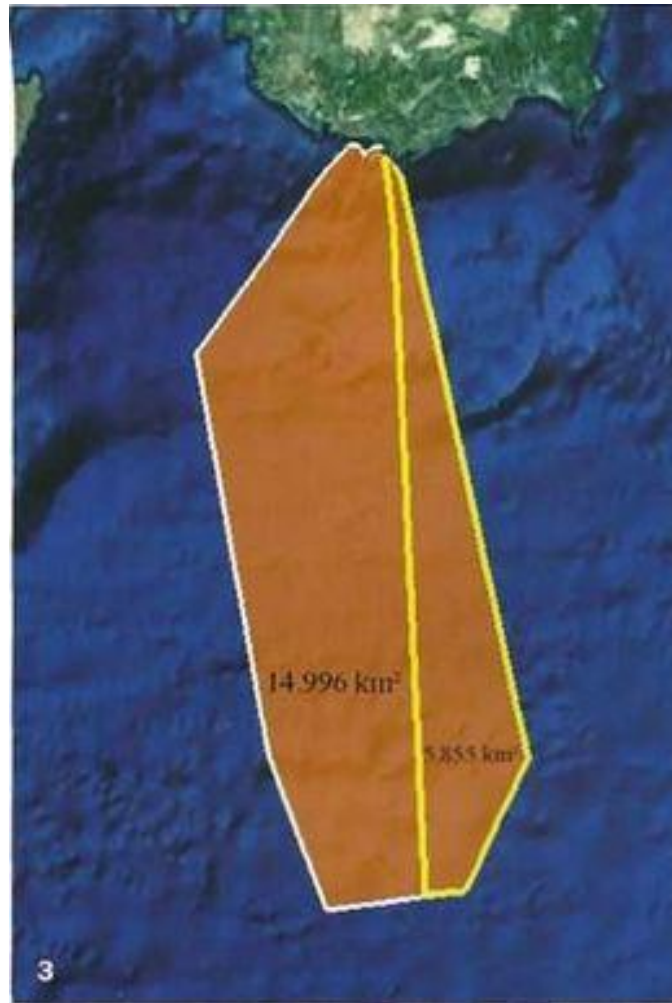


Figure 25 EEZ of Castellorizo complex

(Lygeros 2012)

By adding the notion of EEZ in the context we understand how are topologically enhanced as we saw in the Voronoi diagrams in this chapter. It is unacceptable to consider infertile lines the access to our border islands which are the most fertile in time through space. We should examine how to strengthen and how to prepare our islands as regards their interaction with the EEZ, bear in mind that in EEZ islands, with economic activity are included (existing the human factor), as noted in paragraph 121, Regime of Islands (UNCLOS 2018, 1). Because of the development of these regions mainly due to hydrocarbons, we should target at the strategic and technical preparation of these islands to help them help us in the framework of EEZ, being aware of the resulting geographical coordinates (see image below), which are connected to the geographical coordinates of the Cypriot EEZ, sent to the United Nations in May, 2019 as additional next step of completion after an EEZ agreement with Egypt and Greece, which is in the final phase of negotiation.



Figure 26 Geographical Coordinates Castellorizo EEZ

(Lygeros 2012)

Castellorizo Complex includes: Agios Georgios, Agrilia Voutsakis, Black Poinaki Meyisti Polyfados, Ro, Strongyli, Tragonera, Psomi and Psoradia. Castellorizo complex plays a dominant role in EEZ because it offers us the contact with the Cypriot and Egyptian EEZ.

The scenarios below which illustrate expected outcomes of the proclamation of the Hellenic EEZ, taking into consideration the reactions of Turkey, a main opponent of the exercise of such an EEZ, including the exploitation of natural resources in the exclusive economic zone of Greece and Cyprus. We will analyze here the 1st, 2nd and 3rd category, as the 4th and 5th category is part of the next chapter.

- I. In the two described scenarios below, we assume that the Hellenic EEZ is not proclaimed, neither a delimitation is signed officially with one of the bordering countries of Greece:

1st

- Turkey claims more than expected from the Law of the Sea, as it does already until now. The actions and published claims in the Eastern Mediterranean illustrate their negation to recognize Cyprus as a state, the same time Turkey promulgates their position that Cyprus as an island should not have the right to own a continental shelf, therefore no EEZ at all (Ellinas 2017, 1). Operations violating the sovereignty of the Cypriot EEZ

are done, a violation of the Hellenic EEZ is prepared and at least a possible armed conflict with Cyprus is stated, warning the Greek-speaking people if they did not learn their so-called “lesson” (cyprus-mail.com Staff 2019, 1). This scenario we call "Turkish" Model: Turkey claims even EEZ for the Turkish Cypriot community (more than expected from the Law of the Sea as only recognized states have sovereign rights), positions his Naval fleet in the area around Cyprus or threatens with an armed conflict in order to enforce its claimed interests in the Eastern Mediterranean. Afterwards, dependent on the willing of both sides, a negotiation takes place without the involvement of previous delimitation - e.g. with Egypt and/or Cyprus, is missing for a framework to have negotiations with a realistic agreement in the EEZ of Castellorizo.

- In many publications, Turkish officials are making clear their intentions, in order to enforce their interests in the Eastern Mediterranean. A map, where a delimitation with Egypt was including even the EEZ area of Western Cyprus was claimed by Turkey (so far only by Turkey supported officially). Even without a possible military operation or incident, dependent on the will of both sides, a negotiation between Greece, Cyprus and Turkey e.g. a court decision from den Hague could hardly include the midline equidistance or even close to this delimitation. Firstly, because an advantage is missing for a framework where Greece delimited with at least one bordering coastal state in the Eastern Mediterranean, e.g. at least in the southern and/or Eastern part of its continental Shelf. Secondly, a negotiation is only possible, if one of the three actors, is willing to accept a political solution. Turkey has not signed UNCLOS, in order not to be bounded to one law only (1982), which would be more in the interest of Greece. With Turkey's position and violating Cypriot rights of EEZ, one cannot assume that this negotiation can come to an outcome based on UNCLOS, respecting the sovereignty of Cyprus. The probability that Greece, accepting a loss of the economic marine zone, would increase as well.

2nd

- Greece has legal rights of continental shelf, but Turkey considers that islands would not have a continental shelf. Signing UNCLOS, but not exercising/delimiting in the Eastern Mediterranean is not in the interest of Greece in the long-term, Turkey would be able to claim its continental shelf better, e.g. after a militaristic clash with Greece. On a possible negotiation, an arrangement based on the law of continental shelf only, the non-existing proclamation and delimitation with Cyprus and Egypt can cause an advantage

for the Turkish negotiating part, as Turkey proceeds for exercising the rights for its continental shelf already. Therefore, claims from Greece which are made afterwards are more difficult.

- The example of Castellorizo shows either, that a pending delimitation with Cyprus –is a threat of "de facto" recognition of Turkish continental shelf claims (even if Turkish claims are not based on UNCLOS). As a result, Cyprus could be occupied on further parts of its EEZ, as Greece is not even proclaiming/delimiting and therefore not exercising its sovereign rights of EEZ. The reactions to the claims of Turkey is then more difficult with diplomatic, economic or even operations by Hellenic Naval forces.
- An additional missing official delimitation with Libya as well as with Egypt causes a potential threat of agreement from temporarily administration of Tripolis (Libya) with Turkey. A map, where a delimitation with Libya was including even the EEZ area of Eastern Crete was claimed by Turkey (so far only by Turkey supported officially). Also not excluded is the future dispute with Libya, if awarded concessions from Greece to an Energy company are questioned by Libya, e.g. in a possible court decision of Hague, where Libya would have a bigger size of its EEZ (key word "Gavdos"), legal consequences to Greece can cause financial obligations.

The rising tensions which occurred during the last months of in the Eastern Mediterranean between the Turkish and the Cypriot government, are also against the interests of the Hellenic Republic. Besides the already emerging cooperation with Egypt and Israel and Cyprus, the already collaborating states are waiting for substantial practices by the Hellenic Republic in order to proceed with the common energy projects.

- II. In the two described scenarios below, we assume that the Hellenic EEZ is proclaimed by the government in Athens, a delimitation is signed officially with at least one of the bordering countries of Greece in the Eastern Mediterranean. (without mentioning the extension of 12 NM).

1st

- Even if Turkey still claims more than it expects from the Law of the Sea, Greece can refer to the UNCLOS and if Turkey insists, a decision can be made at the International

Court in den Hague, which - if not having a totally successful result for Greece (e.g. its EEZ meets with the EEZ of Cyprus), a reference case where islands are recognized by the court for sea of law in Hague, would leave turkey in a worse position. If the islands would get the full size of EEZ, the Hellenic exclusive rights to extend their rights from their islands would manifest the EEZ of Castellorizo and the connection to the Cypriot EEZ. Here, a reaction like the recent violations of Turkey in the Cypriot or even in the EEZ area around Castellorizo is still a possible threat (we call it Model "CHINA")

- Here, we have an unpredictable reaction from Turkey, but as Turkey did not sign UNCLOS, they would probably not go to the Court in Hague as long as they can expect a negative outcome. This explains also the behavior of Turkey and its goal to get into negotiations with Greece on a political level as well. A negotiation with a Greek government without the involvement of the court for UNCLOS could improve Turkey's positioning if a package with an agreement with Cyprus is included. Here the gunboat policy of Turkey would have helped to obtain its goal, to not allow Cyprus to exercise its full EEZ rights, including the ignorance of Greek islands effect in a Greek EEZ. As we know that Greece is not claiming any Turkish territory, island or EEZ, which is given to Turkey without legal claim or any objections from Greece, e.g. islands of Imbros and Tenedos, a negotiation should be avoided under the circumstances of a violation and negation of Cypriot sovereign rights.

2nd

- Turkey claims as much as it could expect from the Law of the Sea, makes operations which come close to what is now already visible as the preferred policy of presence in the Cypriot EEZ and close to Castellorizo. Dependent on the status quo and the political will of both sides, a possible negotiation takes place with the involvement of the Law of the Sea as a basis. If we assume that this negotiation can lead to an outcome of an EEZ delimitation based on UNCLOS, the probability that Turkey, accepting a stop of its claims, would not decrease with a warranty. But the same time the sovereign rights for Cyprus for the exercise of its EEZ is supported as well. Here, Turkey could have more profits as economic losses and vice versa less economic losses as claimed potential profits. Greece should have in mind that the Turkish government needs a picture of official success in order not to have lost his face in the opinion of the common people in Turkey. As a possible outcome of the delimitation with the Turkish EEZ area between Cyprus and Greece with involvement of the International court of justice (ICJ) in Hague could include EEZ results, which could have results of a reduced effect of the island of

Castellorizo, e.g. 70% - 30% in favor of Turkey. Even though the result is negative in regards of the EEZ area of Castellorizo, an agreement is possible. A relent of Greece and Cyprus here would mean that Turkey is successful with its extortion and threatening.

3rd

- In any case, an enforcement of the claims by Turkey with the method of threatening with their military has to be prevented. The delimitation of Egypt/Cyprus and Albania/Libya are done partly at least and the delimitation and exploitation with Turkey is extended for years until the violation of Turkey is interrupted credible. Greece secures the exploitation of Cypriot and Greek delimited EEZ areas between Egypt, Cyprus and Greece on basis of EEZ agreements with Egypt and/or Cyprus with a combination of economic pressure within the European and bilateral collaborations, where energy companies with the countries of origin having incentives of exploitation. Greece guarantees the exploitation of Cypriot and Greek delimited EEZ areas between Egypt, Cyprus and Greece on basis of EEZ agreements with Egypt and/or Cyprus with a combination of economic pressure within the European and bilateral collaborations, where energy companies with countries of origin as e.g. France and the U.S.A have incentives of exploitation. The presence of these Naval fleets shall support not their areas of concessions alone, but in collaboration with Greek, French and Egyptian fleets complete a policy of deterrent protective measures with its naval fleets in the delimited, recognized EEZ areas. If Turkey is having the tendency to prefer the policy of threatening Cyprus and Greece, the delimitation of Greece with Turkey is not worthy. Firstly, because the potential hydrocarbon disputed area between Egyptian EEZ in the Greek's EEZ until Castellorizo is from interest, but between Castellorizo and Turkey has already legitimate claims of hydrocarbons deposits in the area between Attalia (South and Southwest Turkey) and Cyprus. Here, a delimitation with Greece and Turkey is not only to the detriment of Greece if the EEZ percentage of Castellorizo is expected less than the percentage of Turkey in the area. Their intention to control the area from the West of Aegean until the coasts of Cyprus (25.5 until the 32 longitude) would not be confirmed or supported by any decision based on International Law. On the opposite, an agreement between Greece and Egypt delimiting its EEZ borders, possibly by midline equidistance, could create a de-jure and de-facto answer of viable agreement

between Israel, Cyprus, Egypt and Greece, which creates additional facts to the detriment of Turkey.

Using these scenarios, we have a potential outcome with or without a war, and a potential outcome with or without a delimitation.

If we accept these possible outcomes analysed in this section of decision theory, that the missing decision to the proclamation and delimitation of the Hellenic EEZ with other countries as Egypt and Cyprus are causing an issue of sovereign rights for Greece and Cyprus, we are able to see a topo-strategic advantage for Greece to protect its rights to exercise the full rights of Hellenic EEZ delimitation by the Greek parliament with neighbouring coastal states who want to have a long-term collaboration.

Part of strategy of the proclamation of an Exclusive Economic Zone is the preparation of the exercise of the EEZ:

A good timing is important, the risk of future negotiations within a weak position is increasing, if Turkey would proceed to a delimitation with any recognized state in the Eastern Mediterranean what until now is not done. Egypt and Cyprus are willing to sign a treaty with Greece for a delimitation, so the proclamation of the Hellenic EEZ is a next necessary step, in order to break any future claims by Turkey. In a potential negotiation, no appropriate court would question, why Greece claims its EEZ space, as the proclamation was done in time.

The principles that Turkey can rely on to support its positions are three (in ascending order of importance):

(a) the idea that the 1982/1994 Convention encourages political discussions as a basis for delimitation between neighbouring States.

(b) derogation from the "middle line", in the case of a semi-enclosed seas - a much larger set of parameters (geomorphological, coastline) shall be taken into account and financial criteria) - based on the principle of "fairness"

(c) and the principle of proportionality.

For the positioning of the Hellenic party, it is important to have in mind the different scenarios of a proclamation, mainly the positioning of the neighbouring countries:

(a) Turkey has not signed the Convention on the Law of the Sea in order to be not binded or get any disadvantage due to upgrade of islands EEZ rights; Greece is able to support the Convention of the Law of the Seas as a basic concept for Cyprus or other Greek inhabited islands.

(b) Greece itself, is able to insist on the delimitation on the midline equidistance, having in mind a potential negative result in the ICJ in den Hague, but having a successful delimitation with Cyprus and Egypt in order to create a de facto status, leaving aside the topic of delimitation of Castellorizo and Turkey for an extended time after the ratified agreements as a result of the violation of the Cypriot EEZ, which is causing a danger of the future delimitation with the Greek island of Castellorizo.

(c) In response to Turkey's claims with self-created EEZ maps, which were published under the influence of public media coverage, Greece is able to apply an Ad hoc legislation as a legislative response, being the primary necessity for the positioning of future negotiations. This EEZ proclamation can be done after the agreements with Cyprus and Egypt. Important to mention is that Turkey is not able to insist on the disadvantage due to lack of hydrocarbons in their EEZ, e.g. in the Castellorizo EEZ (Bruneton et.al. 2011, 23) – as the region of Attalia is an area in the Eastern Mediterranean which is included in the estimations of potential hydrocarbons findings. An overview of the locations of significant hydrocarbons estimations in regions of research are shown in the graph below, specifically named “Kylikia basin”:



Figure 27 Geological units of possible Oil (incl. Natural Gas) targets in the Eastern Mediterranean basins

(Papasachos 2017, 1)

3 additional facts should be taken into consideration for a future negotiation on the delimitation between Greece and Turkey:

1. Turkey did not sign UNCLOS, which is a strategic step towards the former regime of continental shelf, which is strengthening their position of a geological approach. Of course, they recognize the CLOS as far as their legal rights are utilized as well.
2. Greece and Turkey have to agree for a procedure, e.g. in the framework of CLOS and nobody here is able to go one-sided to the International Court of Justice in den Hague for a delimitation decision.
3. EEZ claims should be based on International Law, any negotiation on the legal platform in a decision by the Court in den Hague is a result of future negotiations by Greece and Turkey.

Using the Nash-theorem, which worked on the strategic choices (one for each player) so that if they will be chosen, at least one of them could regret the choice he made.

						Y	Respects Non-expected POSITIVE outcome
EEZ Delimitation	Y	Both respect a court decision				N	Model "CHINA"
						Y	Expected NEGATIVE Court decision
	Y	Both respect a court decision				N	Model "CHINA"

						N	Turkish Model
EEZ Delimitation	Y	Previous agreement with Libya, Albania				Y	No Court decision/Political Agreement
						Y	No Court decision/No Agreement
	N	Previous agreement with "Cyprus" / "Egypt"				N	Turkish Model

Highly risk-averse parties would find an equilibrium within the framework of the Convention of the Law of the Seas (CLOS).

	C1	C2	C3	C4
B1	3 , 1	0 , 0	1 , 0	0 , 1
B2	1 , 1	3 , 2	0 , 0	0 , 0
B3	0 , 0	2 , 0	2 , 3	1 , 3
B4	2 , 2	1 , 1	2 , 4	0 , 0

Chart 1 Game with Nash equilibrium

Best expectations choices without Risk-Aversion from both for B (Greece):

1. B expects that C will choose C4 (1 , 3). Then his best option is B3 (2 , 0).
2. B expects that C will choose C3 (2 , 4). Then his best option is B4 (2 , 2).
3. B expects that C will choose C4 (0 , 1). Then his best option is B1 (3 , 1).
4. B expects that C will choose C2 (3 , 2). Then his best option is B2 (3 , 2).
5. C expects that B will choose B1 (3 , 1). Then his best option is C4 (0 , 1).
7. C expects that B will choose B3 (2 , 0). Then his best option is C4 (1 , 3).
7. C expects that B will choose B2 (2 , 3). Then his best option is C2 (2 , 3).
8. C expects that B will choose B2 (2 , 2). Then his best option is C2 (2 , 4).

In this game both players B (Greece for ranges B1,B2,B3,B4) and C (Turkey for ranges C1,C2,C3,C4) should strategically choose between these four options. The B player (Greece) for range B1 would find the maximum positive response if C (Turkey) would choose C1:

Similarly, for B4 if C would choose C3. We can notice here that B1, B2, would be the best choices for B while C would regret for his choice.

Simultaneously B might possibly regret for choosing B3 and B4 if C would choose something different. Let's see the maximum positive response from C for each column. The maximum positive response for C would be C3 and C4 as for B would be B1 and B2. We can expect only in case of a risk-averse behaviour of Greece and Turkey an outcome of (2, 2), marked in yellow.

We can notice again, respectively for C that the choices C4, B3 and C3, B4 would be the best result for C while B would regret for his choice. Meanwhile C is risking to regret for these two options if B would choose something else. Therefore, if we approach Nash equilibrium it will arise two Nash equilibrium, for the C2, option B2 of B is one equilibrium with CLOS involved as for the C3, option B3 of B, which we will prove in the following analysis:

Until now, one cannot say that with the acts of violations in the Cypriot EEZ, frequent statements of the Turkish officials, a negotiation on a legal or any other trustful basis is near.

Conclusion:

It is a non-typical chicken game, there exists a conflict of interests, the same time two NATO members are not totally unpredictable in their moves, it can be seen as Game with two outcomes of Nash Equilibrium with a reduced risk-aversion from the Turkish negotiation part, influencing the same time the higher risk-aversion behaviour of the Hellenic negotiation part. The outcome (B2/C2, B3/C3) is Pareto-superior to the Maxi-min equilibrium of e.g. (B2/C2, B3/C3), but it is not self-sustaining without a framework of UNCLOS. Turkey is increasing its influence in Syria, Libya and plans to proceed this policy to all neighbouring states. As for many years, Turkey follows a low-level collaboration in questions of territory and a lack of respect to law and human rights in their own state. Therefore, in this moment, no offer should be done to any Turkish government, as far as the Cypriot EEZ is violated, or effective policy of trust is realized in borders of the Aegean islands. Only after a change in the behaviour of the Turkish officials, a progress in the framework of CLOS is a potential outcome with an inclusion of the

Castellorizian EEZ, where we have not only a high chance to gain parts of claimed EEZ areas, but at least to get a legal-based agreement.

An optimistic expectation would be a successful agreement and a delimited EEZ with Egypt, Cyprus and Albania, in a later phase, Libya, as well as one pylon of necessity within the legal basis of CLOS - independent from a future agreement with Turkey. This potential outcome is marked two times in green on the chart 1 below, where the one agreement on a legal basis would be less EEZ for Greece (2 , 3), with a reduced EEZ area for Castellorizo or Rhodes, finding a result more in favour of proportionality, then midline, at least in the Eastern Mediterranean. The Aegean islands would partly have a reduced EEZ, using the coastline method, favoured by Turkey. The other outcome with an effect of almost all islands for the Greek EEZ (3 , 2), close to an outcome as we saw it in previous CLOS decisions of EEZ, e.g. of Columbia and Nicaragua. This would include an effect of Castellorizo EEZ, a potential disadvantage of Turkish claims in the Eastern Mediterranean, with a connection of the Greek EEZ with the Cypriot EEZ, but even here not exactly drawn by midline equidistance as shown in previous maps – a compromise of a changed EEZ line in the northern part of the Cypriot and Castellorizo EEZ shall leave Turkey at least a bigger proportion of the hydrocarbon findings in this northern EEZ areas between Attalia with Castellorizo and Cyprus. This scenario though is only favourable after an interruption of violations of the Cypriot EEZ in order not to create a negative paradigm, but viable paradigm in regards of a basis of International Law. Here, an inclusion of Turkish companies in the East-Med Gas forum, even in the East-Med is possible, if a gas exploitation contract awarded to a Turkish company in a common cooperation with another company as a result of true peaceful acts regarding the Turkish state towards Cypriot Democracy.

In a case this is not possible, where we have a continuance of geopolitical goals of territorial expansion, e.g. close to the plans of the published book “strategic depth”, we have to expect a more offensive Foreign policy from Turkey until they are confronted with a potential loss, be it by a deterrence policy from Greece, or even an advanced economic embargo by the European member states, which causes far-reaching financial losses. Here, a zero-sum game is possible when it comes to a military conflict, where at least one of the parties thinks he can achieve all or most of its goals with an armed conflict which we see in the (0 , 0). We already see a Turkish policy towards Cyprus, which can be characterized as a Pre-phase of a Greek-Turkish dispute on a level of an armed conflict. This does not mean that a change phase by Hellenic forces

cannot result in a totally different result as the Turkish party expects. An agreement in the area of Castorizos is not possible in this scenario.

In all described scenarios, it is already possible to implement the planned Energy projects with Cyprus, Egypt and Israel, including the other collaborating countries. Here, the EuroAsia-Interconnector is a first proof of decisive events. In the following section, we will have a good overview for how the relations of Cyprus, Egypt and Israel influence the strategy of the Hellenic EEZ.

4.2.2 Cyprus, Israel and Egypt

The energetic findings concerning the Eastern Mediterranean, created a dynamic economic and political change in the geopolitical development within the entire region. The deposits of Cyprus, Egypt and Israel not only create an energetic independence, e.g. for Cyprus, but the other deposits of Israel (Leviathan and Tamar), as well as the hyper-gigantic Zohr reserve found within the EEZ of Egypt, created a change of Foreign Policy of Egypt, Israel and Greece, resulting in the economic and political cooperation on energetic projects, diplomacy and security. The most important element of improved political relations between Cyprus, Israel and Egypt, was the establishment of the bilateral and tripartite delimitation agreements regarding the EEZs (Exclusive Economic Zones) of the Democracy of Cyprus with the States of Egypt (2003) and with Israel as well as with Lebanon (2011).

Economic and political support for the promotion of an energetic integration of the project “East-Med”, specifically for the "EuroAsia-Interconnector", is granted by the European Union. Financial funding from the Connecting Europe Facility (CEF), with an amount of 30 billion €, is divided up to projects of energy of common interests (PCI). The Euro-Asia-Interconnector has access to a total of 5,35 billion available for the period of 2014-2020, of which 4,7 billion in the form of grants (EuroAsia interconnector 2018, 1). Main political reasons for the support is to enforce an Energetic network and the increase of independence in regard to energy sources. An economic cooperation with Israel started already (Agreement between Israel company Delek and Noble Energy to develop the marine blocks “Kalypso” in the EEZ of Cyprus) as well as with Egypt the cooperation is expanding (Cyprus aims to start pumping natural gas from its gas reserve “Afrodite” through a pipeline to an Egyptian natural gas liquefaction station facility), where at the same time the Cypriot Democracy recently signed an agreement with

Delek and Noble Energy in order to realize this project). "The export of Natural gas allows the supply of gas both to the Egyptian domestic market as well as to further export to 3rd countries, improving the development of the Cypriot, Egyptian and the Israeli economies. Prior to the hydrocarbon's discovery, Cyprus and Israel were not close allies, but the discoveries upgraded economic and diplomatic relations with both Cyprus and Greece. Continuing with the political effects, Israel has also another reason to participate to an alliance with Cyprus.

The Israel government has recognized the Exclusive Economic Zones (EEZ) of Greece and Cyprus. They delimited the Cypriot EEZ based on the delimitation, Cyprus uses and recognizes the Greek EEZ in the area and offers an advantage that Greece can use during negotiation procedures to support its claims on the area, which was immediately supported by the Greek Foreign policy to underline their claims of an EEZ including Castelorizo (Ministry Foreign Affairs 2013, 1). This cooperation will set up a powerful energy coalition between Greece, Cyprus and Israel. Due to the fact that its electricity consumption is coming from its own NG production, Israel not only wants to keep it that way but also to find new ways to export its NG with prospects, e.g. to the European Union, while the conversations with Egypt according to NG exports were not so efficient (Henderson 2019, 1). In the collaboration between Israel and Cyprus we cannot expect an enhanced alliance of the two Naval forces so far, but Israel will not accept any violence of their shared exploitation with Cyprus, in the deposit of "Afrodite" by Turkish vessels, if a deposit of Israelian exploration company is affected.

As far as Egypt is concerned, as a main future consumer and potential exporter of Natural Gas, it welcomed successful negotiations with neighbouring countries (Syria, Israel, Palestinian Authority) as they already started to cooperate within the exclusive exploitation of marine regions between Cyprus and Egypt as far back as 2003. There is an acceleration of the procedures for delimiting EEZ (the triple point) between Greece, Cyprus, Egypt by signing trilateral cooperation's, like the Operational Framework of Cyprus, Egypt and Greece, a Collaborative Innovation Network (CEG COIN), inaugurated during the 5th Summit in Nicosia in or the memorandum of understanding for enterprises between these three economies (Team 2018, 1). For Cyprus, these new connections with Egypt, Israel and Greece means that security in the region is strengthened and lead already to the delimitations, that support a connection of the Hellenic EEZ with the other delimited zones, illustrated in the map below:



Figure 28 Regional Cooperation

(Lakes 2015)

In regards to an EEZ delimitation, Egyptian governments in previous negotiations would prefer more a delimitation to the west in order to have no strict midline equidistance effect to the island of Castellorizo. Here, the actual regime has in mind the future relations to Turkey and the threat of influence from the Muslim brotherhood. So far, the diplomatic statements are from symbolic nature and effective actions on the military level towards a support of Greek and/or Cypriot sovereignty is not expected. In the delimitation preparations, where negotiations are ongoing now for years (Financial Mirror 2019, 1), a binding agreement with the Hellenic Republic for a delimitation between the Greek and Egyptian EEZ is pending. Even if the Hellenic and Egyptian negotiation part is interested in a delimitation with Cyprus, the involvement of the dispute of Cyprus with Turkey is not necessarily a reason to make any grants to Turkish claims in the EEZ triangle of Cyprus, Egypt and Greece. An agreement with Greece and Turkey in regards with castellorizo and Cyprus is still possible in future, taking into consideration the claims of equity, Turkey insists on. Greece shall insist in future negotiation, that any agreement in regards to a delimitation with the Greek islands of the Aegean, will include Castellorizo, and will have to make clear that without a delimitation of Turkish and the Cypriot EEZ, no EEZ agreement with Turkey will be accepted from the Hellenic Republic.

The goal is firstly, the respect to the sovereignty of the Cypriot Democracy, including the EEZ of Cyprus, secondly, the effect of Castellorizo as best as possible. In regards to a successful

EEZ agreement with Greece and Turkey, a sample case with the United States and Mexico shows how the island of Bermeja is able to change the delimitation borders, as it is the same supported EEZ claim by Greece for its island Castellorizo. The difference is that Castellorizo did not only not disappear, but it is inhabited and known as a touristic destination as well. The following map shows the gained EEZ portion for Bermeja island:

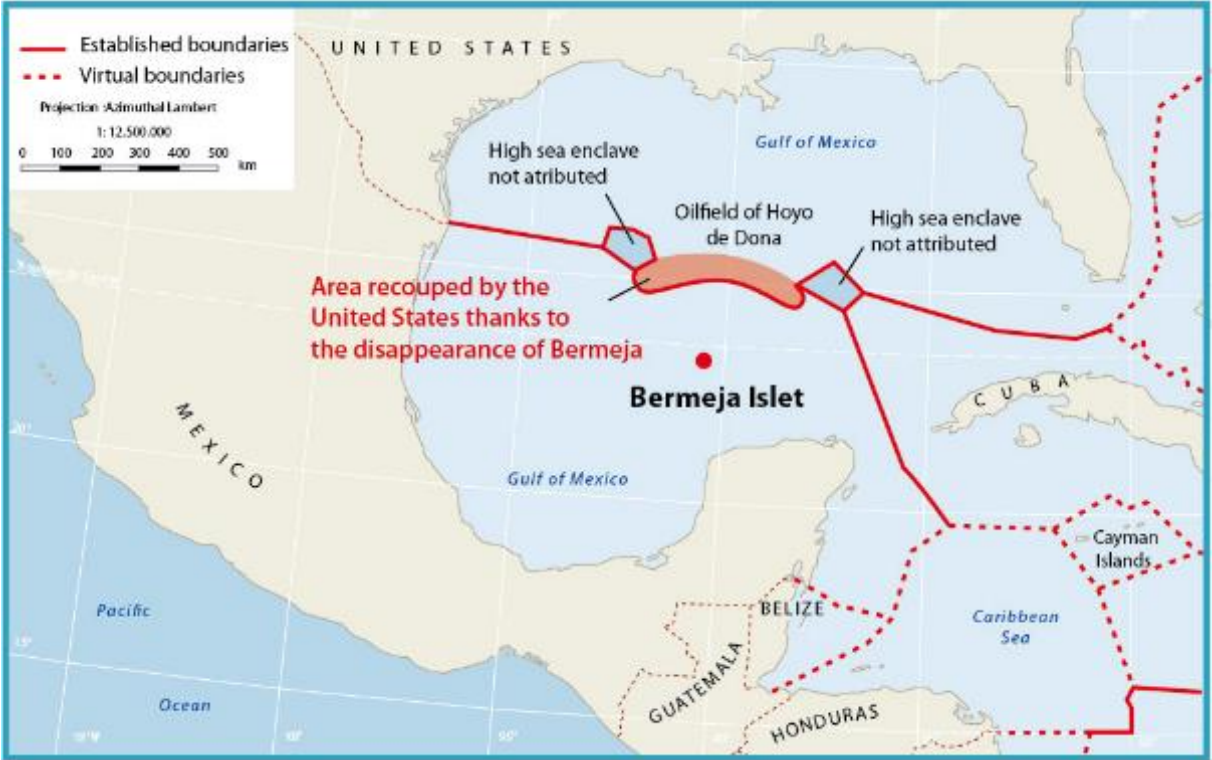


Figure 29 Established maritime boundaries of Cuba, U.S.A. and Mexico

(University of Caen Normandy 2007 - 2009)

In regards to a successful EEZ agreement with Cyprus and Turkey, a sample case with the United States and Cuba is applicable, if we are taking into account the island status of Cuba and the more continental taint of the U.S.A., as shown in the previous map. Similarities are not only the difference between the geological character of the continental shelf, starting from the coastline from America and the island of Cuba with a continental shelf mainly by law. The Cuban state lent the U.S. military basis from 1903 in Guantanamo, even though this status quo was not accepted officially any more since 1959. We see very well, that despite the political difficulties from the U.S. Foreign Policy all these years, in 1977 an agreement with a delimitation on the basis of midline-equidistance was used, giving effect to the island state Cuba, leaving aside power politics and respecting sovereignty rights of its neighbor (©. United

Nations, Maritime Boundary Agreement Between the United States of America and the Republic of Cuba - Office of Legal Affairs 1977).

Besides the positive development between Cyprus and Egypt in the field of energy, EEZ, e.g. the collaboration within the exploitation of the gas deposit "Afrodite" in the Cypriot EEZ, further efforts are necessary if Greece wants to convince Egypt for a delimitation line which comes close to the graph above. A combination with the economic interest of Egypt to use further their gasification stations or a participation in the East-Med pipeline towards Europe which includes Egyptian Natural gas shall be taken into consideration in any future agreement. Even if agreement with Turkey, including a full EEZ effect for Castellorizo is not expected with Turkey, any indirect recognition from the Egyptian government of the EEZ of Castellorizo while delimiting with Greece its EEZ and Cyprus, improves the position of Greece in a future negotiation with Turkey.

4.2.3 Albania, Italy and Lybia

If we start negotiations with Albania, taking into account the political goals of Albania, to become part of the European Union, or at least, to have a date for the entrance negotiations and the financial support they can expect from the Pre-Accession Assistance, if they would become EU member candidate. Greece wants to sign a delimitation for years now, but the last agreement was cancelled from the high court in Tirana, in Albania. If we can expect, that political reasons, e.g. the influence from Turkey played a role here, we should not forget the following strategic choice for Albania. The incentives for Albania, to have a priority as a future member state of the E.U., to get financial support in the accession process to become an E.U. member state, is dependent from the approval from EU-member states, including Greece (Commission 2019, 1).

Here, if Greece prepares well the environment of negotiations, a strategic choice can be done for both in an agreement for the delimitation of EEZ. The same as in the Aegean is applicable in the Ionian Sea as well. We have the starting point of three marine blocks (1,2,10) given by the Greek Hydrocarbons licensing round.

Greece should immediately move ahead in negotiations offers from major competitions and support the islands in the borders to Albania as a polity and state. An important example to follow in this context is Erikousa which faced significant coastal interface problem. After years of efforts an approved budget of 7,5 million Euro by ESPA was given for the extension of

Erikoussa's port, a project that addresses the needs of the past and prepares the needs of the future (902.gr 2017, 1).

Using the Nash-theorem, which worked on the strategic choices (one for each player) so that if they will be chosen, no one of them to regret for the choice he made.

	C1	C2	C3
B1	3 (B) , 1 (C)	1 , 0	0 , 2
B2	1 , 2	3 , 2	1 , 0
B3	2 , 1	0 , 1	2 , 3

Chart 2 Game with Nash equilibrium

In this game both players B (Greece for ranges B1,B2,B3) and C (Albania for ranges C1,C2,C3) should strategically choose between these three options. The B player (Greece) for range B1 would find the maximum positive response if C (Albania) would choose C1:

Similarly, for B2 if C would choose C2 and for B3 if C would choose C3. We can notice here that B1, C1 and B2, C2 would be the best choices for B while C would regret for his choice.

Simultaneously B might possibly regret for choosing B1 and B3 if C would choose C3. Let's see the maximum positive response from C for each column. The maximum positive response for C would be C3. Therefore, if we approach Nash equilibrium it will arise in B2, C2 or B3, C3 and which we will prove in the following analysis:

Best expectations choices for B (Greece):

4. B expects that C will choose C3. Then his best option is B1.
5. B expects that C will choose C2. Then his best option is B2.
6. B expects that C will choose C1. Then his best option is B1.
7. C expects that B will choose B1. Then his best option is C3.
8. C expects that B will choose B2. Then his best option is C1.
9. C expects that B will choose B3. Then his best option is C3.

Conclusion:

We therefore conclude that the expectation 2 of B with the expectation 6 of C are confirmed as options that coincide. It is not a coordination game, as there exists a conflict of interests and can be seen as Game with no Pure-Strategy Nash Equilibrium. The game-cycle would repeat without ending. Ironically, the outcome (B2/C2, B3/C3) is Pareto-superior to the Maxi-min

equilibrium of e.g. (B3/C1, B2/C1), but it is not self-sustaining. Albania tries to increase its political influence in all neighbouring countries, without collaborating in questions of territory until now and a lack of respect to law and human rights in their own state, including the Greek ethnic minority. An international agreement with incentives and/or enforcement provisions outside the payoff matrix would be necessary to maintain e.g. B2/C2 with an advantage for Greece in this scenario. We know, that as in the accession process to the E.U. included are 35 capitals and each of them is connected with 2 potential veto's by any E.U. member state, Greece has a negotiation advantage in the future.

- One additional positive result for Greece beside the delimitation of EEZ with Albania (1), is the full extension of Greek islands (2) Corfu, Othonoi, Marathaki and Erikoussa (which helps Greece to support the position for the EEZ of its islands). An additional third (3) maintenance of this result is the improved situation for the Greek-speaking citizens of the Albanian state with an international agreement with an enforcement provision outside the payoff matrix in order to achieve a progress.
- One additional positive result for Albania is the start of access negotiations to the E.U. for Albania (1), the same time they agree and ratify the EEZ agreement, which creates a change phase for the Albanian society as it opens chances for prosperity and perspectives of a modernized country within the E.U., respecting International Law.

In the Figure below we can see two important elements:

1. The importance of the Greek islands, the triple point of contact Greece-Italy-Albania, with their contribution to the EEZ with Othoni (top left), Erikoussa (top right) and Marathaki below the other two.
2. There are two targeted reserves in plot 2 a) Pyrrhus on top/left and b) Achilles on the bottom.



Figure 30 Pyrrhus Reserves, Achilles and the Greek EEZ

(Conophagos 2015)

Be it about the EEZ ratification, which has to be realized afterwards, or if it is for political stability and reliability from the Albanian state in regards to the rights of Greek-speaking Ethnic minority. Important to mention here is, that Albania voted for the rights of indigenous people, declared by the United Nations in 2007 (BBC 2007, 1). Other examples in the E.U. where we have recognized minorities in the E.U., be it the Hungarian one in Romania, or the Benelux countries, where a consensus is found, even though political differences are existing for many years. From 1994, the E.U. officials are aware of the issue and the difficult situation for the Greek-speaking minority in Albania remained a social challenge (Kostopoulos 1993, 72).

With Italy, the contribution of these islands was enshrined by the continental shelf agreement of 1977 with Italy which supported the notion of middle line that Voronoi diagrams contribute (UN 1977, 1) as we can see in the map below.



Figure 31 Agreement Greece – Italy
(Marineregions.org 1977)

Italy has signed the UNCLOS III in 1995 and has made delimitation with five neighbouring countries. From importance is that Albania and Italy signed a delimitation with the method of the midline / equidistance between natural coastlines of both countries and was ratified in 1992 (UNCLOS 1992, 1). Italy signed the 1971 Continental Shelf delimitation agreement with Tunisia and implemented the midline of 32 points without to include the islands of Pantelleria, Lampedusa, Linosa and Lampione which were within the Tunisian Continental Shelf due to proximity (UNCLOS 1971, 1). Italy has signed also a delimitation agreement with Yugoslavia in 1968 with the method midline / special circumstances and the agreement was kept and after the cleavage of Yugoslavia from Croatia, Slovenia, Serbia and Montenegro. With France signed an agreement of territorial sea delimitation in 1986 by the method of the median line / special circumstances in the area of the strait Bonifacio (UNCLOS 1986, 1). In 1974 Italy and Spain signed the Continental Shelf delimitation agreement with the method of the midline / equidistance (UNCLOS 1974, 1). In the case of Italy, there is a general coordinative and cooperative behaviour, in practice the Italian governments signed agreements with Cyprus for the exploration and exploitation of the Natural Gas deposits. Italy is supporting the International Law, including the EEZ, passed legislation empowering the establishment of Ecological Protection Zones (EPZ) in 2006 (European Commission study 2011, 2). Therefore, with Italy, we will move into joint exploitation without obstacles and the first step for delimitations is now typical and obvious to take with Italy, as it exists no conflict of interests.

In the past, Libya has established an Exclusive Fishing Zone of 62 nautical miles and created afterwards a fishing agreement between Libya and Egypt in 1995, which sea boundaries can see in the following map (European Commission study 2011, 1). Although, Italy is fishing in the area and making use of the fact, that the EEZ delimitation from Greece and Libya e.g. is not realized officially.

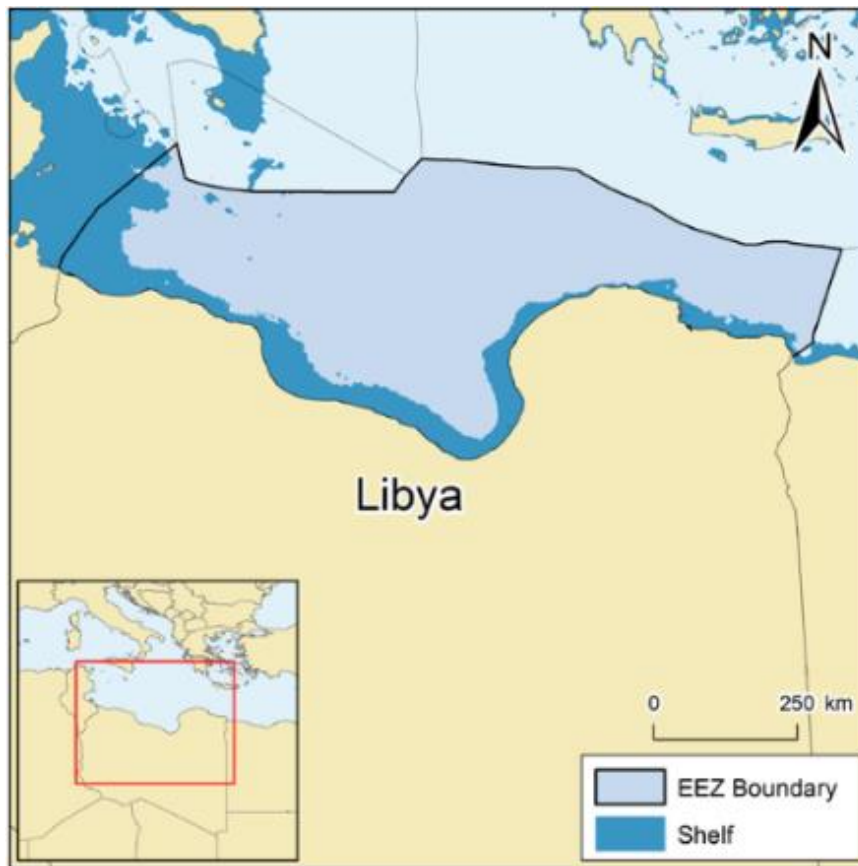


Figure 1. Map of the north of Libya, its shelf and EEZ-equivalent marine area.

Figure 32 Shelf-and EEZ equivalent marine area

(Khalfallah 2015, 12)

An Exclusive economic Zone was declared, Hydrocarbon activities are exploited in national waters as well as on the maritime borders together with Malta and Tunisia until now.

Libya at this moment, cannot exercise complete sovereign statehood due to a civil war, where no political power controls the whole territory of the country. Natural resources on- and offshore are a main factor in Libya's civil war and influence its political developments. Constantly looking for oil-rich allies to sell its oil, oil importing countries from Europe like Greece, France and Italy, but also from Israel, Egypt, Saudi Arabia and United Arab Emirates (UAE) may expect to secure access to Libya's petroleum. While France and Italy compete for influence in this part of the Maghreb (Cafiero 2019, 1), weapons are delivered from different interested parties. Two of three of the post-governments after the fall of the former dictator Muanmar Gadaffi which still search for unique representation of the Libyan people, the administration in Benghazi and the Tripoli-based administration, an interim government (both

are not elected from all Libyan people). The administration based in Tripoli is backed by Qatar, Turkey and other militias which partly have a connection to the Muslim Brotherhood or even Islamite groups. Even if the other administration in Benghazi has not been recognized so far, France, the UAE, Saudi Arabia, Israel and Egypt are backing General Khalifa Haftar's Libyan National Army (LNA) directly or indirectly, which is in the most regions of the country the eastern commander's forces have taken control of all onshore oil fields in Libya. But both have no control over the complete territory and could not find a common ground to cooperate politically (Cafiero 2019, 1).

The same unclear position is shown until now from Greece on Libya. If we consider, that the Muslim Brotherhood was always a method of the Turkish government to increase its influence in the countries in Middle East before, and the same time Turkey is trying with diplomatic and military support, to get an agreement with the Tripoli-based administration. In a theoretical delimitation of an EEZ between Turkey and Libya (ignoring totally the continental shelf of Crete, as Turkey claims there would not exist a continental shelf for any island whatsoever).

But these subjects are threatened by the military developments, were the Eastern forces of Libya, are not only getting equipment and military assistance from Egypt, the UAE, Saudi Arabia, France, but due to support from Chinese or other 3rd party supporters like Turkey, the U.S. official support to the Tripoli-based interim-government can change to a more neutral position (Laessing 2019, 1). To be mentioned is a phone call from U.S. president Trump, who praised Haftar for its efforts against the Islamic extremists, so we can expect that U.S. American interests for affordable and secure import and access to oil and gas from Libya influences future positioning (Laessing 2019, 1).

In regards to the EEZ delimitation with Greece, an official statement was done by the Libyan International Cooperation Minister M. Abdel Aziz in December 2012 (T. H. Hellenic Ministry of Foreign Affairs 2012, 1) favoured a framework that includes the countries that have maritime borders with Greece and Libya. As we can expect that Libya, who signed UNCLOS, the same time is still favouring all states to be involved in a future negotiation, which has a border to Greece, as well as to Libya on the basis of EEZ or continental shelf.

We can be sure that Egypt is also one country which will be involved. Even if we consider that Libya would prefer an involvement of Turkey in future in a re-negotiation or official agreement, the refusal of the Greek negotiating side is foreseeable. The Egyptians made clear their aversion

the last years more than once, regarding the irredentist Turkish claims or activities, up to the recent violation of the Cypriot EEZ (Egypt Daily News 2019, 1). Even though an official delimitation was not done with the government of Libya, a law as basis for the management of Greek Hydrocarbons exploration and exploitation was created in 2011, from the minister for Environment and Energy, Ioannis Maniatis. Specifically, in the official newspaper of the Hellenic Republic, the EEZ median-line of EEZ delimitation was published with the following description for the details about the Exclusive Economic Zone:

“The right to search, research and exploit the hydrocarbons that exist on land, subterranean and submarine areas in which the Hellenic Republic exercises sovereignty or sovereign rights according to the provisions of the United Nations Convention on the Law of the Sea, as ratified by Law 2321/1995, is exclusively owned by the State and it is always about the public interest.” (NATIONAL PRINTING HOUSE 2011, 3873)

“In the absence of a demarcation agreement with neighboring states whose coasts are adjacent or adjacent to the Greek coasts, the outer boundary of the continental shelf and the exclusive economic zone (after being declared) is the middle line, each point being at an equal distance from it. the closest points to the baselines (both continental and islands) from which the bandwidth of the Aegean Sea is measured.” (NATIONAL PRINTING HOUSE 2011, 3873)

We expect from Libya so far, that it accepts Crete's EEZ, not only because of the missing protest or any statement from Libya regarding the 2011 Hydrocarbons Law of Greece, which is describing in detail the EEZ lines.

Italy and Greece used the midline equidistance giving effect to Corfu. Including its three islands Othonoi, Marathaki and Erikoussa, in case the realized EEZ with Italy causes a result for the delimitation with Libya, the following scenario is possible: The involved countries are at least Egypt and Italy and if Egypt is agreeing to a delimitation on the basis of midline-equidistance with Greece, the future Libyan government will agree to an EEZ agreement, strengthening the already good relationship with Greece the last decades (not only in the field of Naval Force training).

But also, because we know that in the case where the island Malta was involved, an EEZ recognition of the island in 1985 was realized. Even if we take into account Malta's Special status as an island-State, Malta was granted a significant area (T. -M. Tzionis 2019, 12). Malta is one of the countries which has no continental shelf borders with Greece, has also signed with Libya, and as an island state made use of its claims as best as possible, even though it did not

gain full effect. It is one of the countries which supports Greece by their claim to have full effect of the island Gavdos.

This example illustrates not only that the EEZ is not exclusively about length, because of 200 NM. The essence of the EEZ is the area. Thus, Gavdos' contribution through the midfield is not only half of the 26 NM. In fact, it's a whole front with this thickness. So, when we know how important oil activity is in this area, we fully understand the magnitude of the advantage, as we can see in the figure below through Voronoi diagrams.

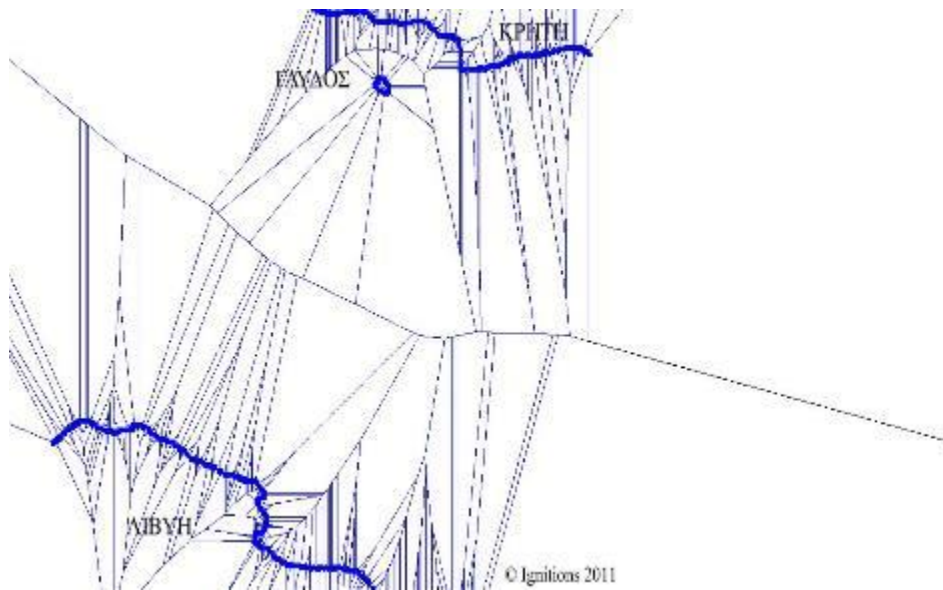


Figure 33 EEZ of Libya and Gavdos through Voronoi diagrams

(Lygeros 2011, 1)

The dominant question is, if a future regime of Libya will recognize the EEZ of Gavdos, too or not. Gavdos is the southernmost territory of Europe with an area of 29 square kilometres, has just 152 inhabitants in the 2011 census and relies especially in alternative tourism during the summer months. We see that people of Gavdos not only need to have a financial support, but need to accommodate a strategic mix of investments like: Ecotourism, Archaeology and Research, as it happened in the past with the University of Crete. Gavdos belongs to the areas of the Ecological Network NATURA 2000, which is a program for regional protection of environment with its Flora and Fauna, modernizing these special regions on a European level (Lialos 2019, 1). The island itself is inhabited since Neolithic times and has Minoan, Hellenistic, Roman and Byzantine period residues. Despite of its location, Gavdos is one of the three

geoinformation calibration stations worldwide by means of satellites and also for planet's climate changes (European Commission 2015, 1).

If the Greek government prefers to not show an official position which Libyan regime is preferred in future due to tactical reasons, e.g. in order not to offend the Tripolis-based interim government, the preparation for a reaction to any possible official statement of a common EEZ of Libya with Turkey (even with a missing basis of the Law of the Sea) has to be prepared. But on any possible action, Hellenic diplomacy not only should prepare for an answer, or even refusal of a statement of any Libyan administration, as a unilaterally proclamation is not representative for the Libyan people in a whole. The best final answer with the real power of economy and/or military forces is the protection of the developed common economic interests of the Energy Giants “Total” and “Exxon Mobile”, which have support from their country of origin as France and the U.S.A., after the signature of the contracts for the Energy agreement to have a license for drilling offshore of Crete, which is upgrading the geopolitical position from Greece (Ekathimerini.com 2019, 1). Even a new “Entente in the Eastern Mediterranean” as a counterweight to an aggressive Turkey with military operations in Libya or even a decisive European move, using a forbidden fly-zone, should not become a thinking ban. Scenarios, where 2 governments could create 2 states in Libya, Sirte (Cyrene) in the East and Tripoli as remaining state on the Western parts of Libya is possible or even a new government where the Eastern Forces General Khalifa Haftar is involved, should be taken into consideration. It would not be the first time, where a strong General, as a strategic positioning, could be backed by the Western Allies, even the U.S. administration, protecting their economic and security interests. We will see in future, how easy or difficult a preparation for a negotiation, applying Game Theory still makes sense with the delimitation of any Libyan state, if the hard facts of energetic development in the whole region will create an environment of collaboration for the Greek and Libyan people.

Being aware of the difficulties and low possibilities of successful delimitation agreements with Turkey, an official goal of Greek EEZ should be published openly. Not only as it is an act of sovereignty of any state, if a proclamation of a Hellenic EEZ is done with the sending of coordinates of the claimed EEZ to the United Nations, as we can see in the following map of the potential EEZ of Greece using the midline equidistance to all neighbouring countries.



Figure 34 Hellenic EEZ

(Poullados 2016, 1)

In the next chapters, we will analyze the political effects for the Hellenic strategy in the notion of geo- and time-strategy (chrono-strategy).

5 Strategic dynamics and the Hellenic legacy

In time-strategy (chrono-strategy), what connects the past and the future, is the act. The same applies to a nation, an idea or whatever else that has continuity and depth over time and is intertemporal. A good example is the Hellenic tradition of values, education and traditions of a trade- and seafaring nation, which applies upon strategy over time for a law with such a long-history. The strategy owes its birth to the need of protection of the weak from the strong - If we take a classical example of the ancient times, where the Hellenic people were confronting the Persian Empire, a long term strategy for decades or centuries or millennia, we can call it time-strategy (chrono-strategy). This successful strategy is well-known as Hellenic legacy to the co-existence of European cultures, what we call today the Western World.

The modern states of the Eastern Mediterranean face again a new threat to their trade connections, mostly energy exploitation- and routes from actual and future resource deposits of gas and oil. The modern Turkish state entity and its government is threatening the chances of prosperity for the affected cultures of the Levantine, Cyprus and Israel as well as for Egypt and Greece. The sphere of influence is complicated and influenced from global powers as the United States, Russia and other global players, like China as well. In this chapter, I will show the challenges for the East-Med project and how the Greek government is able to protect economic and strategic interests with determined decisions for the Hellenic EEZ, setting the framework for further investments in the field of Energy in order to create a long-term economic upswing.

5.1 Hellenic Exclusive Economic Zone as National Strategy

The obligation and responsibility of a country's political leadership is to implement a national strategy at the disposal of all the means of the state, such as diplomacy, the economy, military power, culture. In strategy, a dominant power is defined on 2 main categories, “Hard Power” and “Soft Power” with 4 decisive pylons, “National Defense for Security/Sovereignty”, Economic strength to improve its power, as well as the Soft Power in contrast, as the Political System and Culture, which is shown in the graph below:

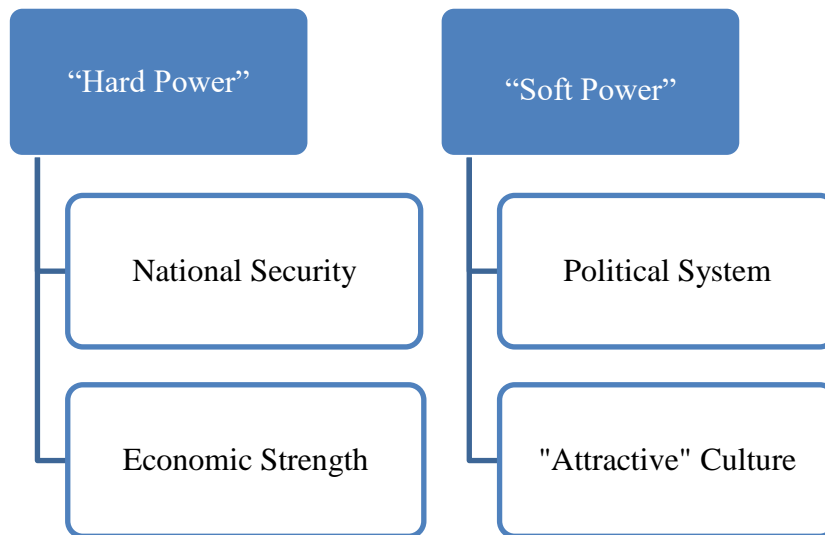


Figure 35 Pylons of Strategy

(Skinner 2019, 1)

Each state in their international behavior tends to achieve improvement or at least the stability of their national power, which means a responsible state prevents at least their national position from deterioration. The reason is, that the pillar of state power, namely defense and security, is the main, most important factor. If this pillar of power of a nation-state is dramatically reduced, then the result may be the dissolution of the state entity. Let us point out that in the last 10 years, the Greek economy have not been part of the hard core of the Greek state's power, but the state continued to exist. Because regardless of any government that is responsible for a few years, it must do everything in its power to ensure the security and sovereignty of its country. In the context of a National strategy in which it is possible to question the notions of strategy or tactics, the geostrategy is a tool to effective resolutions of National threats in a situation critical to a Nations land (topos).

In the theoretical research on what strategic analyst Dr. Nikos Lygeros calls abstract strategy (Lygeros 2009, 1), in order to overcome different notions of <<proximity and accessibility in space areas of maritime, aerial or even space, we are able to exploit methodologies like compactness, connectivity, using topology (logic of space) and geometry as synth of geography and strategy>>.

Exercising military power in a geostrategic space, aiming at enhancing security and prosperity for a Sea Power, is a necessary methodology to secure the access to certain trade routes, strategic bottlenecks, rivers, islands and the sea itself. For this geostrategic goals, international relations play a key role for the development of geopolitical power. Therefore, geopolitical tendencies and political developments in the broader region in the Middle East and the Eastern Mediterranean Sea cannot be ignored by the Hellenic Foreign Policy. The international geography of power will play a key role in the development of the new balance of power in the Eastern Mediterranean, if we connect it to the security of trade routes for goods, but especially energy resources. Here, the Sea Powers are able to dominate the Land powers, if they control the Lands between a real land power as Russia, or China, but the same rule works for smaller land powers, e.g. like Turkey or Pakistan, if they are working as a proxy for the main land power. We will analyze the recent developments in international relations between selected countries, NATO-members or allies of the U.S.A. and how the geopolitical changes affect the security and prospects of the Hellenic Nation.

Today, Turkey is increasing its efforts, pursuing a revisionist policy against Greece. As it was in the past the expansion of Greek territorial sea-miles off the coast up to 12NM, which Turkey sees as a reason for war with Greece (Michalopoulos 2018, 1), today it is the willingness to participate in the East-Med project without an agreement with Turkey, as it is fallout effect on Turkey's plans to become an energy hub (Meliksetian 2019, 1).

Serious circumstances concerning National interest have to be confronted by applying an effective Foreign Policy. A responsible answer of Greek Foreign Policy is not proclamation of war due to provocative actions from Turkey, e.g. violations of National Greek airspace, neither is the defense from national danger through intelligent diplomacy an outdated measure. But it goes hand-in hand with the preparation of any scenario of security threat for the Greek state, which depends also on many geopolitical upheavals. A good example for good relations due to ongoing diplomatic efforts from Greece, is Lebanon, which for Greece remained one stable anchor for Hellenic long-term Foreign Policy in the Middle East. For many years, from the humanitarian aid for Lebanese people in the aftermath of its war with Israel in 2006 until the trilateral cooperation in 2016, the aim is a stable collaboration regarding issues of common interest, primarily for peace and stability in Eastern Mediterranean (H. Hellenic Ministry of Foreign Affairs 2019, 1).

A symbolic dogma of Turkey, reminding their Ottoman past is if they try to connect the past with the future, while the Turkish government celebrates the 29th of May in this year as

demonstration of continuance of time-strategy (Anadolu Agency 2019, 1). This National policy of identity was not used the first time, if we are remembering the political development of Turkish policy of their society after the Greek-Turkish war in 1923: Following the tradition of former politician and general Mustafa Kemal, Nationalistic campaigns were driven: In the city of Constantinople of 1955, ten thousands of Greek people, who should have been legally protected by the treaty of Lausanne, had to leave their homeland and with this exodus, leave their Greek heritage of thousands of years behind. If we want to understand the Greek-Turkish relations, is important to recognize also our mistakes in Greek Foreign policy, at least if we realize the human catastrophe in the times of the Junta in 1974 and the occupation of Northern Cyprus by Turkish forces. The same time, we are aware of the fact, that every Nation is protecting its interest in the context of strategy. But a question of interest is, if the invasion of Turkish military in Cyprus was done due to topological reasons only, e.g. to get enough territory in order to have the opportunity to protect Turkish-Cypriots as force of guarantee in respect to the treaty 1960. If we expand the time frame of the Cypriot history and the Turkish claims, we are having at least two more historical events: The first one is the invasion of Cyprus in 1570/1571 from the Ottoman Empire, the Second change is the surrender of territorial rights to the British Empire in 1878 (Treaty of Berlin) and the return of Turkish forces in 1974, including the illegal settlement of people from Turkey to the occupied part of Cyprus. The answer to these tragic events was not the creation of new enemy images due to the behavior of Allied forces such as England or the US, but a fresh start of relations with the West and entry into the European Community, in 1981. In an economic union, later in a monetary union, common interests are growing, and the political influence for Greece in order to give answers to the difficulties with Turkey, is higher. Subsequently, the focus of the European Union to insist on Human rights and the respect of the law in a constitutional framework, which opens up possibilities of future laws, that can create justice and equality for Greece, too. The power of economic prospect, political freedom, cultural diversity of a Union or at least federation of European Nations, stays an attractive goal for many pro-western citizens of Turkey.

A final stage of these comes is the mental extension of time-strategy, that capitalizes on the geopolitical timelessness by using time as a stable point as opposed to space. The basis of this approach should exploit the Aegean Sea that acts as a dynamic safeguard on three continents by creating a passage and coherent link in Europe. We know that over time the islands, because of sea, constitute a strategic advantage in psychology and obviously in commercial advantage as well. That is why another point of interest in the context of security in the Aegean, driven by the geostrategic interests of the U.S.A, can be combined with the interests of the European

partners. Such an example of consistency is the Mediterranean EEZ, for the European Union on energy association we have mentioned in the context of establishing gas pipelines, LNG ships to move, sources of renewable energy (RES) placed and finally making progress in new technologies.

Another friction of time- strategy, and perhaps unconventional - that occurs in relation with Turkey that we mentioned previously, is the issue of Genocide. The Ottoman Empire gave territorial consistency to the today's Turkish State committing a triad of genocide (Armenians, Assyro-Chaldeans, Pontian). The difference with Germany that belongs to EU is that Germany as a state sponsor of Nazis, has recognized the genocide to Jews and has paid compensations for it. Including that in the context of game theory initially we are seeing players who have interests but do not play simultaneously. One example for this conflict of interests is Turkey and the bordering states of Cyprus and Greece with a Turkish strategy of expansionism. In this context, additional claims are done by Turkey on the level of a promoted National vision as it is with Mavi matan ("Blue Motherland") exercise, covering a terrain including the Aegean, the Mediterranean, and the Black Sea (ToVIMA Team 2019, 1) This strategy is motivated by Turkish geopolitical goals of anachronistic occupation, be it with the recent violation of the Syrian territory, or by forcing parts of the Kurdish population to flee from their traditional motherlands. So that is why the violation of the sovereign rights of the Cypriot Democracy in its EEZ are the continuance of an official policy of revisionist goals in the whole periphery. Just a few months after its publication from the Turkish president Erdogan,

A strategic answer by Greece, that can act as basis for a later operating of EEZ by time-strategy, will be the protection and utilization of the Hellenic EEZ. The EEZ is to give a potential element as it affects sovereign rights, huge economic benefits and if we talk about Europe, consistency and energy security issues. In a scenario of a future negotiation with Turkey, it is important to add that the triad of genocide, that has been recognized by a European parliament in 2015 (AFP 2015, 1). Every year more and more countries and organizations recognize the issue of genocide like the recognition of the Armenian genocide by the U.S. congress (Seferian 2019, 1), while the Pontian Remembrance Day reached 100 years. This strategy is to remind Turkey of the one and only way to find a potential return to the E.U. entrance process - the recognition of Human rights, its responsibility of historic crimes against humanity and the respect of law.

In this illustration of the following image, we see the importance of Pontus and how Pontus gives EEZ in the black sea (93.155 km²).



Figure 36 EEZ of Pontus region

(Lygeros 2012)

The map of the Pontus EEZ shall not be an answer to the additional claims shown in the published EEZ maps from the Turkish Foreign policy. But as an additional level of time-strategy we should take into consideration bilateral relations of Turkey and Greece, especially in regards of respected treaties in the past in order to have set right expectations for future agreements, including the agreements for sovereign right of the EEZ delimitation. When we accept the offensive acts regarding the violation of sovereign rights of the FIR (Flight Information Region) of Greece or the illegal drilling actions in the Cypriot EEZ, we hardly can expect an improvement of bilateral relations without well-prepared decisions. One way in order to make any future EEZ agreement with the hope to have a stable abiding by the contract, is an act of good will after an EEZ delimitation, be it with the rights of the Greek minority of Constantinople, which is not even on the same level of a transnational contract as the treaty of Paris, 1947. Not luckily this treaty, defining the sovereignty of Greek islands, naming Castellorizo, is often ignored by Turkey if it is about the Dodecanese island in the Aegean archipelago.

A future agreement with Cyprus for a delimitation can only be realized after an actual improvement of the two states. An example could be the acceptance of a Turkish marine basis in Northern Cyprus by the Cypriot Democracy, as a reaction towards a recognition of Cypriot EEZ (independent of the delimitation between Cyprus and Turkey). Therefore, the recognition of an independent state of Cyprus as a mandatory act from Turkey is a pre-condition before any discussion for a compliance with any treaty, which are on the level of sovereignty (Zurich).

We conclude that according to the mental schemata of the future, based on the time-strategy and through game theory we ought to deal decisively in regards to this matter. Initially the recognition of the genocide of Assyro- Chaldeans is necessary (because at the moment Greece recognized only the Armenian and Pontian genocides) in the Greek parliament and with the struggle for recognition of the triad of genocides we can draw attention upon the matter all over the world. Beyond the context of time-strategy for Europe, is to achieve globalization of this issue, that will create one Humanity strategy for Greece as well and put a restrain upon the crimes against Humanity.

The result of the control and exclusive right of exploitation becomes an advantage for a Sea Power like Greece, as it is already more dominant in the Shipping sector, e.g. in the trade of highly demanded Energy resources, specifically LNG. The Shipping fleets today are mostly independent of the Nation States by law, but their economic and political connection with the States of origin play a key-role for the Shipping supportive economies, who are functioning as modern Sea Powers. The contribution of Greek shipping to the economy itself is important, having more effects as i.e. receipts in the services balance of payments from maritime transport services. Indirect economic investments, employment opportunities as well as making Greece an international essential and strategic trade partner of major economic and political forces, with 22.5% and 20.3% of the Greek-owned fleet's activity being dedicated to the U.S. and the European trade respectively and with the greatest share of the Greek-owned fleet's activity, i.e. 31.8%, taking place in Asia serving the fast growing Asian economies (UGS 2018, 1).

As explained so far, the Hellenic Energy sector can make Greece not only to a maritime power for Energy transportation of the European Union, but creates new balances in the region of Eastern Mediterranean. Firstly, because the support of the project Euro-Asia Interconnector, which is connecting Israel, Cyprus and Greece, using a power grid of up to 2GW, will make the two countries, Israel and Cyprus, from an importer of Natural gas and electricity, to an energy exporter. If Greece is involved in this project, in combination with the EastMed-Project, it will not only help the involved countries to create a new geo-economic balance in the Eastern Mediterranean, they will help to create a new geopolitical fact of growing, independent countries. Egypt is already trying to follow the Economic Policy of Israel, making cooperative bilateral contracts with Cyprus and Greece, Jordan and other regional economies, but also trying to demonstrate its independence from the Turkish economy as well as the political positioning in the Eastern Mediterranean. This year, a campaign to boycott imports from Turkey is a first

example of the National priorities of Egypt, which is linked to the aggressive policy of Turkish policy against Cyprus and Lybia, which is against the interests of Israel, Cyprus, Greece and Egypt (Megahid 2018, 1). This change in its foreign policy is an effect of the gas-findings of Egyptian Zohr field, but also the change of interests from Egypt and other countries in the region, be it Israel or Golf-States as United Arab Emirates towards terroristic groups in the region, supported by Turkey and Qatar. Having a common goal of stability and security in the region, many former enemies became partners in the region (Cafiero 2019, 1).

Besides the U.S. Administration, France is the most pushing player towards the successful development of the EastMed-pipeline so far. The Hellenic Republic and the French Republic as well as other EU member states are unlikely to accept a violation of Cypriot sovereign rights as it is threatening their economic and geostrategic interests with the Cypriot Democracy, specifically the findings in the Cypriot EEZ. With the concessions and long-term contracts (from the seismic investigations to the extraction of Natural gas and oil there is a period of up to 35 years), the cooperating companies like ENI, Exxon Mobil and TOTAL de facto recognize the Cypriot exclusive economic EEZ rights in order to explore and exploit its resources (Euronews 2019, 1). What should not stay unmentioned, the U.S. Navy was present in Cyprus, as in March 2018, when Exxon began conducting survey work (The Maritime Executive 2018, 1) or as another step for a long-term alliance with Cyprus and Greece, France sent its naval force to Cyprus, if necessary (Eleftherostypos.gr 2019, 1). A very important element for the enforcement of the Cypriot EEZ is that the E.U., firstly in a resolution 08/02/2013 then in November, 2018 identified its strategy for the energian path-map until 2050-, which will allow Member States to cooperate in the context of the Roadmap in the spirit of solidarity, the creation of the European Energean Community encourages the work and the determination of the policy context for 2030 within the appropriate time period, in order to create a feel of security to the investors. The EU energian policy here has a focus on security of supply, diversification as well as the solidarity to support Cyprus, a member state of the E.U., as well as the European Union itself (European Commission 2018, 3).

For Greece it is important to strengthen its positions in regards to its EEZ itself, and as that effects each of its islands. In this way, they Greek nation will have a vision for the future of all their regions, a fact which will also strengthen Greece at a national level, as the income for the Greek state as well as the subsequent effects of investments are visible on all inhabited islands. The economic upgrade of Castellorizo is possible if we start to invest in its future. As touristic destination it is not famous as it could be, but a decisive factor is the political upgrade in regards

to the European strategy for smart, sustainable and inclusive growth (European Commission 2019, 1), as it foreseen in the 2014-2020 European territorial cooperation to strengthen the goals of Cohesion Policy. Here, we are looking of course to its mineral richness, but also other rights, i.e. maritime research, fishery quotas, making first institutional steps of exercising the sovereign rights of Hellenic EEZ. That is why, as a decision of strategic interest, the preparation of the exercise of EEZ is as important as the proclamation of this exclusive economic zone, based on UNCLOS, itself. Additionally, the EEZ acquires at the same time an important geopolitical significance that has so far escaped the attention of Brussels and of course Athens. The EEZs of each member state of the European Union include their islands, whom size of significance can be seen in the map below:

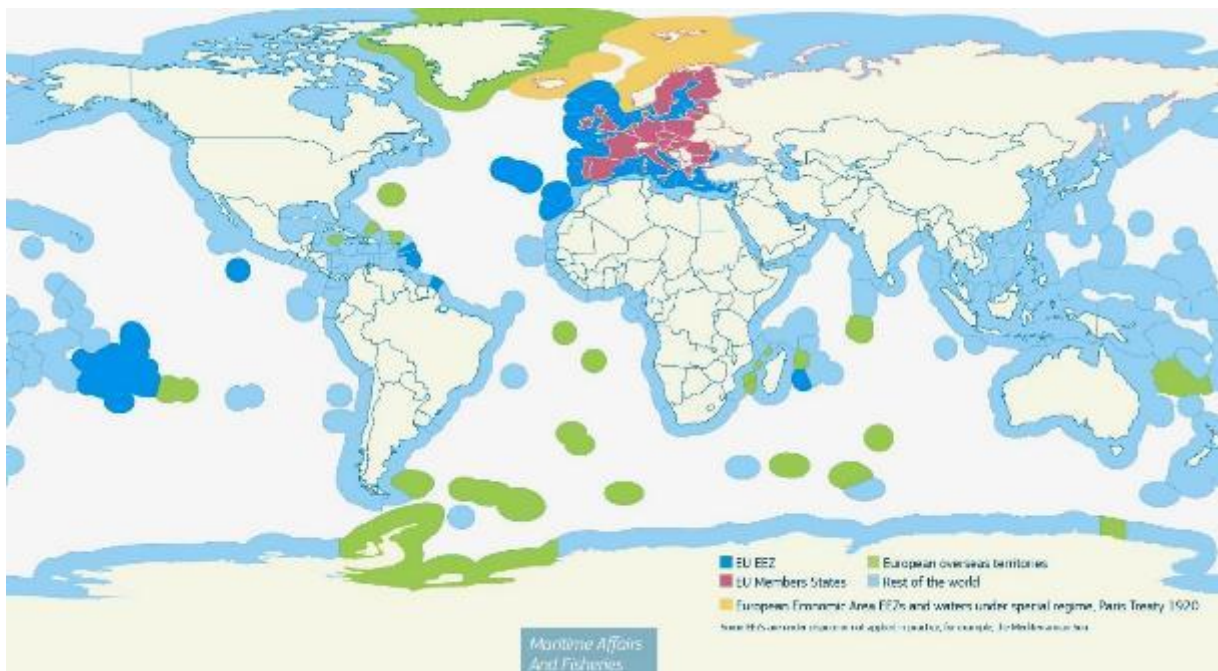


Figure 37 European EEZs

(Marine Spatial Planning 2016)

5.2 Strategic partnerships in the Eastern Mediterranean

With a more globalization global economy, the central concept of a grand strategy of nation-states, defined by power with a combination of diplomatic, economic, military, and political factors, is expanded by the intersection of international politics, culture, markets, and technology (Skinner 2019, 1). The Euro-Asia Interconnector as a project is a good example for international coordination and collaboration, as it is not only supported by Israel, as Cyprus and Greece have both a common interest in the project and it is supported the same time from the European Union as a project of common interests of the whole E.U., as described in the previous

chapter. The realization of this project is dependent of many aspects: Be it the long-term feasibility, driven by the demand of energy by European and Non-European importers of Natural Gas, including the political support of the participators – but important for its maintenance is the security of its infrastructure, as it is necessary for all kind of energy infrastructure. A significant aspect is the geostrategic dimension, the project of East-Med is bringing on the table of a global chessboard.

An important contribution to geostrategy in the 20th century, was done by Mackinder in his 1904 work, described the world as a “closed system” made up of three areas: a continental “Pivot Area” surrounded by a partly continental and a partly oceanic “Inner or Marginal Crescent” of Euro-Asia and that, in turn, is surrounded by an oceanic “Lands of Outer or Insular Crescent of the Americas, Africa, Australia and Japan” (G. Friedman 2019, 1). He envisioned that the Pivot Area, which he renamed the “Heartland” as that vast area of Euro-Asia, which is inaccessible to naval war fleets. He further believed that systems of internal railroad transportation nets were superior to external sea transport. The condition of this enhanced mobility by railroads would allow the Heartland to combine its vast military and economic power to create a very powerful possible global hegemony, as it is shown in the graph below:

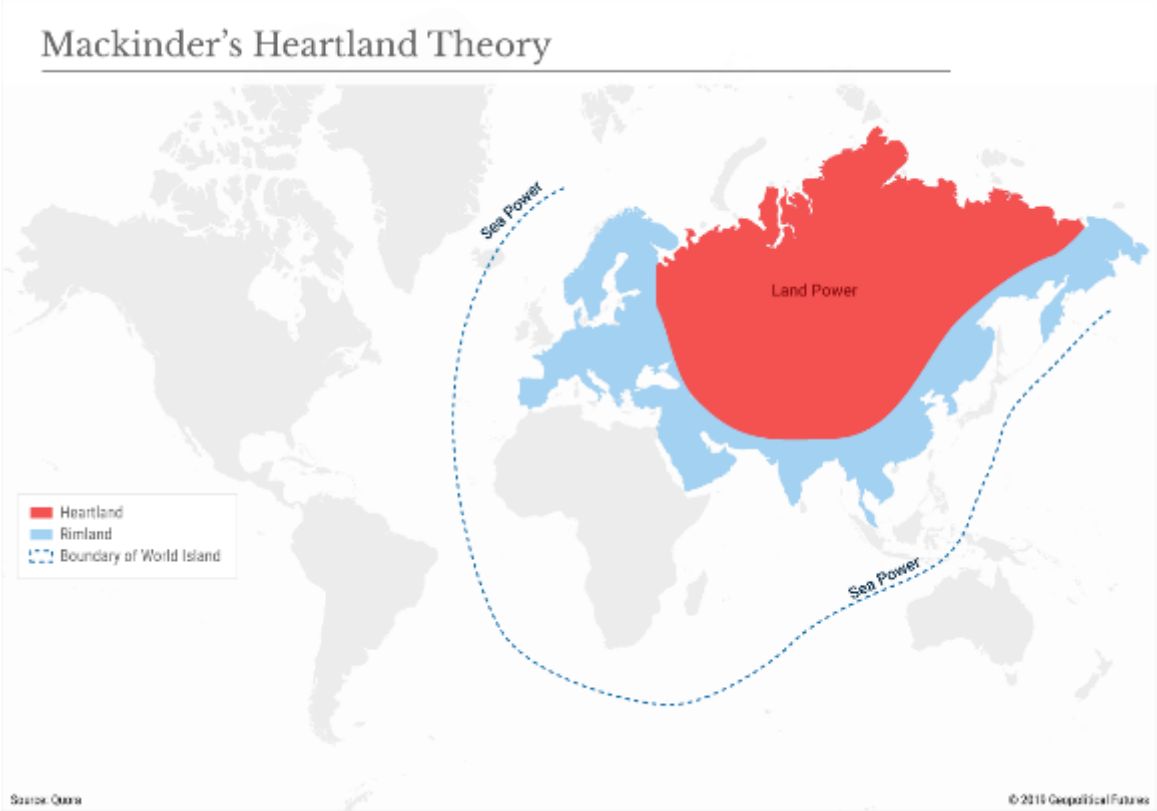


Figure 38 Mackinder's Heartland Theory

(G. Friedman 2019)

This hegemony could produce a land power, based on the Heartland (marked in red), that could then gain political control of the Inner or Marginal Crescent – the coastlands of Eurasia (marked in blue), and then be able to build a navy more powerful than the sea power of Britain and the United States. “The oversetting of the balance of power in favour of the pivot state,” he thought, “resulting in its expansion over the marginal lands of Euro-Asia, would permit the use of vast continental resources for fleet-building, and the empire of the world would be in sight” (G. Friedman 2019, 1). His candidates at the turn of the 20th Century were Germany allied with Russia, or China allied with Japan. Today, one more readily can consider China, still allied with Russia, as befitting Mackinder’s potential Heartland coalition (G. Friedman 2019, 1), but other Euro-Asian coastlands as well, who drift away from European or U.S.-American spheres of influence, as much as possible for them, be it Pakistan, towards a Chinese partnership, or as Turkey lately, towards a further collaboration with Russia in the economy and security sector. In the following, I will explain these developments further.

Nicholas Spykman, a professor of international relations at Yale University, called Mackinder’s Outer Crescent “Rimlands.” The Rimlands, according to Spykman, function as a vast buffer zone of conflict between sea power and land power. It then must defend itself from both.

The Mackinder dictum, ‘Who controls eastern Europe rules the Heartland; who rules the Heartland rules the World Island; and who rules the World Island rules the World,’ is false. If there is to be a slogan for the power politics of the Old World, it must be ‘Who controls the Rimland rules Eurasia; who rules Eurasia controls the destinies of the world’ (G. Friedman 2019, 1).

He kept Mackinder’s core model intact but included the United States, which projected power over the Atlantic and Pacific, and de-emphasized the importance of the Heartland, as it is illustrated in the map below:

Spykman's Rimland Theory



Figure 39 Spykman's Rimland Theory

(G. Friedman 2019)

His Rimlands include the countries of Western Europe (NATO), the Middle East – currently a boiling pot of bloody conflict – Southwest Asia, and the Far East, and North America. Those areas were vital to the U.S.-led West's policy of containment during the Cold War. The Asiatic Mediterranean, according to Spykman, was made up of marginal seas such as the Sea of Japan, the East China and South China Seas. These seas are vital to China's sea lanes of communication. To protect them, China must go to sea by developing its sea power. In the last century, the interests were not structured in favour of a Chinese sea power. Here, we shall not forget to mention the interest of China to bypass traditional rimlands and make use of the possible route via the sea lanes of the arctic continent. It is not a coincidence that a rising Sea Power with a merchant fleet like China, are interested in the new geoclimatic changes in order to reduce their cost of transport significantly shipping their goods to Europe and other importing economies.

The factor of Sea-powers, controlling the Rimland was already part of the theories, as a main strategy-theorem was developed before with a different conclusion. Spykmans' Rimlands, owed much of his thought to Mahan's stress of geographical position, not only on Mackinder's

Outer Crescent. Alfred Thayer-Mahan published in 1890 a book, the *Influence of Sea Power upon History*. It stated that sea power had been the deciding factor in the world dominance of the British Empire. The ability to control the use of the sea depended on a nation's possession of a productive, populous, easily defended homeland, coupled with strategically located overseas bases. This was expanded by a powerful navy which could control the sea lanes. Mahan's idea fit in with the fact at the time that the U.S. was a rising global economic power and needed access to foreign ports and markets, utilizing seagoing transport. The main categories of interest for a geostrategic advantage are:

- Water transport is highly cost effective, where cheap water transport by canal, ocean going shipping, etc. supported cost-effective bulk transportation of goods and resources.
- These transport routes require safe, secure sea lanes of communication, as these sea lanes, are the most important single element in strategy, political or military (Thayer Mahan n.d., 2),
- Crucial to effective sea power is the ability to control these sea lanes of communication, in order to ensure the communications to one's self, and to interrupt them for an adversary, effect the very root of a nation's vigor (Thayer Mahan n.d., 3).
- He also stressed that naval power comprises not only a military fleet but commercial shipping, a strong home base, as well as strategically located overseas bases. In his opinion, a nation denied the use of the seas, either through internal neglect or external force is doomed to eventual collapse (Thayer Mahan n.d., 54).

The old cold war is part of history, and China has changed its geopolitical role enormously. For many years, China was developing its land-and sea-based strategy concurrently, relying on its capabilities in economy, military and man power. They started already developing a modern navy to protect their overseas ports and bases, expanding their influence on the routes of trade, covering much more geographical locations, beyond the Rimland circle. Its merchant fleet grows also at an impressive rate, protecting its increasing trade routes for Chinese products and preparing the same time the resurrection of its ancient Silk Road trade connections westward through Europe, called "One Belt, One Road" project (OBOR), announced in 2013 (McBride 2019 , 1). The "Original" Silk Road came into being during the westward expansion of China's Han Dynasty (206 BCE–220 CE), including trade networks with Central Asian countries as e.g. Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, as well as India to the south. Those routes extended more than four thousand miles to Europe.

This project has both a land component – the Silk Road Economic Belt – as well as a sea-going one, termed the 21st Century Maritime Silk Road. The project aims to build a Silk Road Economic Belt made up of countries not only encompassing the ancient Silk Road through Central Asia, West Asia, the Middle-East, and Europe. It includes countries, who for years were allied with NATO, or cooperated in questions of security at least with the United States. Pakistan and Turkey, who are included in infrastructure plans of China, are starting new strategic ties to China. China attaches great importance to the railway and highway projects linking China to Pakistan, Bangladesh, Mongolia, Tajikistan and other neighbouring countries. The dimension of the project is illustrated in the following map, not only showing the infrastructure connections aimed by China, but also the choke points of trade routes, controlling the routes of sea:



Figure 40 Infrastructure of a world power
 ((MERICS) 2015)

There is a tendency of many old US-American allies, mostly Asian developing countries, representing a greater proportion in world economy, population, geopolitical significance, and the same time a huge demand for energy, trying to satisfy these needs. Another realistic threat to the U.S. interests are the bilateral relation upgrades from China to Pakistan and Turkey, be it with an economic expansion with the railroad network to Pakistan or the military assistance up to 6 billion dollars the last 12 years, making Pakistan the number one buyer of Chinese arms sales (Rafiq 2019, 1). Here, the United States are well-aware of the changes of priorities to

Pakistan, but try to make use of its partnership in the past or at least to remain a partner as long as possible, as the U.S. forces are awaiting a safe exit from Afghanistan, whenever needed. Pakistan is in a rivalry with India, knowing about the U.S. assistance for India, and is not willing to rely on economic and military assistance from Washington as in the past, manifesting the country's close economic relations with its great neighbour China. (Associated Press of Pakistan 2019, 1). This combination of security challenge for the U.S. forces in Afghanistan, the threat of greater influence from China, be it in military, economic or finally political support, is making the state of Pakistan indeed to one of the most challenging countries of geopolitical importance for the U.S. Foreign Policy. Coming to a conclusion that Chinese's economic assistance, diplomatic support and military aid offers as an alternative to Pakistan for "non-reliable" American partners is maybe a bit early, but is taken into consideration from the U.S. Foreign Policy, while former defence secretaries are publishing their experienced view of the development in Pakistan, addressing terrorism concerns (Economic Times 2019, 1).

The region of economic importance in regards of the oil supply today is the Persian Gulf, a leading oil-producing region. It accounts for 30% of global supply, making the Strait of Hormuz one of 2 choke points, for which the route faces an unavoidable given geographic constraint, from global importance (EIA, 2 Choke Points That Threaten Oil Trade Between The Persian Gulf And East Asia 2017, 1). East Asia is a major oil-consuming region, accounts for 85% of the Persian Gulf's exports. A Second choke point, for which the route faces an unavoidable given geographic constraint is the Strait of Malacca, the shortest sea route to move goods from the Persian Gulf to Asian markets. One quarter of all oil transported by sea (more than 15 million barrels per day) passes through the Strait of Malacca, while Japan and China's economies rely heavily on oil imports that pass through this choke point (EIA, 2 Choke Points That Threaten Oil Trade Between The Persian Gulf And East Asia 2017, 1). The following map is demonstrating the choke points of trade routes, controlling the routes of sea:

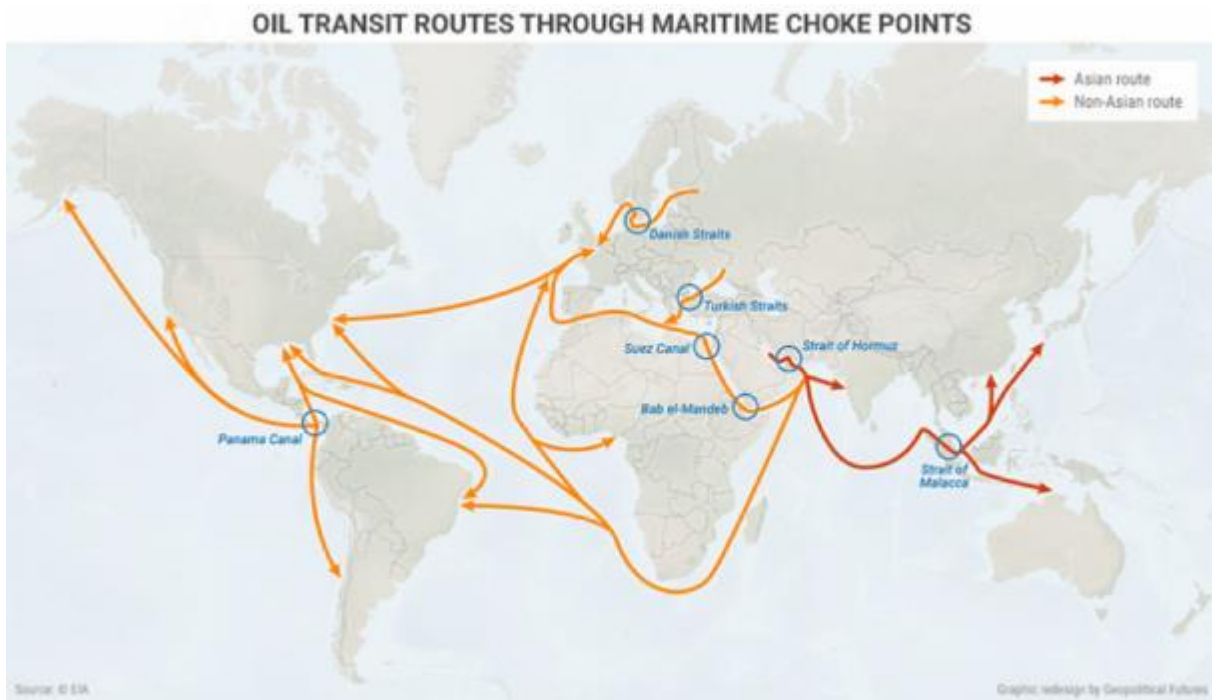


Figure 41 Choke points for Oil routes

(EIA 2017)

If we are recognizing the critical importance of these choke points in order to have to geopolitical balance, we understand the future importance of the trade routes from and to Europe, which are part of the strategic interests of the U.S.A. and their European partners, who are interested in control, stability and security of these routes for energy and trade. If we are focusing on the part of energy, knowing the increasing demands of China like other Asian countries, we can point up the regions of influence, U.S. American interests with the control of energy supply are or will become future conflict zones due to Chinese interests. Besides the already expanding influence of Russian Foreign Policy due to energy exports to the E.U., the Turkish position at the crossroads of the Middle East, south Caucasus, Eastern Mediterranean and Europe makes it a key geographical location for Chinese president Xi's "OBOR" project and his goal to expand its global influence to balance against the United States. While India acts as a country of balance, investing also in its neighbouring countries, Turkey is a second country, which searches for a further independence of its Foreign Policy, specifically from NATO, therefore U.S. interests. Despite political differences in regards of the Uyghurian minority of Turkish-Islamic origin, the economic development of Turkey and China puts a focus on the cooperation for the One Belt one Road Initiative (OBOR) project, the bilateral trade reached 23,6 billion dollars in 2018, making China Turkey's third largest trading partner (mingmei 2019, 1).

Pakistan and Turkey for years improved their relations, as they were already close-tied allies in questions of Islamic support for their countries' interests. One example was the stance Turkey is showing in the conflict of Kaschmir in the recent crisis, following India's decision to strip disputed Jammu and Kashmir region, , where Pakistan is welcoming Turkish support country's stance (TRT 2019, 1). Both countries decided take steps for further enhancing the bilateral cooperation in the aviation sector. It is a logical consequence of Turkey's attempt, as a key region in the borders to Europe and Asia, to strengthen its old allies and seek new allies as well (Uploader 2019, 1). One significant change in the military collaboration was done already with the integration of pilots from Pakistan, flying for the Turkish air force. It is a reaction to the quantitative and qualitative decline in military aviation after the coup in 2016 (Nisami 2019 , 1).

These relations show the threat of losing the control not only of the rimlands, the buffer zone of conflict between sea power and land power, as Pakistan and Turkey give a critical example for the changing facts of geopolitical influence from the U.S.A., away towards China. Here, in order to find common interests of Greece with the United States, it is important to remind us to the overarching national interests for the United States, known as "Pillars of American Grand Strategy":

- Prevent any attack on the American homeland.
- Maintaining the balance of power (be it in Asian, European or African hemisphere), e.g. controlling the global economy and putting US interests first.
- Third, preserve access to a reasonably priced and secure supply of oil.
- Foster the spread of democracy and respect for human rights abroad, including focus on liberalism for great powers.
- Geostrategic dominance, with the US national military with decisive presence in key-regions.

(Miller 2012, 8-28)

We have to answer to the question, if the increase of Energy independence of European countries towards Russia and the same time the further collaboration within U.S., French and Greek Energy companies in order to offer alternative energy delivery to the European Union, a sufficient basis, to ensure an upheaval of the Greek economic. Here, the Hellenic Sea Power is able to play a key role and is ought to take advantage in the fields of energy and security in the

Eastern Mediterranean, as a first step to ensure American support or at least neutrality in questions of security with Greece towards Turkey up to the point, it is allowed to the U.S. Foreign Policy. This policy was always characterized to not take position in the favour of one of both countries, as far as it is not against their National interest. Therefore, military support that is actively directed against Turkey and its armed forces cannot be part of Greece's defense strategy.

However, developments in the US global interests, its challenges to China, the Middle East, and developments in the eastern Mediterranean are a must for Greek foreign policy. Taking into consideration the listed U.S. American interests, we can expect, that the United States want to remain a force of hegemony in the Mediterranean Sea and the countries which connect the Persian Gulf with Europe. The Chinese “OBOR”-project one the Asian continent, trying to expand its influence via economic relations using its own infrastructure for new trade routes until Europe is one main goal, the Chinese state is focusing on. The trade routes using new basins using the Sea routes is an additional development to secure Chinese trade routes until the Persian Gulf, Europe and significant trade routes to Africa. As the investments to Africa, there is a tendency of higher Foreign Direct investment, which independent if it is supportive for the standard of living for African people, creates a political influence due to economic power in the states of interests for China, as well (Lim 2018, 65).

But the trade routes by the Sea includes the opportunity to control the transport of Energy, which is a way to influence economies worldwide, to be more independent of the energy routes via continental pipelines, not only from Russia, and therefore a tool to dominate the global energy market. Additionally, cheap, competitive energy resources and the control of this resources in order to meet the needs of the Western Hemisphere is part of the U.S. American goals, reducing the dependence of Russian oil and Natural Gas supply to European countries. Here, we have two decisive factors, which are causing a threat to the U.S. interests. Their ability to offer alternative energy supply due to their recent increased production of shale oil and shale gas is one of the reasons, they already invest more in the control and ownership of research and exploitation in the Eastern Mediterranean in the Cypriot EEZ as well as in the Hellenic EEZ by ExxonMobil. Firstly, the regions of oil in Iraq and partly Syria shall be controlled directly by U.S. oil companies or indirectly with the help of Kurds and Arabian people in Iraq, who are connected to Kurdish autonomy regions of Syria (Webb 2018, 1). The aim to seize control of Kurdish territory in order to push their partition of countries who secure safe transit routes for oil and gas, is challenged by Turkey. Mostly, it is about the depth of influence and control of

Turkish troops in the Kurdish-speaking regions, which created already autonomous administrative structures (Ahvalnews 2019, 1). These zones are from significant interest for the U.S. American engagement in the Arabian Peninsula and Iraq. Secondly, the trade routes by the Sea are mostly controlled by the U.S. naval forces, ensuring the transport of Energy worldwide in order to use its dominance. As in regards of the economic influence by the transport of energy and energy trade routes, Greece is able to strengthen its collaboration with U.S. American energy companies, be it in the Sector of LNG tankers, as alternative to land pipeline routes of gas pipelines, controlled by Asian countries, wo are not part of the NATO, neither partners of the U.S.A.. In this context of a diachronic geostrategic advantage, a significant milestone was done for the Hellenic economy in the field of Energy. Strategic investments for the transportation of Natural Gas, where the Greek fleet’s increased fortune comes from growth in LNG ordering and a tanker value uptick. Greece has moved into pole position as owning the highest valued LNG fleet in the world, up from \$13 billion at the start of 2018 to \$18.4 billion. This puts Greek owners ahead of Japan, whose fleet comes in second at \$15.2 billion (RESEARCH 2019), the ranking graph below demonstrates:



Figure 42 Ranking Shipping Owning Nations
(Vessels Value 2019)

In this context the Greek shipowners managed correct decision trees to be set up correctly in commercial games, and are taking into consideration the cleanest conventional sources of

energy, but also the tendency of EU energy independence from Russia. It was announced from 2014 that Greek shipowners invested extra towards the purchase of 11 new LNG ships 1,8 billion dollar worth (Paris 2014, 1). It is possible to argue that the Greek LNG investments are from priority within the EU. The European Commission on 10/07/2015 supported the necessary flexibility of the EU's energy networks with the development of LNG capacities to render serious precondition, especially in the EU's southern axis. The Central and South Eastern Europe Energy Connectivity (CESEC) also tends to help Greece in natural gas projects, as the Gas-Interconnector Greece-Bulgaria (ICBG) which will be finished in 2020, starting from the port of Alexandroupolis (European Commission 2018, 1).

These developments influence the notion of geo-economics, and changes the geopolitical positioning of the maritime countries, who protect their interests in the context of geo-strategy. We are able to define the Hellenic merchant fleet as one of the most dominant fleets in the global shipping, and identify that the Greek people follows a tradition of the Greek Sea cultures in ancient times as well. With this method, we understand why the questions for a long-term strategy can be answered in the notion of time-strategy (chrono-strategy).

Turkey will try to insist of the claims to get control of the whole area, where Kurdish people are threatening economic and security interests of the Turkish administration under Tayyip Erdogan. Here, Russia and Turkey, a NATO ally for many years are taking measures for to protect their interests, to the detriment of U.S. interests in the same region (Stolyarov 2019, 1). Additionally, Turkey favors recently security systems of Russia, completing equipment-deliveries of the S-400 system. Summarizing the development in regards of Turkey, the necessity of U.S. influence in the region and a lack of reliability of the Turkish Administration were causing a reaction of measures the last years. The difficult relations of the U.S.A. and Turkey, appeared firstly in the missing support by Turkey in the Iraq war in 2003, not leaving the NATO-basis "Incirlik" to be used by U.S. forces in order to ease operations and to improve the secure return of GI's (de Quetteville 2003, 1). The crisis of bilateral relations increased during and after the almost realized military coup in Turkey, in 2016. This year, while the Turkish lira was weakening already, it recorded its highest decrease in June 2019, after Trump vowed to punish Turkey for Russian missile system purchase (Winchester 2019, 1). In the dispute with Cyprus, the U.S. administration supports for the first time on the diplomatic level the position of Cyprus to make use of their EEZ rights and criticized Turkey from the beginning of their drilling trials and further provocative actions, even though Cyprus is not member of NATO (A. Athenian-Macedonian Press 2019, 1).

As in regards to the interests of the U.S. American Foreign policy in the Eastern Mediterranean, a bill was passed in the U.S. congress, due to a potential threat to the security of the U.S. in the region, called “East Med Act”. The “East Med Act” is a binding bill, passed by the U.S. Congress, which is based on the interests of the U.S.A. in the Eastern Mediterranean, and we will analyze further why these interests are common with the interests of Greece and Cyprus regarding the exploitation of mineral richness of the Cypriot and Greek EEZ. This “East Med Act” surely cannot be valued independent from the development with the Cypriot democracy, be it the proclamation of the Cypriot EEZ with Egypt, Lebanon and Israel, or by the following discoveries of the deposits “Aphrodite“ in 2011, “Calypso” in 2018 and “Glaucus” in 2019. If we summarize the most important decisions of the “East Med Act”, it will give us a clear picture about the subjective of the U.S. administration:

- I. It provides a lifting of the arms embargo on Nicosia, which is helping Cyprus to be delivered with an additional equipment as well as a military education and training to improve its national defense abilities, which is being implemented the same time with Greece (Mehta 2019, 1).
- II. The bill enjoys support from both Congressional Legislative Bodies and parties (Republicans and Democrats) as well as for some of the most prominent leaders in relevant foreign affairs committees of the House and the Senate and it is important enough to mention that Greece is put at the center of strategic interest of the US as the U.S. Foreign policy undertakes a radical overhaul of the US strategy in the Eastern Mediterranean in order to recognize the new realities that have developed in the region (Viadiplomacy.gr 2019, 1).
- III. This law provided for the first time that the Foreign Minister should report to the House of Senate on the number of violations of Greek airspace and the EEZ of the Republic of Cyprus and the abolition of the US arms embargo and the subsequent restrictions imposed on Turkey for F-35s demonstrate that the US is seeking to secure its "long-standing alliance" and "relationship" with the Republic of Cyprus (Viadiplomacy.gr 2019, 1).

The Hellenic economy for itself is not able to influence in the world economy, the developments for the One Belt-One Road are dependent from many actors in the intermediate countries on the land-road. On the sea road, the power is concentrated on U.S.-American, European and

Non-European Naval Powers of NATO. Here, the choke points and the routs for oil imports are controlled and protected mostly by U.S. naval forces. As we explained before, the shift of international trade towards China creates a higher demand for Energy. Taking into consideration the necessity of oil and Natural Gas, as main sources of Energy, the regions with high concentration of these resources are in the focus of global superpowers like the U.S.A. and China (Daily Bunker Report 2019, 1). The East-Med project creates a Hellenic Energy Hub, where the Energy exploitation with ExxonMobil is involved in both countries, Cyprus and Greece. In the Cypriot EEZ in the deposit "Glaucos", and in the Greek areas of signed licenses, South-West of Crete and South of Peloponnese, the practical collaboration with the two Hellenic states recognizes de-facto the EEZ borders of Greece with Libya and Cyprus with the corresponding coastal states who signed with Cyprus EEZ agreements. An economy without affordable Energy is not competitive, the U.S. economy needs low prices for oil and Natural Gas and invests further in the supply for it. The same goes for the Greek economy and common economic interests as a result should be promoted further by Greece, realizing a long-term collaboration in Economy and Security with the implementation of Energy projects in order to create more common fields of cooperation and opportunities for the advantage of Greek national interests.

Even though Greece today is not in the position so far to have the same power to influence the whole region like the U. S. Naval forces, Greece is able to defend its national interests, e.g. the realization of the East-Med project. Taken the EuroAsia-Interconnector as example of interregional cooperation with Israel and Cyprus, this Energy project is obviously improving the geopolitical role of Greece already. Here, the usage of its own Naval Power can hardly be excluded, as the example of the Greek Navy ship "Nikiforos Fokas" showed. While Turkish Navy ships tried to give access to a research vessel for an area, inside the Greek continental shelf, after the calm and steady position held by the Greek frigate, this could be avoided (Gasiamis 2018, 1). The increase in armaments, military spending as political power to create a deterrent environment, that safeguards a country against war. In case of power balances, empirical research proves that armaments have in many cases preceded wars and hot episodes between states. Firstly, armaments reinforce the intensity and sense of threat on the other side, giving the impression that the opponent does not seek deterrence only, but enforcement through the strategy of military power. Secondly, according to Dr. Platias, Professor of Strategy at the University of Piraeus, if the armaments country fails to realize completely how threatening it is on the other side, a so-called security dilemma is caused (Platias 2007, 3). In the air force, the abilities of the Greek pilots and the flexibility of the Hellenic fighting aircrafts selection,

especially from France's Mirage models, developed an advantage in favour of the Greek air force. The exemption from old types of fighters with negligible operational offerings allows valuable resources to be utilized in modern aircraft and to further enhance their capabilities by incorporating modern equipment and weapons. This sector is seen as crucial for comparing the two countries' strengths due to their significant combat power as a weapon system (Selaidinakos 2019, B-6).

In regards of the Greek and Turkish Navy, the superiority of the new submarines of the Hellenic Navy ("PAPANIKOLIS" submarines are equipped with the anaerobic propulsion system (AIP), which relieves submarines of this type (when operational required) from the process of breathing in their submarine, a process that makes submarines vulnerable to detection by anti-submarine units, technology that Turkish submarines do not have, thus giving the Greek Navy a temporary advantage (Selaidinakos 2019, B-4).

Beside the U.S. company ExxonMobil, France's global player TOTAL, Greece is following with great interest the recent discoveries in the Mediterranean Sea. A new alliance is supported by both states, having not only common economic, political common interests for Cyprus, but also in the question how to confront Turkish threats in the Hellenic and Cypriot EEZ. Until now, the Naval fleets and the quality of modern Greek submarines are creating more or less a balance in the Eastern Mediterranean, even though the graphic below shows the situation at in December, 2017:



Figure 43 Naval Power in the Eastern Mediterranean

(D-Mitch 2017)

The Turkish Navy is in service of 16 Frigates, 10 Corvettes, 12 Submarines, 19 Rapid Missile Patrols, 16 Offshore Patrols, 11 Minecraft, 5 Rifles, 21 Sailing Boats, 2 General Support Ships, 32 Ship Helicopters and 6 Ship Helicopters. 16 Unmanned Aerial Vehicles (ΙΣΧΥΟΣ 2019, 1). While Turkey rapidly modernizes its submarine fleet and setting a course towards an indigenous submarine production capability (Cooper 2019, 1).

The Greek Navy is in service of 13 Frigates, 11 Submarines, 17 Rapid Missile Patrols, 10 Canadians, 6 Offshore Patrols, 4 Minecraft, 5 Armored Corps, 4 Express Ships, 4 General Support Ships, 18 Anti-Aircraft Helicopters, 1 and 2 Directed Missile Arrays (ΙΣΧΥΟΣ 2019). For many years, the upgrade of the Greek naval fleets was missing and except for the submarines of the “Papanikolis” class, we have frigates and other boats for coastal patrol and protection, which were not modernized since more than two decades. An economic crisis is no excuse in the long-term, if the advantage would be lost in comparison to the Turkish policy to invest in additional and modernized naval fleets, as the graphs below show:



Figure 44 Comparison Greek and Turkish fleet

(Thodos 2019) , (D-Mitch 2017)

The modernization and improvement of operating abilities for the Hellenic Navy have to be realized and e.g. by the purchase of modern French frigates, building two Greek units first, at no additional development cost in relation to the program of the French Navy this goal of security can be realized. Here, Greek vessels will carry long-range horizontal cruise missiles (1000 km-radius of SCLP Naval or longer NCM (Naval Cruise Missiles “Scalp”) (Pronews.gr

2019, 1). Beside other important weapons systems, the French weapons offer Greece not only a balance with Turkey, but an arsenal, which strengthens the Greek deterrent capabilities in order to secure an advantage over Turkey or at least in order to prevent a disadvantage. In regards of the partnership with Greece, a recent improved environment for investments from France, but also the future delivery of Naval ships to support the protection of Hellenic sovereignty, is a first step to invest in the security of the Hellenic EEZ and the Eastern Mediterranean.

The participation of TOTAL, now in most marine blocks, where licenses were given from Cyprus, makes the French Energean Giant one of the main investors of exploration and exploitation of Natural Gas deposits in the Cyprus EEZ. Another development of interest for Greece as well for Cyprus, is the subsequent partnership with French naval forces. Specifically, the agreement signed by the defence ministers of Cyprus and France provides following changes in the collaboration on a military level:

1. Permanent Structured Cooperation (PESCO), as part of the EU's Global Strategy for Foreign and Security Policy (EUGS), starting a process of closer cooperation in security and defence.
2. Converting the Cypriot Naval Base to a High Operation Navy, being financially upgraded by France to the necessary upgrading infrastructure in Mari port.
3. Fully meet the needs of the French Navy to ship to operate in the Eastern with a permanent and continuous presence of France in the region is guaranteed.
4. The operational structures of the Republic of Cyprus will be used as an information force for the French naval forces operating in the region.
5. The French Navy will face any attempt to block Turkey's research activities by Total.
6. Enhancement and modernization of the naval forces of the Republic of Cyprus including a further cooperation of the two countries' armed forces in the framework of joint or European actions.

(Chasopoulos 2019, 1)

As the Greek Navy is focusing mainly in the protection of the Greek EEZ and not intervening in the violation of Cypriot EEZ by Turkey until now, an additional partnership, who helps Cyprus at least with the exercise of its licensed deposits within the EEZ of Cypriot Democracy,

creates common economic and political interests with France in the exploitation of Natural Gas by TOTAL. To be mentioned is here, France is also participating in operations and cooperates with U.S. forces in Syria, having the same challenges in Northern Syria. France focus is also on Lebanon, where France's Total invests to offshore exploration in the Levantine Basin with a consortium with Italy's Eni and Russia's Novatek (Xuequan 2019 , 1). Besides their economic and strategic interests in Lebanon, they intensify lately again the relations to Egypt as French-Egyptian joint military exercise titled "Ramses 2019", reflecting the enhanced military partnership and cooperation between Cairo and Paris (Egypt Today staff 2019 , 1). Greece may also be involved in the effort for the European fighter jet of the future, led by France. Specifically, the French company Dassault, is developing in collaboration with Airbus as part of the wider program for the 'future air combat system' (Future Combat Air System / FCAS) the Next Generation Fighter Aircraft (NGF) (In.gr 2019, 1). The aircraft will operate jointly with an unmanned aerial vehicle (UCAV), where Greece is already on one foot in this multi-program as a co-producer of the Neuron Unmanned Fighter (UCAV), on which it looks like it will base the robotic gear of the new European air combat system. The technological skills of Greek personnel exist already, as the latest success in of the Unmanned Aerial Vehicle (UAV) "MPU RX-4" program of the Aristotelian University in Thessaloniki, proved once again (Defencepoint 2019, 1). The Greek officials have to decide, whether to integrate fully, becoming for the first time in its history from a customer to a producer, and gain access to critical technologies and capabilities that will provide a strategic advantage over Turkey in the years to come, if needed. An answer has to be found in any case to the industrial production of threatening drone capacities the Turkish military is creating with their last practical usage in the Libyan war (Liam 2019, 1). These decisions ought to take place due to the geographical location of Greece, who is protecting not its EEZ alone, but the islands of its territory including its inhabitants who are threatened by a provocative Turkish air force, specifically in the last years with additional drones for additional targets of espionage.

Greece is a non-typical Sea Power, as today mostly economic superpowers are ranked in the list of the big merchant fleets. But with their economic sea power, being able to develop and protect their commercial shipping fleet and make use the same time use of their influence in international organizations via diplomacy and other political forums, we have a dominant act of Power. We described previously that a National goal is to expand the strategic goals of its State in a combination of Hard Power and Soft Power - here, we will focus on the 2 pylons on Hard Power, "National Defense" and Economic strength, in order to show possible liberation of the Hellenic economy from depression, securing with the economic upswing a long-term

Sovereignty of the Greek people, which is in the interest of the goals of the European Union, too. The tendency of dominance of Greek merchant fleet in the EU is growing the last years, as the EU-transport statistics illustrate in the overview below:

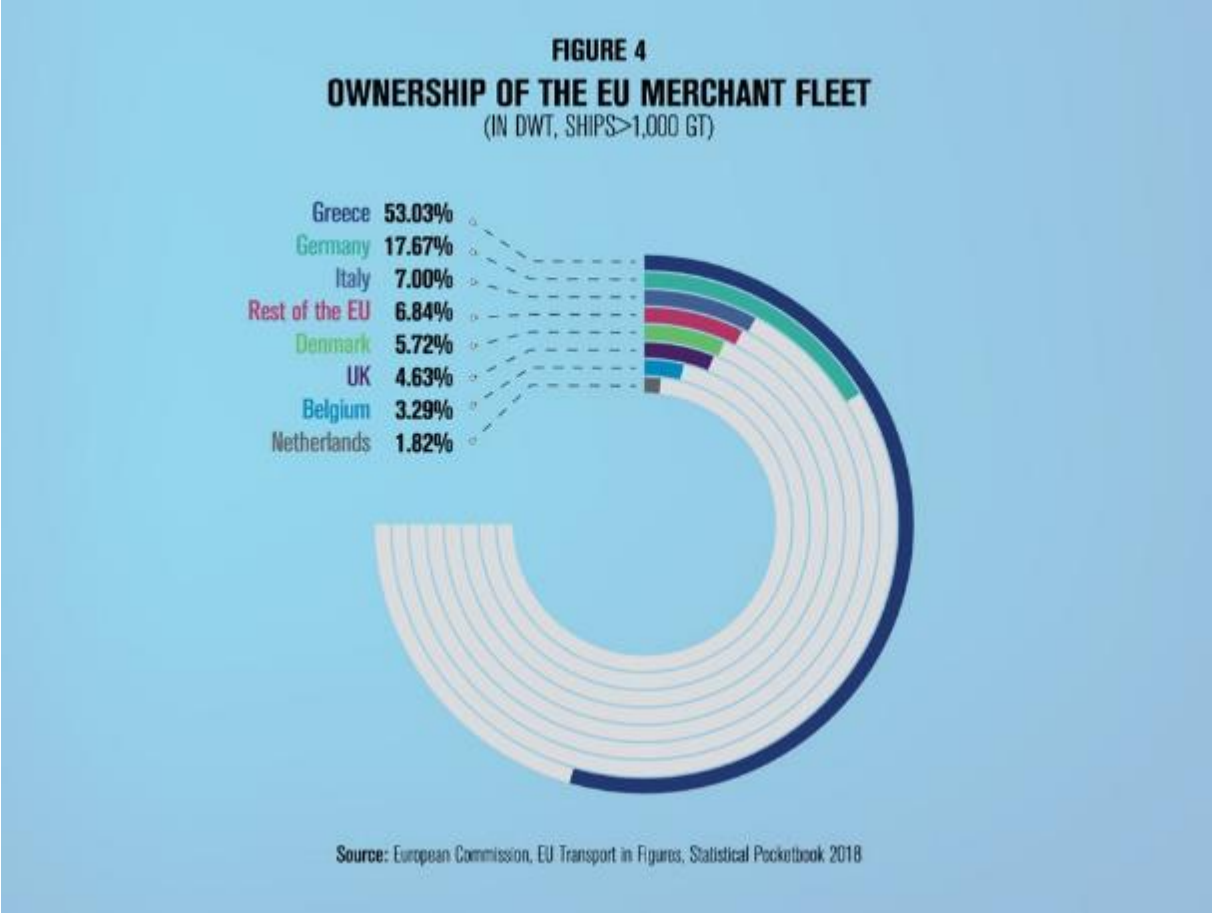


Figure 45 EU Merchant Fleet
(UGS 2018)

The Greek fleet has increased its total value by over \$5 billion in one year. This is the second biggest increase in value for any of the top 10 shipping nations. The total asset value of the Greek owned fleet has topped \$100 billion (Vessels Value 2019, 1). If we are able to combine this global strength of Energy transportation with military power which protect trade routes, a Nation State can create as a result a dominant political position on an international level. One example for the time after the 2nd World war were the United States of America, which was able to combine the Naval Power and control of energy and trade routes as well as choking points for the Shipping fleets worldwide. The question to be answered in regards to the chances of the Hellenic Economy is, how to increase its influence in the World-Economy, realizing its dominance of Sea Power via the global trade of goods and the production, protection and transport of energy resources, e.g. via LNG tanker for Natural Gas. A first step should be the

conclusion, that the Hellenic Navy shall be able to help in the protection of trade, mainly energy routes in the Eastern Mediterranean, focusing on Cyprus, having always in mind the choke point of Port of Suez up to the coasts of Libya in collaboration with France, an allied member state of the NATO who decided to invest not only in the defensive area with the Hellenic Republic, but further in the economic, recently energy field of the Greek economy. One main reason, the Mediterranean Sea is among the world's busiest waterways, where 15% of global shipping activity by number of calls and 10 per cent by vessel deadweight tons (DWT) were noted in the wider region per year in the last decade (Chrysochou & Dalaklis 2019, 142). Combined with the exploration of hydrocarbons to be expected in the following decades, a necessity of a maritime alliance should be prepared well by the Hellenic forces, taking into consideration the threats for the countries in the Levante, not only in order to protect the interests in Cyprus, Egypt and Israel, but also in order to help utilizing the chance of a new balance in the Near East, strengthening the collaboration in the energy fields together with Lebanon, Jordan, Egypt, Israel and the United Arab Emirates. Here, we shall have in mind the ability of Cyprus, to use their future state income of exploitation of hydrocarbons in order to finance their own or at least assist financially the Greek naval force, if needed utilizing their relations with the Greek force of guarantee. As the relations with Egypt and Israel is improved also on the basis of common military exercises, necessary moves and exercises in the named EEZ area from the Hellenic naval forces could be prepared. Here, a cite from Thucydides fits in regards to the <<ability to sail on shore, where there are no enemies, and if they approach enemy forces, also, as "Thalassocrats" are able to leave or attack her point a coast where it prevails, otherwise it sails until it reaches a friendly country or at a point where the enemies are few>> (Persynakis 2016, 387).

First of all, an increased engagement is creating a deeper collaboration in questions of security and energy with the U.S. forces as well as with France, Egypt and Israel. It is demonstrating to the allies of the NATO, with the U.S. navy as main actor, that they not only can count on Hellenic Naval Power to protect common interest of trade routes protection. But the same time, the Greek Navy is able to protect the trade of energy (Oil, Natural Gas including LNG) in their sphere of influence, which is in the interest of the Hellenic merchant fleet. Here, a collaboration in the whole region, is from significant interest for Greece, Israel and Egypt, improving their relations further in energy, trade and security. In the continuance of enhancing common interests with of the E.U. and of European NATO members, the goals of the Alliance Maritime Strategy can be seen in this context. The NATO is talking about one of the most important

strategic concepts in favour of allied maritime forces. The reason is that the NATO partners are creating a security shield in the maritime circles of influence for the 21st century, protecting the economic and security interests of the alliance, formulating 4 goals:

- Deterrence and collective defense;
- crisis management; cooperative security – outreach through partnerships
- dialogue and cooperation;
- maritime security.

(Smith-Windsor 2013, 3-10)

An important note was done in relation to the activities that the Alliance will undertake as part of this strategy, as it “will be conducted in accordance with international law, including any applicable treaties and customary law, and any relevant United Nations Security Council Resolutions” (NATO 2011, 1). To be mentioned here is the request from the U.S. minister of Foreign Affairs, Mike Pompeo, after his latest visit in Greece to protect Greek and other merchant fleets in the Persian Gulf as well (Pάππη 2019, 1). The U.S. American officials are well aware of the abilities of the Hellenic Navy and the interest for Greece, but in case of the Persian Gulf, an engagement shall be thought twice, as the result of an engagement moving against the Iranian interests can cause an issue of security in the coastlines of the Eastern Mediterranean, with proxy forces like the Southern-Lebanese Hezbollah. Here, the Hellenic forces are ought to focus on the protection of Cypriot sovereignty, the security of the Aegean islands and the increase of Naval presence in the Eastern Mediterranean, not only in the area of the island complex of Castellorizo. Here we want to remember Panagiotis Kondylis, August 17, 1943 - July 11, 1998), a Greek philosopher, writer and translator who noted in his works about historical alliances to the following conclusion: <<The allies are worthy as much as you are worthy for them!>> The result of a long-term collaboration of the named partners in the Mediterranean Sea, specifically in the Eastern Mediterranean is the combination of geopolitical goals of the U.S. increase of energy supply control, linking the development of a Hellenic Sea Power to protect National interests. That is why, the U.S. state department is stating officially its support to the development of bilateral economic relations between Greece and the U.S.A., while stressing that energy security is important for safeguarding economic and political security and for safeguarding Europe’s sovereignty (Capital.gr 2019, 1). As we explained so far, the possible tripartite world of Europe-China-Russia poses a big challenge to U.S. foreign and trade policy. As a result, the Greek Foreign policy will have to insist not only verbally on the protection of their interests in the Eastern Mediterranean, be it with the sovereignty of

Cyprus, connecting the Hellenic with the Cypriot and Egyptian EEZ, with the result of common interests in the region for energy and security with the U.S.A., France and the states of Israel and Egypt. In the region around the choke point Port Said, up to the borders of Greek, Cypriot and Egyptian EEZ, the amount of resources, at least if we are counting only the officially found deposits in the Eastern Mediterranean are worthy to be protected by a new force of guarantee by Egyptian and Greek Naval forces, supported by investing companies and any willing naval force, like France and Israel. We are not expecting here an engagement from Israel or Egypt, but in the exchange of information, equipment and knowledge in the field of security. If the estimations, scientists are expecting in the whole basins, be it Levantine, Nil Delta and Herodotus up to the Ionian and Libyan Sea, one is able to foresee the geopolitical changes for the affected countries and the European Union. But for the U.S. Foreign Policy, the security for Europe to meet its Energy demands, is linked with their investments in the Energy sector of Greece, specifically the Hellenic EEZ. Greece is not only a maritime country with a huge coastline of 15.000 km, including archipelagos and island enclaves, not only the protection for the inhabitants and the connected trade routes is needed, the security of the sea lines of communication, but more and more for the common exploitation of marine resources with U.S. American companies. Welcoming the offshore authorization for ExxonMobil, Total and Hellenic Petroleum, after its ratification by the Greek Parliament, offshore exploration from ExxonMobil, the world's largest oil and petrochemicals listed company sends positive signals to more American investors and it can be expected that US investment will play an important role in Greece's energy sector, securing in the mid-and long-term future demands of European and Non-European economies (Cyprus & World News 2019, 1). The recent “Mutual Defense Cooperation Agreement” (MDCA) with the U.S. American forces cannot be seen as warranty, but as a way to get practical support in the technological upheaval of the Greek forces, where e.g. in Crete they will operate under the most modern conditions, using upgraded facilities at Washington's expense (Capital.gr 2019, 1). The geopolitical goals of the American Foreign Policy were for many years driven by Mackinder, Rimland as well as Thayer-Mahan. Topo-strategic schemata as the described example of Rimlands so far, are the basis of US-policy in Europe, the Near-and Middle East and the Seas around these countries. Be it in order to oppose Russian influence to Europe and its neighbours in the past or even today, or recently to contain Chinese geostrategic goals in the mid-and long-term. The 21st century was called already from the First decade of the millennium, a Chinese one. But the 20th century showed, how fast the English and/or German geopolitical hegemony declined and gave birth to the rise of the U.S. economic and military superpower.

However, the geopolitical goals are driven not by the geography alone, but mostly by bilateral relations over time. According to strategic analyst Nikos Lygeros << timeless strategy may seem abstract but it is analogous to high strategy in geostrategy – here, timeless strategy in geostrategy since it pays no attention to distances that are spatial but to relationships that are temporal because we play with dynamics and not with static societies.>> (Lygeros 2016, 50). Another reason, why the EEZ agreements between Cyprus and its South-Eastern neighbouring countries are changing the strategic dynamics of Greece, is due to the fact that it empowers a long-term political and economic collaboration with Israel and Egypt (the last-named countries for years had and still have political differences) in the fields of Energy and Security. These geopolitical dynamics are driving the improvement of relations with Greece and Israel and Egypt, not by geography alone. The relations to Israel were not always the best in the past, when Greece was not criticizing Israel, and the same time supporting Gaza and the Palestine people politically (Kaminaris 2019, 1). A strategic partnership was developed with Israel after the political changes in the Eastern Mediterranean, mainly Arabian countries. The last years a combination of cooperation with Cyprus and Israel in the field of energy exploitation as well as common interests of security in the aftermath of Arabian “spring” and the emergence of new conflicts in the immediate neighbourhood were strengthened.

The discovery of natural gas fields in the eastern Mediterranean, the EEZ agreement of Cyprus and Israel, as well as the deterioration of Israel-Turkey relations, following the well-known events of the Mavi Marmara ship in May 2010. The problematic behaviour of Turkey under the regime of “Recep T. Erdogan”, accusing Israel of similar Nazi behaviour, left the Israeli Foreign Policy with an image of Turkey back, which is characterized as unpredictable and unreliable (Mazis 2016, 27). Israel which is experiencing instability in its geopolitical periphery (“Arabian spring” in North Africa, Middle East & Syrian war in the Near East), where the re-structure of the affected States has an indirect influence on the stability of other countries, Israeli state chooses the strategic cooperation with the E.U.. Having common economic interests in the exploration and exploitation of energy resources in the Eastern Mediterranean, Israel is in alliance with both Cyprus and Greece, also in order to obtain regional stability (Prontera 2017, 157), after having a definitive change of relations with Turkey, due to the Israel’s air disruption from the latter.

The trilateral meetings of Greece, Cyprus and Israel demonstrate this new strategic alliance. For Greece, these meetings are not only important as an answer to Turkey's aggression, but because of serious developments in the Cyprus problem, which is connecting the political goals

of the Cypriot Democracy, security and development of its projects within the Cypriot EEZ with the energy co-operation of the three countries to the South-East. At a tripartite summit in Nicosia in January 2019, the three leaders stressed in their Joint Statement that their new strategic axis is not exclusive, and - in a nod to Egypt and Jordan - said they would welcome it other states with similar goals. In practice, the recently construction of a new Radar System on Crete was approved, which is one example for the long-term ambitions of both states to secure their common interests in the Eastern Mediterranean in regard to the natural gas discoveries of Cyprus, Egypt, Greece and Israel (Haaretz 2019, 1). In this context, we are able to analyze the concept of energy union between the European member states that adapts to the needs and challenges of Europe's Energy demand. Key pillars of Europe's energy needs and climate change issues, I mentioned in Chapter 2, but here a clear direction and long-term energy policy for the EU, has to be confirmed with institutional decisions to date. The financial crisis and high energy prices are still challenging Greece in its efforts to overcome the economic depression. An important integration step emerges from the roadmap where Member States should be interconnected to other networks. Specifically, by 2020, 10% of electricity should be cross-border and 15% expected by 2030, announced this year in June, 2019 in regard to electricity interconnectivity between member states (European Commission 2019, 7). These challenges with the EU's single high strategy can be transformed into saving money by investing in the infrastructure its member states need. Infrastructure to realize the Euro-Asia Interconnector in the context of the East-Med pipeline will be integrated into the technological developments as well as the geopolitical transformations of the E.U., balancing its concentration on EEZ dynamics. Croatia became an EU Member State, and has also begun to exploit its mineral wealth. It obtains the largest EEZ of the former Yugoslav countries, a fact which the EU needs, in order to develop the necessary consistency umbrella. The EU utilizes the EEZ of its States holistically, employing was increased from 2.8 million full-time equivalents (FTEs) in 2000 to 4.2 million full-time equivalents in 2014 in environmental fields such as blue energy, aquaculture, blue biotechnology as well as resource management (Albertone et.al. 2017, 146). In these sectors, Greece as a maritime country, holds a key driver for economic growth, innovation and employment, being able to seize significant its rates of economic development with the exploitation of its hydrocarbon reserves. Italy is supporting projects which are in the interest of its industrial sector, here their energy company "ENI", who invests in Cyprus and Egypt already, and would be interested in the next licensing round, e.g. regarding South-East of Crete. If the conditions are met financially and legally, i.e. after a delimitation of the Greek with the Egyptian EEZ, the Italian economy will develop vigorously embarking on the project

to build the gas pipeline, named EASTMED, from the Israeli, Cypriot and Greek EEZ towards Italy and further to whole Europe. Italy then is participating in the triple point of Cyprus, Egypt and Greece and is able to support politically the Israeli and Cypriot gas pipeline through Crete from Greece to Italy, as it significantly enhances the project within the EU. We should be aware of the fact, that the EastMed is a project of higher European priority economically, commercially and geopolitically over other studies, whom intentions were to transfer gas from the Eastern Mediterranean region to Europe via Turkey. The European Union has supported the pipeline from the outset by participating in the funding of sustainability studies. Thus, official studies reveal that the pipeline construction is now very favorable, as it has shown that the pipeline, which will cross Cyprus and Greece before reaching Italy, will cost about € 5 billion, where 6 billion in a sum if Italy finally participates, too. The cost for the pipeline is far less than it had been previously estimated and Greek, Cypriot and Israeli officials are working on details of a plan aiming to win back Rome's support for the East Med pipeline, as the promoted project to connect the offshore section between the Greek and Italian coast is still under development, so far politicians from Italy are willing so far to use the Greek-Italian pipeline only for the previous promoted TAP- pipeline (Jewkes et. al. 2019, 1). Worthy to mention is the fact, that the ambitious 1,900-km pipeline to carry Eastern Mediterranean natural gas from Israel to Europe via Italy would be the largest submarine pipeline in the world (EnergyPress.eu 2019, 1). The East-Med pipeline is a factor of emergence of the energy networks of Europe. If we pay attention to the Poseidon Pipeline multi-source project, we can have a wider picture of the chances of the energy integration, and not merely its role in connecting the EU-member states. Besides a planned natural gas interconnector stretching from the Turkish-Greek border to Italy, it affects a broader system of interconnectors in South East Europe, designed to link European markets with new gas sources and diversified routes (IGI-poseidon.com, Poseidon - A multi-source project 2019, 1). The project was designed firstly to transport initially 10 Bcm/y (billion cubic meters of gas per year) from the off-shore gas reserves in the Levantine Basin (Cyprus and Israel) into Greece and, in conjunction with the Poseidon and IGB pipelines, into Italy and other South East European countries (IGI-poseidon.com 2018, 1). As the EastMed pipeline is designed to have exit points in Cyprus, Crete, mainland Greece as well as the connection point with the Poseidon pipeline, there is a high potential to complete the project as a result of an additional economic options from further Natural Gas findings in the following years in the participating countries of the East-Med. The Project development is already promoted with financial contribution under the CEF program by the E.U., strengthening the conditions to finalize the preparation where technical and economic feasibility is given (IGI-

poseidon.com 2018, 1). In the electricity sector, a redesign is being considered with regard to the single market model allowing intra-day trading. All of this, in addition to energy security, will also make cheaper energy products in the future. In this context, it will help to re-evaluate the functioning of the Energy Regulatory Cooperation Agency, as well as its potential strengthening with the National Energy and Climate Plans of the EU (NECP). Finally, it is important to review the transmission and storage infrastructures, in relation to the security of gas supply (European Commission 2019, 13). The Non-European contributors to the East-Med pipeline as well as Euro-Asia Interconnector, who are cooperating with Greece and Cyprus in the Eastern Mediterranean, are mainly Israel, and due to common economic and energy interests, Egypt. Not only the minister of Foreign Affairs, Sameh Hassan Shoukry, is calling the Turkish ships, planning to drill for oil and gas close to Cyprus, an unacceptable escalation, Egypt is warning Turkey for consequences as with economic sanctions (Samir, Egypt expresses concern over Turkish illegal drilling in Cyprus' economic zone 2019). A confrontation is developed due to Egypt's intention to enter the Libyan market, which later is connected to the East-Med project, to the European market, while escalating in a proxy war in Libya, where Turkey is threatening the interests of Egypt, France, Cyprus, Israel, Greece and Italy as well (Tsukerman 2019, 1). Until now, we have analyzed in this chapter the National Strategy of Greece, which can be connected with the interests of superpowers as the United States, especially it in the field of energy or the collaboration in the sector of transport of Natural Gas via LNG shipping. Additionally, the interests of Greece are common with the energy needs of the European Union, at least an economic superpower in regards of the in-and outflows of investments worldwide. We focused either, that single EU-member states as Italy, France, Spain and Cyprus have common economic and partly political interests with Greece. The change phase of improved relations to Israel and Egypt are caused due to the energy discoveries in Cyprus. The future energy projects of common interests by U.S. American and French economy, the E.U., with Energy giants of oil and Natural gas exploitation from the same countries, will enhance the Hellenic contributors in economy and policy to invest in the Hellenic EEZ in a much more determined level.

5.3 Decisive movements for the Hellenic EEZ and energy transformation

According to International Law, Greece claims an offshore Exclusive Economic Zone (EEZ) of about 496.000 km² (Konofagos and Karageorgis 2014, 2). Adding the land territory of Greece, with 131,957 km², we have completely different sphere of economic and geostrategic influence. Comparing this with a big European country e.g., the size of the Greek sovereignty is close to the land territory of France with 643,801 km². If we want to understand the dimension

of the Hellenic EEZ, we can compare the size of countries in the context of the E.U. geometrics, which can be illustrated in the graph below:

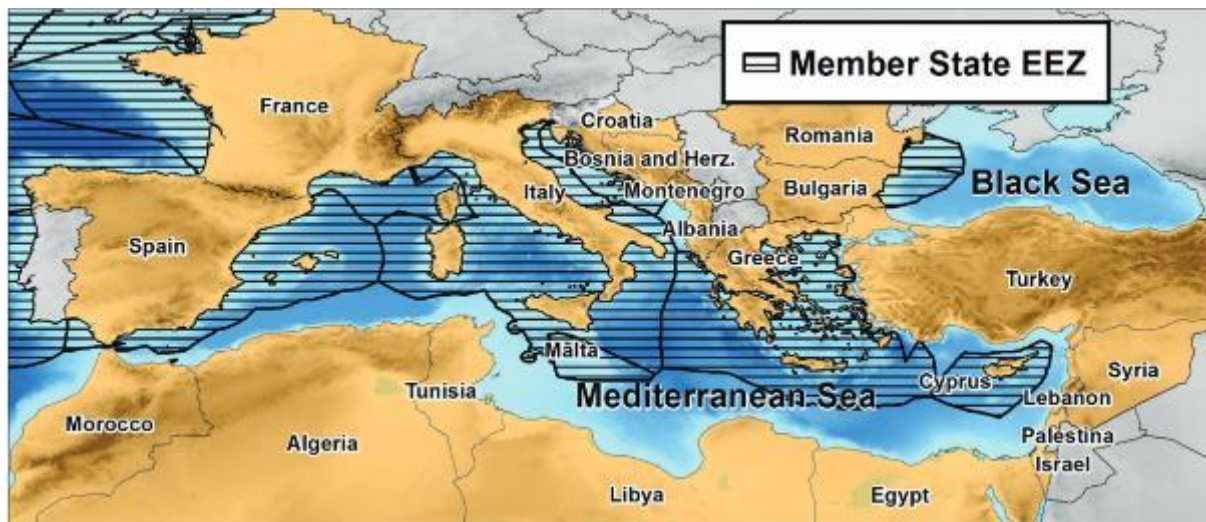


Figure 46 Mediterranean and Black Sea Basin

(Röckmann et.al. 2016)

Beside the legal and political basis of a legitimate right to proclaim the Hellenic EEZ, political strategic decisions can be taken, where geopolitical goals of the E.U., the U.S.A. and strategic partners in the Eastern Mediterranean are meeting Greek National interests.

The first important act towards the EEZ is not only the proclamation, but protection of the Hellenic as well as the Cypriot EEZ, as it is developing a fact of supportive environment for the protection of sovereignty for the EEZ of Castellorizo. The rising tensions which occurred during the last months of in the Eastern Mediterranean between the Turkish and the Cypriot government, are against the interests of the Hellenic Republic, as a general militarization is in the interest of Turkey, in order to stop the developments of the East-Med and its consequences for the exclusion of Turkish Energy plans. The already emerging cooperation with Cyprus, Egypt and Israel, leads us to a pending cooperative and substantial practice by the Hellenic Republic. With the first sanctions by the European Union, Cyprus answered to the drillings or more precisely, unsuccessful drilling trials of the Turkish vessels inside the Exclusive Economic Zone of Cyprus, which are considered officially from the European Union as an illegal violation of the exclusive rights of Cyprus' EEZ. This reaction was a continuance of the Cypriot Foreign policy to maintain on their democratic rights to cover their future sovereign rights for the citizens of the Cyprus including the Turkish Cypriot, Armenian, Maronite and Latino minorities, as it is the only representative state, and since 2004, a member state of the

E.U.. Based on these consistent positioning, the actions made from Cyprus, are based on the expectations that the cooperative neighbouring states will act accordingly with a responsible and consistent Foreign policy, too. Nicosia's reactions to meet the ongoing Turkish challenges remain so far both on diplomatic and legal levels, in order to defend what the Cypriot government sovereign rights are. On May 2019, in order to set a legal framework for its sovereign rights positioning and as a reaction to Turkey's decision to start drilling in the Cypriot Exclusive Economic Zone (EEZ), the Cypriot state officially sent to the United Nations a map respecting the sovereign rights of the Republic of Cyprus (Kathimerini Cyprus 2019, 1), where the new coordinates begin at the westernmost point of the current EEZ where it is the 4th piece ascend north-east to the middle line with Turkey and parallel to the northern shores of Cyprus end up at the altitude of Apostle Andrew to the point where the Syrian EEZ begins, see the map below.

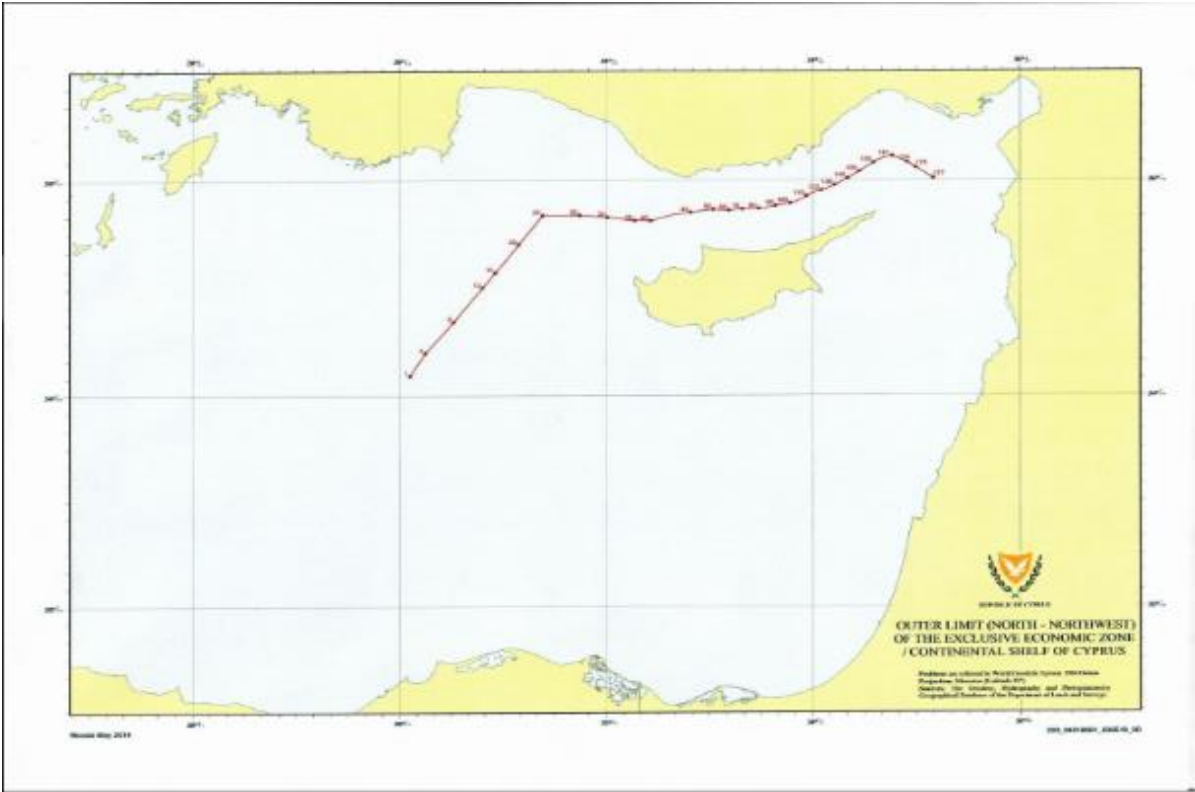


Figure 47 List of geographical coordinates Northern Cyprus
 (Official Journal of the Cypriot Government 2019)

After the Second EEZ violation, unsuccessful drilling attempts followed from a Turkish vessel North-East of Cyprus, where the licenses for offshore blocks were still not allocated, Turkey is trying to encircle the Cypriot EEZ. The Hellenic Policy to trust in diplomatic progress of negotiations with the Turkish government and to pressure Ankara with the participation and

support for the sanctions from the E.U., demanded by the Cypriot government, was not enough to stop the illegal claims by Turkey. The Hellenic Republic, not only because of its legal status as force of guarantee, but having the same time a strategic interest in the region, especially Cyprus, which EEZ is bordering with the Hellenic EEZ south of Castellorizo, Greece ought to react to the situation of any territorial threat for the Cypriot Democracy. From March 5, 1995, when the governments of Greece and Cyprus decided upon the declaration of the Joint Defense Doctrine, Greece interprets any Turkish attempt to advance into the free territory of Cyprus as a cause of war. For a few years this policy was followed, then before the start of the new millennium it was interrupted (Alexandrou 2016, 1). Part of this doctrine was also the construction of the air base in Paphos and the navy basis in Mari by the Cypriot state. More or less this doctrine was not followed for many years, and at the same time Turkey was not escalating the situation in regards to the Cyprus issue, facing almost an agreement on 2004 with the Cypriot Democracy, the implementation of which, would have been more in the interests of Turkey, taking into consideration the denying vote by the people of the Greek-speaking Cypriots to a unification for any price. Although, the solution of the dispute with Cyprus and its official recognition of Cyprus as an independent state is no option for the Turkish Foreign policy, the latest actions regarding the natural gas discoveries is indicative of Turkey's lack of will in order to find a solution on the basis of a good-neighbourly relationship. The single defense doctrine is also a method to protect Greek interests, not only to balance the limited strength of Cyprus' National forces in order guarantee the Cypriot Democracy, as defined by the treaty of independence of 1960. But if Greece wants to protect its National interests, it has to protect the same time the Eastern part of the Hellenic EEZ, which is connected with the Cypriot EEZ due to the island complex of Castellorizo. The two European countries of Hellenism (Greece and Cyprus) are able to form a corresponding unified defense doctrine not only on a diplomatic level, but to enforce the Cypriot naval power as well, using financial resources from the exploitation of hydrocarbons. These questions must be answered from the Hellenic Foreign Policy, if Greece wants to secure its sovereign rights and National interests as resolute actor in the Eastern Mediterranean.

A decisive movement is the effective protection of its National security as per its strategic investments of Foreign capital and infrastructure, especially in the field of energy. The reconstitution of a credible Greece as a factor of power, stability and security in the Balkans and the Eastern Mediterranean, will be a balancing answer to Turkish aggression and predation not only in the Aegean or Western Thrace, but especially in Cyprus. We see in the figure below analytically how EEZ is formed by the influence of Castellorizo, Megisti and Stroggili complex.

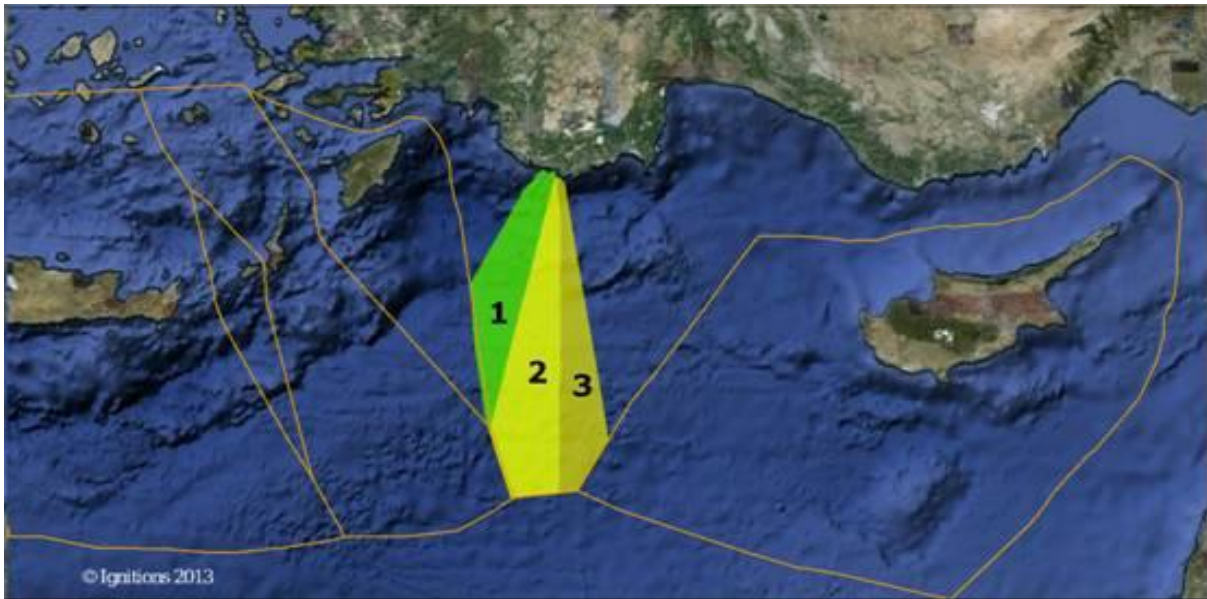


Figure 48 EEZ connection Castellorizo and Cyprus

(Ignitions 2013)

Strongili, part of Castellorizo island complex, administratively owned by the municipality of Megisti and geographically part of the complex of Megisti, which consists of 14 islets, of which the three largest, Megisti (Kastellorizo), Ro and Strongli are inhabited, where the islet Strongili has no permanent inhabitant. An additional important fact which has to be taken into consideration in the context of a future court decision based on UNCLOS is that all three islands can sustain their own livelihoods and develop economic activity on their own. On the south side of the Strongili, there is a lighthouse for sailors as well as a church (Agios Nikolaos), built in 2014. The lighthouse first opened in 1910, The east side of Strongili (harbor) is connected to the lighthouse with a commercial cable car (built in 2015) and is currently used by the Hellenic Army (NewsNowgr.com 2017). In the concept of an economic upgrade of the islands, decisions have to be taken in relation to the anthropocentric problems which exist at these areas, the security well as the prospects. In the first phase, the residents of Castellorizo feel disconnected since the ferry routes mainly in winter are rare. The reaction after 2012 was characteristic, after the European Commission's “no” on subsidies for arid coastal lines (Κουτσούμπα 2012, 1). The campaign which made on this matter took great dimensions in 2012 (Dimotsi 2012, 1). They said: << We are inviting all Greeks of Greece or Cyprus and Diaspora to send one card or letter to Castellorizo. The letter should be sent by post so that the ships to be forced carrying the messages (not electronically) to the island. A physical and not intangible presence signifies a lot. A small sacrifice, to buy, to write and mail a card, will promote to everyone that this island that binds Greece and Cyprus is not forgotten, and we will not allow to any Turkish militarist

to conspire against >>. It is important for the state to support the interconnection of these areas on the one hand because there is human need and on the other because it is a fertile strategic mixture of region. Also, the choice of citizens by choosing this region as a tourist destination is still a significant strengthening. Another important issue in the region lies in the National Guard of the complex. It is crucial in border regions, particularly in Castellorizo that has a weighty geostrategic position, to have a territorial army that inspires security to residents in our country, and in the geo-economic environment that needs to be prepared in the area as Megisti, Ro and Strogili. In 2015, more were strengthened Major General Mr. Konstantinos Matzakos, Commander of 95 ADTE, is asking the South Aegean district commissioner Mr. George Hatzimarkos:

- For upgrading existing facilities is required to do tile roofs replacement work, replacement of wooden frames, coloring the buildings internally - externally and construction sanitary facilities.
- Necessary to construct stable jetty for safe embarkation / disembarkation of personnel.
- Cooperation bracket of Division with the corresponding of Technical Services of the South Aegean Region.
(Dimokratiki 2015, 1)

Another important preparation of Castellorizo in decision level should concern the part of the space-strategic research, as we mentioned the large stocks in methane hydrates and their important contribution to the EEZ. To build constants that will create motivation in the region we can deal with the Institute for Chemical Process and Energy Resources (CPER). The main mission is both the applied research and the development of pioneering technologies in areas such as chemistry and energy, with a displacement in the Greek and European industrial production sector. One of the eight research areas of CPER is the Laboratory of Environmental Fuels and Hydrocarbons. In that context the Ministry of Education could exert influence on developing an appendix for this research are of Castellorizo, as it was done already in the field of Solar technology (Polytechnical school 2014, 827). Another way to strengthen that framework is the Greek Centre for Marine Research. One of the five Institutes of HCMR, is Oceanography that deals with science that studies the oceans, it could become established in Castellorizo by the Ministry of Education, as the region is interesting not only in the field of non-living resources, but also for the living resources, e.g. sharks (poiostigiati.gr 2019, 1). The presence of these two islands would be an interdisciplinary field of cooperation among themselves and in future scientific fields because of hydrocarbon discoveries. With this decision, totally legitim and legally-based research activities can be accompanied more by our

security guarantee from us in this region in order to answer to provocative actions by Turkish spying drones, as happened with the Greek research survey vessel “AEGAEON” of the Hellenic Center for Marine Research, which started a survey mission at Castellorizo island (Lambakis 2019, 1). In the EEZ delimitation using the midline equidistance, we have 2 triple point of contacts, which is not only existing between the EEZ areas from Greece, Turkey and Cyprus (is a difficult outcome), but also the other triple point that concerns Greece, Egypt and Cyprus. As an act of strategic importance, the Greek parliament should choose as next step at least one delimitation with Egypt connecting the delimitation with the Cypriot EEZ, as a result the proclamation of the Hellenic EEZ is supported by bilateral EEZ agreements. Greece will move dynamically and effectively to the next round of license bids in the correspondent consortia on each plot. Using the notion of topo-strategy, here we use the synthesis of geography and strategy. Through the graph theory we also observe, the energian nodes which are arising and which constitute the EU's precautionary measure. Greece is proven to be the necessary energian hub for both, transportation and production of natural gas, electricity and oil. In graph theory here, we are using the notion of topology, which is analyzing the relation of states instead of their geometrical distance.

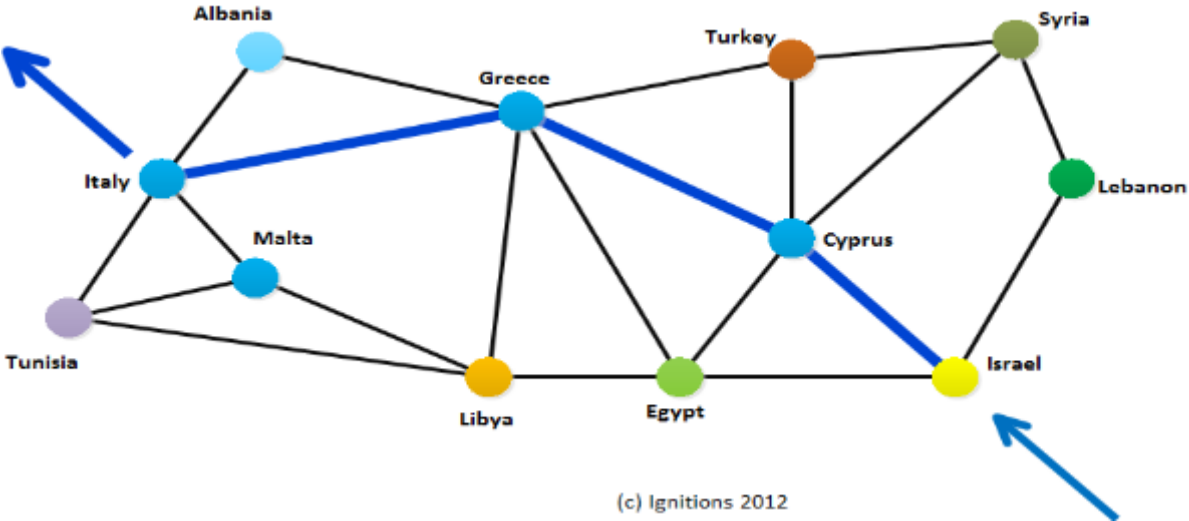


Figure 49 Relation of states and energian nodes

(Lygeros 2012)

The topology of the Mediterranean EEZ's in the upper figure, shows us the energy flow that links the Mediterranean to the Southern EU, mainly through Italy, which is also one of the largest natural gas consumers:

A concrete step for Greece to improve its energetic goals, prevent unacceptable claims by Turkey and to strengthen its decision to proclaim an EEZ including Castellorizo, is the license tender and de-facto connection of the Hellenic and Cypriot EEZ, while promoting bigger plots to companies, in order to increase the incentives for the Oil exploitation investors, reducing their risks and increasing their benefits. For Elias Conophagos, knowing about the effects of synergies of more than one companies, as it is for the sharing of risks and taken the estimations made by seismic researches into consideration, a plan for the plot licensing should have the following image:



Figure 50 License connection of Hellenic and Cypriot EEZ

(Conophagos 2019)

The potential discoveries in the Herodotus Basin, which were already shown in detail in chapter 2, reaffirms the enormous importance of an urgent decision to delimitate the EEZ with Cyprus and Egypt. If we are realizing which contribution to the economies of the East-Med participators is possible, we can understand how important these steps of EEZ exercise with the exploitation of Natural Gas and oil is for the Greek state, as the figure below shows by its

example of energy networks who support the notion of Exclusive Economic Zone by the Convention of the Sea of Law (CLOS):



Figure 51 EastMed Pipeline and possible connections

(SLpress.gr 2019)

The Second important act which comes with the proclamation of the Hellenic EEZ, but promotion of the Hellenic EEZ, as supportive decision for Greece, as new environment of investment for European and Non-European companies, in a First phase in the Energy- and transport sector. An economic recovery from its economic depression the last 8 years, is created with the improved investment climate for contracts for Energy projects, which has the effect of economic growth and as a subsequent step, a stable political system in the mid and long-term.

That has not happened in the extend we need and it was a cost to the Greek people to lose an opportunity to exploit its mineral wealth. At the same time that Greece did not take advantage of the fact that Cyprus responded to 33 bids in 15 consortiums upon 9 marine blocks corresponding to a 75% yield already (Ministry of Energy 2019, 1).

In this context, we conclude that Greece's energy reflexes should cease to be restricted to hydrocarbon imports and expand on the exploitation of domestic mineral wealth. Changes in oil prices are always in the area of possible scenarios and Natural Gas prices are influenced by these market prices, even if the cause of price tendency is a different framework of security in an oil-exporting area, as recent circumstances approved in the effects of a destabilized oil production (Heath 2019, 1).

Additional decisive conditions in order to secure the supply of LNG and infrastructure investments, like high potential discoveries of Natural Gas in the Eastern Mediterranean Region, are given as I was illustrating in chapter 2. Electricity networks, in order to meet the demand of competitive electricity prices, are triggered by the investment of Euro-Asia interconnector power cables, delivering electricity from Israel and Cyprus to the Greek island of Crete, and further Greek mainland networks.

In this context, an already started infrastructure project is the Crete-Attica HVDC Interconnection project, including a bipolar HVDC cable, between Crete and Attica, with a rated power of 1000 MW (2×500 MW). The timetable of the project estimates its completion within 2022 with an estimated budget of € 1 billion (ADMIE-IPTO 2019, 1).

This started project, called after the princess-daughter of King Minoas from ancient Kingdom of Crete "Ariadne-Interconnector", has set the following goals:

- Reduction of utility charges (SGI) by EUR 300-400 million per year
- Ensuring the supply of Crete in the long run (This supply can go vice versa; the moment Crete is connected with the power grid from Israel and Cyprus EEZ) by Natural Gas
- Utilizing local RES potential
- Environmental and economic upgrading of the island

(ADMIE-IPTO 2019, 1)

A solution to the energy efficiency problem in Crete comes not only from the "Virtual Pipeline in Crete", the new project included in the 10-year DESFA Plan for the NSDI Development Program 2020-2029, funded by € 175 million. For this reason, a feasibility study is ongoing, to ensure and improve the island's electricity adequacy using LNG imports, assuring the project's viability. The project is expected to be financed from a possible grant, an EIB loan and the already mentioned own resources of the Fund under the development program 2020-2029 (Mastorakis 2019, 1). The project concerns the construction of a natural gas pipeline (LNG) for

local power generation in Crete. The supply chain includes the infrastructure needed to transport, unload, store and gas LNG on the island. The supply chain was identified, taking into account the availability of the new SSLNG pier at Revithoussa, a project also included in the ESFA development program (Mastorakis 2019, 1). Subsequently, the island's energy future is now entering a new dimension as there will be interconnection Crete-Peloponnese, a 150 kV AC and 2 times 200 MV capacity. From Cape Maleas, a 132km long submarine cable will be docked, which will intersect in the "Nopigia" area of Kissamos Bay, then follow a 32km underground route along the North Crete Road of Chania. According to the European investment banks' (EIB) official data, the project has a total budget of 356 million euros, of which half, the ceiling it can finance, will be loaned by the EIB to the Hellenic Electricity Transmission electricity system operator, "Independent Power Transmission Operator" (IPTO or now named ADMIE) S.A., with 178 million euros (Karaoulanis 2019, 1). The following changes are developed with this project:

- It will lead to further reliability of Crete's electricity future demand, without expensive and polluting thermal power plants.
- Drastic reduction in utility charges (~ 300-400 million per year) for all households
- Further exploit Crete's rich wind potential, contributing to the environmental and economic upgrading of the island.

The former Greek minister of Energy and Environment Mr. Stathakis, announced an estimation for the completion of the project by 2020, developed an investment environment for the Greek island for energy, modernized electricity networks and environmental improvement (Karaoulanis 2019, 1).

As the long-term plan for Greece to ensure the electricity demand for its Greek islands, especially the more distant ones from the Greek mainland and to connect the electricity networks and reduce the import of oil to each island, these projects completion result in synergy effects. The strategic goal to interconnect the Aegean islands as it was promoted in the past by the DESMIE program, former Operator of the Hellenic Electricity Transmission System SA., which is transformed to the successive firms, ADMIE and later also LAGIE, is strengthened by the discoveries of Natural Gas in the Eastern Mediterranean, by both, imported LNG and in the next step self-generated electricity from re-gasified liquified Gas.

The goal to interconnect all Greek islands with energy by 2030, pronounced by officials from the Energy Regulatory Authority (RAE) will help both the further development of the

Renewable Energy Market (RES) and the promotion of innovation (marine wind farms) for the benefit of consumers and the national economy. The additional and flexible sources of energy and integration of these to all electricity networks will need an investment amount of 3,5 billion euros from 2019-2022 by “ADMIE”, the Independent Electricity Transmission Operator (Dikastiko 2019, 1). The change of electricity infrastructure creates a geostrategic advantage, as the topological increase of Energy independence for Greek islands ensures the goal of affordable and available Energy, as part of the goal of economic power.

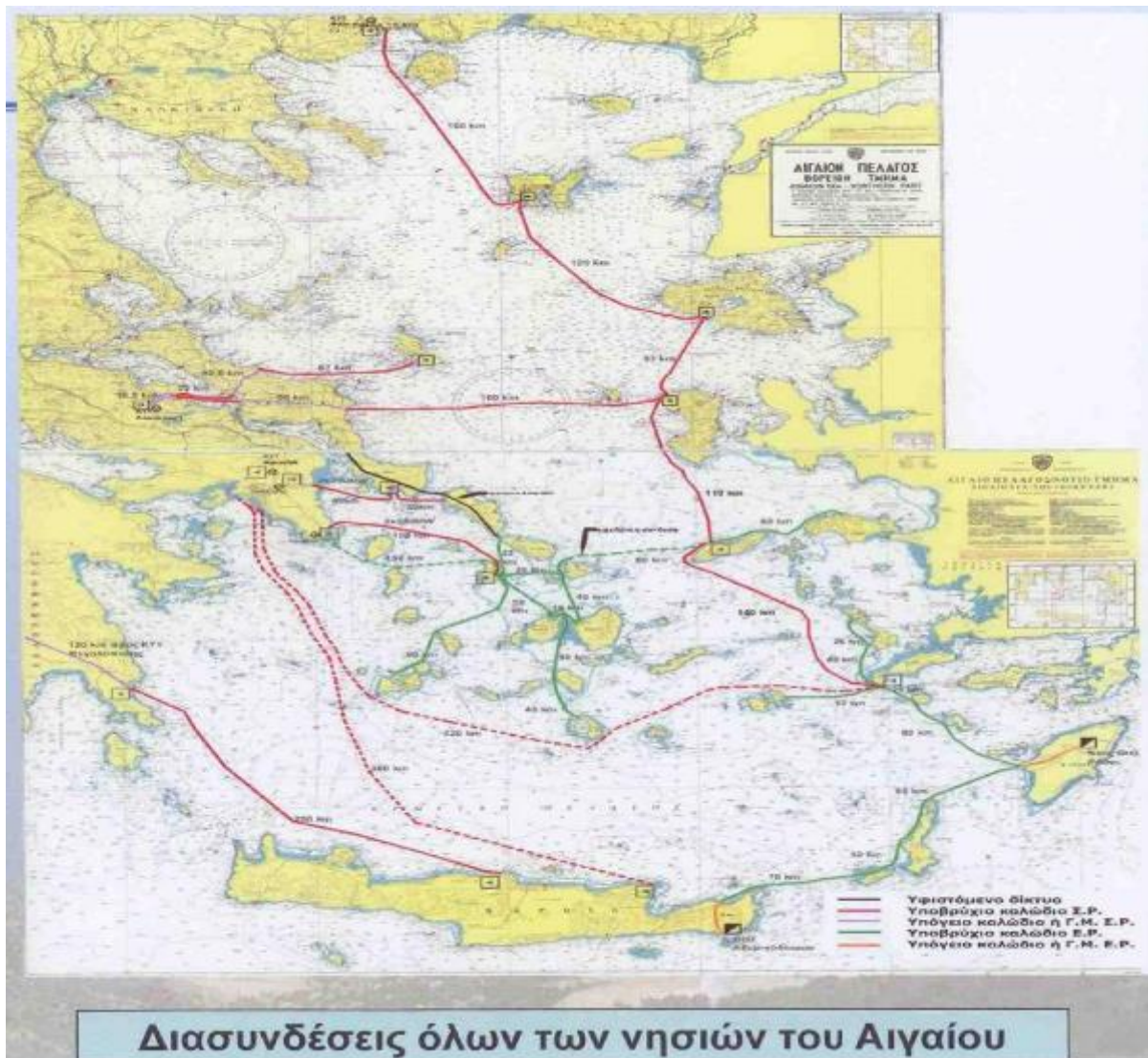


Figure 52 Interconnections of all the Aegean islands

(ENERGYPRESS 2010)

With the future decision for the East-Med pipeline, an additional incentive is given to local power generation, creating an additional network between already connecting electricity networks in South-Eastern Europe and new energy and electricity networks, too. Finally, a new

interconnection to the mainland grids will be constructed, newest technologies and voltage levels used, adding a topology of the interconnections connection points, increasing energy capacities) in combination with possible operations of local thermal units for limited periods (cold reserve). Because although the share of electricity production by renewable energy sources (Wind, Solar or water power) increases step-by step, the goal of flexible Energy-and Electricity production will mainly be secured with the utilization of Oil use in thermal plants (even if a low-level amount in future) and future LNG use with simultaneous transformation of thermal power plants (oil to gas fueled) and construction of new units, who serve as "cold-reserve" energy sources (Gkizas 2018, 15).

With the development of the East Med pipeline and increased LNG potential through the FSRU platform in Alexandroupolis, which is expected to further expand, the role of the Alexandroupolis port is creating potentially changes of the internal electricity market in South-Eastern Europe towards a competitive price for electricity in the region. Due to strategic interests of the U.S. energy industry, mainly the exporters of LNG, a Hellenic-American fund of 2.3 million dollar shall support the project, manifesting “Greece's leadership role as guardian of European energy security and diversification”, as announced from the U.S. ambassador in Greece, Geoffrey Piatt (Ekathimerini.gr 2019, 1).

Alexandroupoli, with its maritime port in the region of Western Thrace, the North-East municipality of the Hellenic Republic, is a suitable entry point for the Greek gas market. Western Thrace is connected to the other regions of Greece, as part of the Northern Greek Administration area of Macedonia and Thrace (eetaa.gr 2012, 39). like the natural gas-powered thermoelectric power stations currently in operation in the Komotini power station, which is situated in Western Thrace, too - an industrial zone of Greece where the in previous years expanding natural gas distribution network (European Commission 2004, 1), is seen as one of the decisive investments in the Greek Energy network sector, which can connect the power plant of Alexandroupolis in order to not only improve its energy balance. This combined-cycle power station consists of 2 gas turbines, producing a net ~485 megawatt/h (DEI 2013, 1). An additional power plant station in Alexandroupoli, driven by LNG, has the potential to reduce the country's energy dependence from one or 2 countries and to make the energy production competitive as price flexibility increases with the growth of energy sources.

As Western Thrace itself counts to the less developed regions in the European Union (further described E.U.), one advantage of an investment for a potential investor is the cohesion policy, the recent Connecting Europe Facility from the European Union year, the 2014-2020 (European

Union 2015, 32). The Interconnector Greece – Bulgaria (IGB) will enable gas supplies from the Southern Corridor and Greek LNG to reach Bulgaria and travel north to the rest of southeastern Europe, flowing on to Central Europe (icgb.eu/home n.d., 1) . It will also integrate the existing LNG terminal in Revythousa and potentially link up with the new LNG project in Alexandroupolis, northern Greece that has already been planned (Novinite JSC. 2018, 1), develop the goals of the European energy network projects, e.g. one project of common interest (PCI) as key infrastructure project, especially cross – border project in order to link the energy systems of Central Eastern and South Eastern Europe (European Commission 2017, 1). In the near future, the promoted project “EastMed”, in particular, the Euro-Asia Interconnector as well, the underwater-cable with about 1000km will be able to enhance an European electricity distribution network starting from Crete, Greece with 2 Gigawatt transporting gas as well as then electricity up to South-Eastern Europe as well as Italy and Central-Europe (Lygeros 2017, 79). These new developments will strengthen the strategic position from Greece and change the new basis of economic situation in the region of Eastern Mediterranean and for South-Europe as well (Lygeros 2017, 80). There are already economic interests from abroad as well as from the local economy to develop basic infrastructure improvements at the port of Alexandroupoli for future investment projects. e.g. a future LNG terminal, which can be connected to the constructed gas networks via pipelines as the Trans Adriatic Pipeline (TAP). The construction of the Greece-Bulgaria interconnector as one of the energy projects are important to increase investment in Thrace in Northern Greece, creating jobs and improving Greece regional position in future for interested investors from LNG exporting countries, e.g. Canada (Shell.com 2018, 1), (Athenian-Macedonian Press 2018, 1). This in fact, is from high interest for any investor who produces electricity from LNG and needs an immediate supply close to the power plant in order to have a security of supply. In the new ‘East Mediterranean Gas Forum’, based in Egypt participate namely Cyprus, Greece, Egypt, Italy, Israel, Jordan and Palestine the goal is to strengthen the cooperation with its objective to optimize joint exploitation of hydrocarbon resources in the East Med. including its own resources makes it possible to use the LNG energy resources (Financial Mirror, ENERGY: East Mediterranean Gas Forum brings Cyprus closer to its goal 2019, 1). All these countries can benefit in the long-term, export to the massive EU market throughout Greece. The needed support of the infrastructure, be it a pipeline as well as LNG terminals for production and transport of LNG is creating jobs for all participating countries. The possibility of linking the pipeline to the operational Egyptian Zohr Field, which makes the connection of other operational fields (“Afrodite” in Cyprus, “Leviathan” in Israel) the East Med pipeline to be economically viable, where it requires the supply of large quantities

of hydrocarbons. Scope of the cooperation is, after signing a high-level agreement in the near future to solidify one of the longest and deepest underwater gas pipelines in the world. Expectations are until now that approximately 10 billion cubic meters (BCM) of natural gas shall be delivered to the European Union (EU) through Greece and Italy. There is no doubt that these developments target economic growth and stability, both for the EU, the involved states as well as for the associated companies. Cyprus, Egypt, and Israel have all recently pushed for stronger economic cooperation, regarding the “EastMed” pipeline construction, which will ensure energy transfers and exports to the EU. This is actually an EU aim in order to be less dependent to Russian NG, and to enhance its energetic mixture (European Commission 2018, 2). The European Union is supporting the project to reach its goal to diversify its natural gas imports. Here, 10-15 percent of the EU’s projected natural gas needs are secured, where the United States is also supporting the project as it sees interests, mainly in security and economy (Friedman 2019, 1). The EU member states, Cyprus and Greece as well as all other gas-importing countries, will benefit from being able to diversify its energy sources. It would allow the EU countries to guarantee some energy security to its Member States as it is the case with the North Sea production which still show a stabilized operation performance (Allister 2019, 1). An over reliance on Russian natural gas also places the EU in a difficult position, because it continues sanctioning Russia over its activities in Ukraine and the meddling in the democratic processes of EU Member States. The EU will likely try to lower market prices on natural gas which have been steadily rising the last few years. In the long run, the EastMed Pipeline may provide nearly double the expected output of 10 BCM for export if ongoing offshore exploration provides positive outcomes. The project will be the culmination of a strategic alliance between three smaller countries who are seen as stable countries, close to an instable region. As the United States continues to play less of a role on the ground, Cyprus, Greece and Israel will be able to create positive reinforcement through bilateral relations or the newly created secretariat economically, politically and militarily. The EastMed-Gas pipeline between Cyprus, Greece and Israel will revolutionize the economies and geo-politics of the region also for another reason. The Greek Initiative to use the EastMed-Gas pipeline not only for the connection from Cyprus, Crete to Italy and then further West-European countries, but also through Bulgaria, Romania and Serbia, creates a geopolitical importance, as this energy project unites two geopolitical axes: The mature axis Greece-Cyprus-Israel-Egypt and young axis Greece-Bulgaria-Romania-Serbia, which both can create common interests. With the cooperation of Israel two options for exporting discovered gas are realistic: The first is to export Natural Gas to Egypt to meet the needs of the Egyptian economy, the second is to install a pipeline to

Cyprus, and then in Greece, which is the most expensive, based on Israel’s current gas production capacity. But in case the price of Natural Gas changes, more discoveries, e.g. inside and around the Levantine Basin are done, Israel, Greece and Cyprus have set up a tripartite committee examining the possibility of installing a natural gas pipeline from Israel to Cyprus and from there to Greece for the further export of Natural Gas to Europe. A point of interest would be, if an Energy Centre will be built in the southern part of Cyprus between Larnaca and Limassol, next to the “Vasilikos” power station (Pilavachi et. al. 2017, 552). The map below shows the connection of the Israeli, Cypriot deposits with the EastMed Gas pipeline starting, the further direction to the Hellenic EEZ, delivering Natural Gas to Crete, as future Eastern Energy Hub of the European Union.

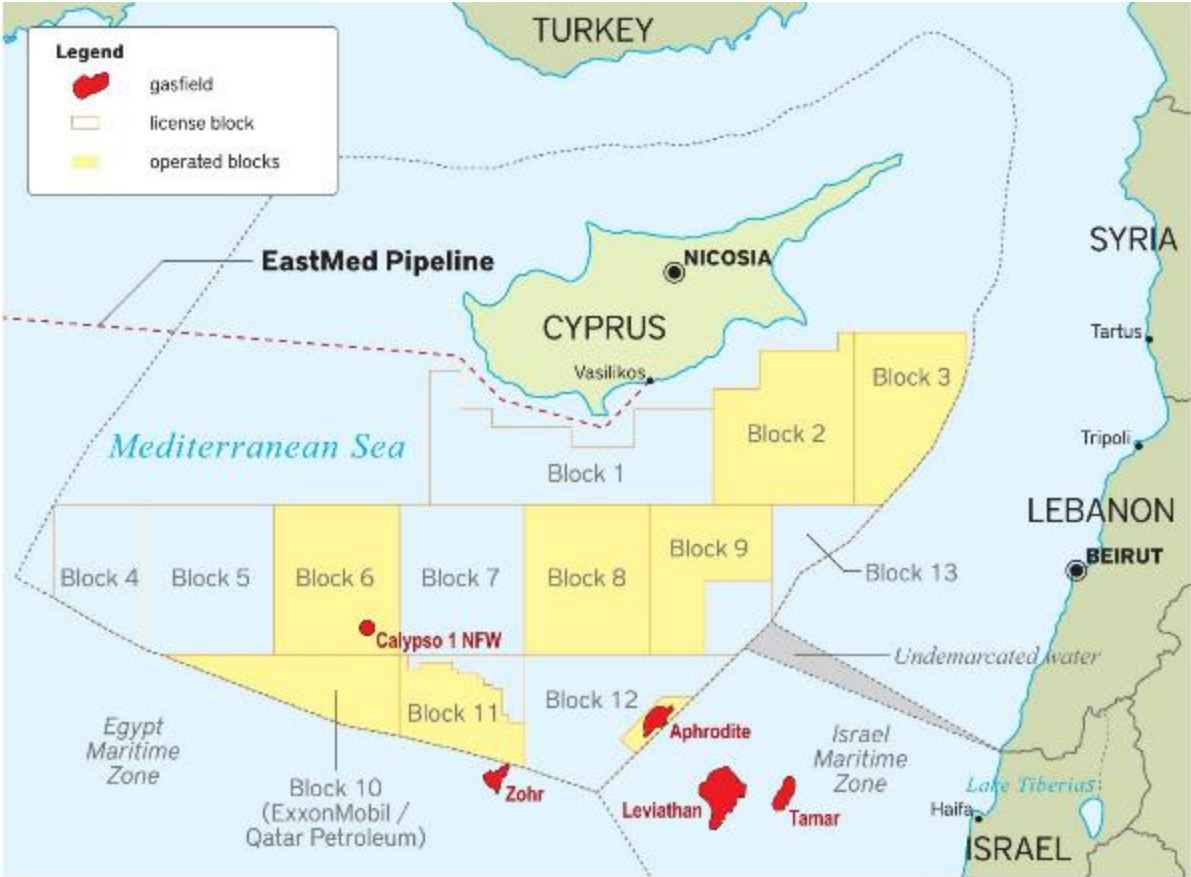


Figure 53 "EastMed" Pipeline

(S. L. SLpress.gr 2014)

Firstly, it will satisfy the present and future demands of Cyprus in regards to Natural Gas and Oil products. This will improve the strategic interest for Greek Foreign Policy, to support the efforts of the Cypriot state to improve its energy and economic independence, e.g. through the future Natural gas exports, but also Natural gas used for electricity generation. The natural

gas quantities will be based upon the estimated demand of national electricity consumption. 130,000 tons of white products, 15,000 tons of LPG and as strategic oil stocks 15,000 tons of bitumen and 700,000 tons of white products will be stored at the Energy Centre as functional stocks. These quantities will be revised according to the real needs of the country (Pilavachi et. al. 2017, 552)..

These developments support main objectives of Greece, which beside others are:

- Construct an Energy Centre for import (from neighbouring countries) and storage of LNG. As the transport of LNG is mainly taken over from Greek LNG carriers, an economic advantage is from strategic interest for the Greek Foreign Policy.
- Emerging of “EuroAsia-Interconnector” pipeline, a project which connects Greek, Cypriot, and Israeli power grids to provide up to 2,000MW and creates a Hellenic long-term energy infrastructure with the Islands of Crete and Cyprus.
- The geostrategic position with a potential connection to the Greece-Bulgaria Interconnector linking Greece to Central Europe through Bulgaria, and surely a further connection from Crete to Italy with the already previous planned pipeline “GREITA”, lends Greece a great opportunity to be a regional energy hub for the European Union.

(Butt 2019, 1)

For the Greek state, recent decisive movements towards the realization of the Hellenic Exclusive Economic Zone is done by the ratification for four concessions, allowing the exploratory drilling and extraction of hydrocarbons in regions of the Ionian Sea and maritime blocks West and south-West of Crete. Beside the Energy companies “Hellenic Petroleum”, “Total” and the largest oil company worldwide “ExxonMobil”, who are exploring in the South and South-West of Crete at the borders to the Libyan Sea, additional given leasehold and leasehold contracts from the Greek state to the exploration rights was ratified in the Parliament for the Ionian Sea, with the Spanish oil company “Repsol”, another global player in this sector (©. Athenian-Macedonian Press 2019, 1). These future exploitations of hydrocarbons, mainly oil, not only in the Western mainland, but on the borders of the already delimited continental shelf with Italy, were Greece assigned to the Repsol-Hellenic Petroleum Consortium and "Area 10 Ionian Sea" (in the Gulf of Kyparissia), allocated to ELPE, which is shown by the map below:

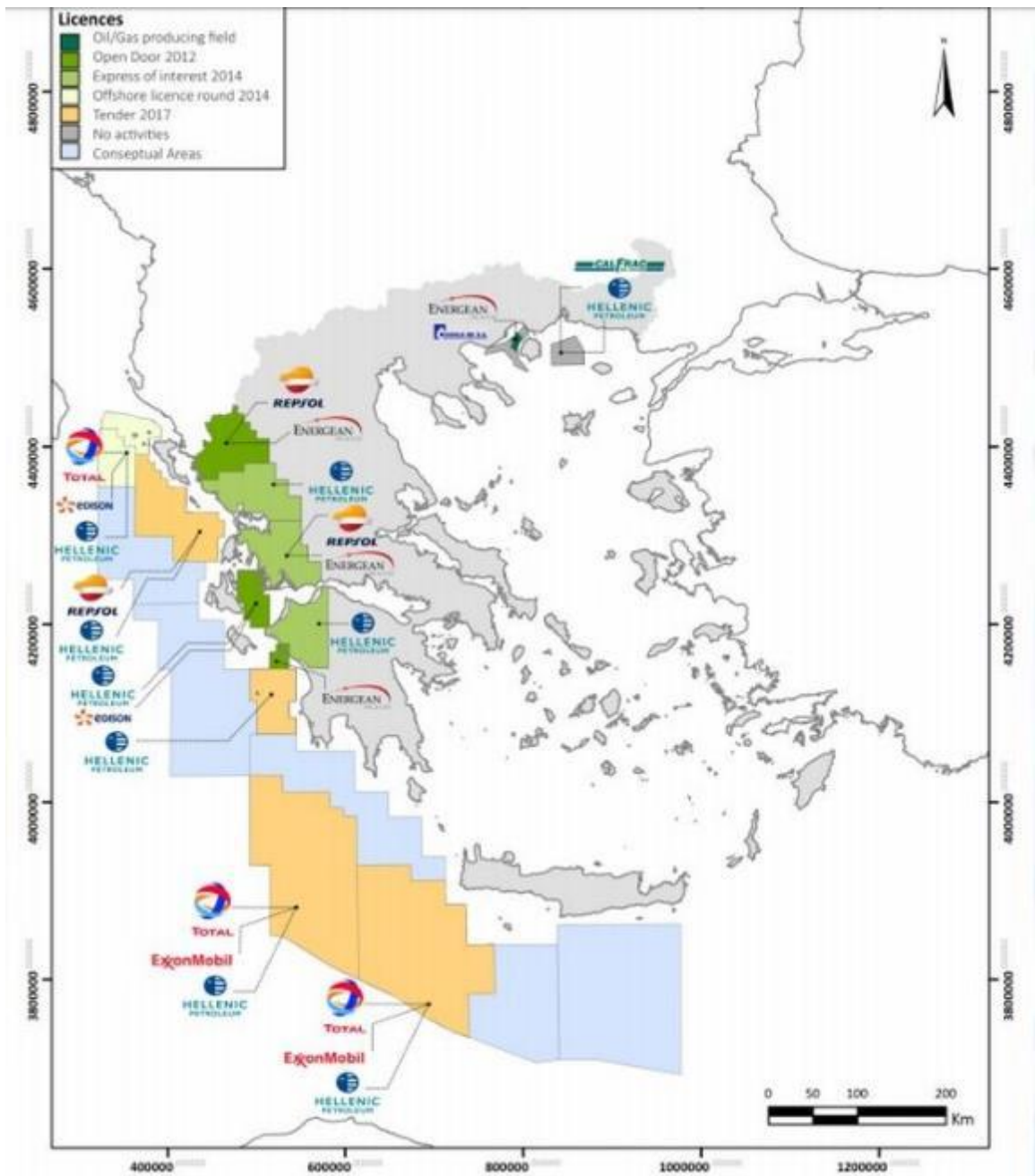


Figure 54 Greece's maritime and land concessions

(Lygeros 2019)

Greece increases its maritime and land concessions to a total amount of conventions of 13 (Kathimerini.gr 2019, 1), which is seen by the Greek political and economic elite as an further enhancement to Greece's energy security and supply as well as a determined path to the geostrategic position from Greece as an energy hub for the E.U. Of course, regarding the economic benefits for Greece, the Greek State will receive in each area:

- During the investigation phase: 1,500,000 euros with the signing of the contract, areas compensations of approximately 2,500,000 euros.
- During the exploitation phase: rent of € 200 per square km of the region per year, plus additional amounts depending on production, measured in barrels of oil equivalent (production bonus).

(Xuequan 2019, 1)

This act of historical significance is creating not only confidence from major international oil companies that will invest billions of euros, but a first step to stamp the sovereign rights of EEZ to be exercised in the future of the Hellenic EEZ is done from the Hellenic Parliament.

A topological change of energy infrastructure creates a further competitive economy, in regards of prices of electricity, which reduces the expenditures for companies, households and the state, which a part of the Greek state is also the military. Our two pylons of Hard Power, “National Defense for Security/Sovereignty” and Economic strength to improve its power, were illustrated with the strategic partnerships for Greece, as well as a credible behaviour of investment movements in security and Energy as well as Energy infrastructure, in order to improve its efforts to gain sovereignty, economic and political stability for future prospects of the Greek people.

It is important to mention the aspect of time-strategy. It is well-known that Turkey is negative in everything concerning the Aegean and historically it has been shown that the Appeasement policy, not necessarily lead to peace, but on the contrary eventually to war. We simply have to go back to the second half of the 1930s, when Hitler came to power in Germany and his revisionist policy was not treated as it should have been by the great powers of the time, such as England of Chamberlain. Recent developments of the Russian diplomatic and serious behaviour, applying sanctions after the crash of the aircraft-Jet by Turkey was straight and caused serious economic consequences to the Turkish economy. We don't have to compare Greece with the economic and geopolitical influence of Russia, which was successful with Turkey in this example (Stubbs and Solovyov 2016, 1). But the economic power of Europe is a fact, Greece so far could not use in order to create pressure to the Foreign policy to Greece. The only policy to be applied in such cases is containment, if an answer to Turkey's untrustworthy and unacceptable claims wants to be found by the Greek Foreign policy.

The interaction is particularly intense in terms of shaping the sovereign rights of each country in the marine areas around it. These are also true for the Aegean.

In particular, the initial territorial sea limit of three nautical miles was largely shaped by the maximum range of cannon shot rule. Hence, the possibility of projection of power from land to sea has been a historical foundation for the determination of the territorial waters limit. This relationship has not ceased to exist. Completely simplistically, we could say that the territorial waters were, in general, the maritime space where, in the case of a land-based duel with naval force, the first would normally be a winner. Turkey announced that it sees the extension of 6 to 12 miles, as “casus belli”, the act of war. Even though, that this extension hat is the actual right of each coastal state by International Law (UNCLOS), Turkey is defining this act as a threat to their National Security, and is not willing to change their stance (Michalopoulos 2018, 1). But the EEZ proclamation should make two facts clear to Turkey; Firstly, a proclamation of Greece as sovereign state has to be respected, as it is backed in accordance with international law. The second fact is that the threat of war is an unacceptable method as answer to the neighbouring country, which is exercising its sovereign rights of its EEZ. If the question of 6 to 12 NM would really cause fears to Turkey, there are other measures to be taken beside a decision by the International Court in den Hague. Confidence-Building Measures should be initiated and show a real good-will from the Turkish side, as the formulated Measures for the Aegean in June, 1998 were never really implemented (Turkish Ministry of Foreign Affairs 1998).

We can imagine why Turkey is behaving lately again in the manner of an aggressor, because the cooperation of Cyprus, Egypt, Israel and Greece in the field of Energy in connection with the political and financial support by the E.U., creates a slow but steady progress for the East-Med pipeline, excluding Turkey due to their diametrical political differences with all involved countries in the Eastern Mediterranean, including Syria, Libya (destabilized countries in war with Turkey as a main aggressor or supporter of Islamic militia in these conflict regions), Jordan and Lebanon (pronews.gr 2019, 1). The EEZ delimitations of Cyprus, which were followed by contracts with Energy companies and the missing political support for the Turkish claims from the E.U. and the U.S. Policy are the geopolitical facts of this chessboard. The proclamation and delimitation of its EEZ with Egypt and Cyprus as well as with Albania in the context of its intentions to have a perspective in the European Union is not only possible and based on sovereign rights of a member state of the E.U., but necessary for the protection of future rights of the Hellenic EEZ. We can hardly expect that the proclamation of the Greek EEZ is declared war to Turkey, as the delimitation with Turkey is not done the same time. In regards of the fears of a war, I cite one passage of Thucydides, the 1st book, which teaches that realities of geopolitics are wars (economic, hybrid, diplomatic or with weapons) and the threats of the same have to be responded accordingly, what remains unchanged throughout history:

>> ...Because in times of peace and prosperity, cities especially are inspired by nobler feelings, since they do not fall under the pressure of inevitable needs. But war, removing little by little from people's daily well-being, becomes a violent teacher and tends to assimilate the moods of many to the present situation << (Venizelos 2016, 158).

In any case, the offensive acts of Turkey are a reality which can only be answered by determined measures of Greek national security forces, in the area of diplomacy, military and economic pressure via the E.U., independent of potential hopes for future improvements in the Greek-Turkish relations.

If we want to make an example of a geopolitical chessboard, we are able to count the negative and positive facts in order to find out how Greece is able to develop a new Hellenic legacy for the Europe Western civilization:

The negative facts are that Turkey is still occupying the North of Cyprus, succeeding this policy with the violation of sovereign rights of the Cypriot Democracy of 1960. The reason for its movements of sending its vessels (mainly non-given licenses of remaining plots, as part of the Northern occupied part of Cyprus) to the EEZ of Cyprus is, that it does not recognize officially the state of Cyprus, as it did when Cyprus entered to the E.U. in 2004. Another fact is the pending delimitation and proclamation of the Hellenic EEZ, e.g. Greece still has not sent the coordination's of its EEZ officially to the United Nations, as Turkey did recently in March, 2019 with its repeated verbal note from 2004. These limits are based not only on the Turkish continental shelf in maritime areas following the median line between the Turkish and Egyptian coastlines to a point (Egypt disagrees to this delimitation claim), taking into account prevailing parameters and special circumstances" (Sinirlioğlu 2019, 1). These acts are not finalizing moves, but are challenging only the Greek and Cypriot rights of EEZ, if any state accepts these claims, which is not the case.

But turning around the chessboard, we are able to see the positive facts for the Greek side, which are leaving Turkey in disadvantage the same time:

We are aware of many diplomatic steps as the Declaration under article 298, in 2015 and Greece rejected not only once the Turkish allegations in the Eastern Mediterranean as unsubstantiated, unfounded and devoid of any legal basis (Boura 2017, 1).

Realizing the facts of the chances of Greek EEZ and the progress on the project East-Med, which is from strategic importance, the delimitation of the Cypriot EEZ and the agreements

between Cyprus and Israel as well as Cyprus and Egypt, supports the conclusion that Israel recognizes the Hellenic Exclusive Economic Zone, which is a continuation of Cyprus and Israel's proceeding by issuing relevant maps (energypress.gr 2011, 1). With the involved Energy companies, strategic partnerships in the E.U. and NATO are strengthened for the exploitation in the context of the EastMed pipeline projects. Key actors of the connected Cypriot and Greek EEZ like Egypt, Israel as well as the European Union are supporting the claims of EEZ from Greece and Cyprus. Additionally, if we would have a chessboard picture of companies like ENI, TOTAL and ExxonMobil, signing contracts with Turkey, instead of doing so with Greece and Cyprus, we are realizing better the recent geopolitical facts in the Energean field. The same time, delimiting its EEZ with Egypt and Israel or Libanon, Cyprus was already utilizing its gas deposit "Afrodite", selling and connecting Natural Gas to Egypt, supporting the EuroAsia-Interconnector the same time. This is the path where Greece will be able to strengthen further Energean independence of Europe and as a result, transform its new geopolitical role with the connection of European and U.S. American partners with the utilization of Hellenic -Mediterranean Energy-Hub.

Conclusion

The exploitation for oil and Natural Gas was highlighted in this thesis as a decisive contribution of the Hellenic EEZ toward the Greek nation with the utilization of the National Wealth within it. The transformation of the Greek economy, taking into consideration the effects of the Energy infrastructure with the exploitation of Natural Gas, the implementation of East-Med pipeline, as well as the transportation of LNG by the Hellenic merchant fleet is an upheaval in terms of the geo-economical position of Greece. Combining the interests of Great Powers, energy companies with the Greek strategy of EEZ and its exploitation via LNG is a geostrategic maneuver in order to support Greek sovereignty and economic prosperity in the long-term, changing the fundamental direction of the Hellenic people in the context of time strategy. With the common conflict of interest of Israel, Cyprus, Egypt and Greece with Turkey in the field of energy, economy and security in the Eastern Mediterranean, Greece is able to strengthen its role as energy hub in the development of common energy projects. As a result, the Hellenic Sea Power protects not only economic and strategic interests of Greece, but with the transformation of an energy alliance with Cairo, Jerusalem and Nicosia, Athens enforces its geopolitical position in the European Union. The dispute with Greece and Turkey in the Aegean Sea is from a different magnitude, as the East-Med project which creates an Energy Hub within Hellenic EEZ towards European economies is from much higher value than the Mineral richness in the Aegean Sea.

The challenges of Turkey are caused due the same diachronical issues, as were in the previous centuries as well. The Natural Gas discoveries in the Eastern Mediterranean are a cause of dispute as far as Turkey is concerned, feeling a disadvantaged geo-positioning, which reminds us of the conflict we had years back when Turkey became hostile. Overcoming that problem is not possible merely relying upon the support of old or new allies, neither the solution could be a dogmatic offensive Foreign Policy with the threat of war. The political issues are existing for many years due to basic conflicts of interests by the Turkish and Greek State in the Aegean, Cyprus and Thrace. A successful utilization of the Cypriot EEZ and the development of the East-Med pipeline is a continuance of efforts on the long road to the liberation of Cyprus. In the context of time-strategy, the key role of Greece to this liberation is the same as for the common energy future of the European Union. But it is the determined decision towards a geostrategic policy regarding the protection of Hellenic interests, which is able to convince allies, who are willing to support the efforts of the Greek nation for their sovereign rights of the EEZ in a political, economic and even military dimension, depending on how far the

conflict of interests with Turkey is increasing in the Eastern Mediterranean. Due to the exploitation of Natural Gas and Oil, the geo-economic changes are able to move Cyprus, Egypt, Greece and Israel towards a long-term alliance of Energy- independent economies, exporting Natural Gas to Europe and 3rd countries. Being able to create a change of phase with geopolitical significance, Greece is able to protect its National interests far better than in the past due to common interests within the Eastern Mediterranean. Greece's dogma in regards of their National security was the positioning of Defense policy as per the answer to the threat of Turkish offensiveness. Greece does not benefit from adapting the same policy that Ankara has chosen for its national interests.

However, the targeted selection of common interests in energy and economy of U.S. America, Europe and other involved players within the Eastern Mediterranean in the context of geostrategic objectives, makes Greece not only an energetic hub of indispensable value, but it enables the realization of a counterattack-strategy with the power of economic and energetic dominance. The argument that the exercising of its EEZ sovereign rights, carries the risk of a serious incident or even a war like a sword of Damocles over Greece, ignores important facts about the common source of issue, be it the extension of 6 to 12 miles or the exercise of Hellenic EEZ. Firstly, Turkey's foreign policy have always been accompanied by expansionist goals ever since its founding, always seeking a good reason to fulfil them, to the detriment of others. Secondly, the realization of the Turkish intention of hybrid warfare, be it psychological warfare through verbal threats, or the abuse of Syrian asylum seekers and other migrants as an additional burden upon Greek sovereignty, on the sea borders and the Aegean islands. The Greek EEZ extension throughout these islands are a threat to Turkish strategies in the Eastern Mediterranean, not a question of Turkish national security. In any case, the offensive acts of Turkey are a reality which can only be answered by determined measures of Greek national security, independent of potential hopes for future changes in the Turkish foreign policy. The protection of Hellenic EEZ is connected with the territorial integrity of Aegean islands up to the EEZ sea boundaries with the involved partners of the East-Med project and makes the Cypriot sovereignty therefore to a strategic interest for the Hellenic Nation.

Consequently, now, that we have been waiting for many years for the decisive votes within the Greek Parliament, it is time to take political initiatives and move forward towards the EEZ exploitation. The Greek ship owners already made determined decisions and it is upon the Hellenic leaders to enhance the future of the Greek economy and with this, to create a better

tomorrow for the whole Nation. The sovereign exercise of the Hellenic EEZ will remind the Greek people about their abilities and capabilities, who waited for so long for a ray of light and hope in the horizon.

Reference list

- (MERICS), The Mercator Institute for China Studies. *China's ambitious Silk Road strategy*. December 21st, 2015. <https://www.dw.com/en/chinas-ambitious-silk-road-strategy/a-18933290>.
- n.d. www.mytilineos.gr.
- n.d. www.metka.com.
- n.d. www.elpedison.gr.
- 1, Schedule. "bclaws.ca." n.d.
http://www.bclaws.ca/civix/document/id/lc/statreg/53_2016#section1.
- 17th Africa OilGasMine Trade and Finance Conference and Exhibition, Background Note. *Extractive Industries and Sustainable Job Creation*. 17th Africa OilGasMine Trade and Finance. November 2015.
https://unctad.org/meetings/en/SessionalDocuments/suc_OilGasMine2015_bgNote_en.pdf.
- 50minutes.com. *PESTLE Analysis: Understand and plan for your business environment*. Bruxelles: Primento Digital, 2015.
- 902.gr. *Για τα τεράστια προβλήματα που αντιμετωπίζουν οι κάτοικοι των Διαπόντιων νησιών. «ΛΑΪΚΗ ΣΥΣΠΕΙΡΩΣΗ» ΚΕΡΚΥΡΑΣ*. August 29, 2017. <https://www.902.gr/eidisi/topiki-dioikisi/137694/gia-ta-terastia-provlimata-poy-antimetopizoun-oi-katoikoi-ton>.
- ADMIE-IPTO, Website. *A milestone project for Greece*. ADMIE S.A. – IPTO. 2019.
<http://www.ariadne-interconnection.gr/en/home-en/>.
- AEO, Annual Energy Outlook. "Assumptions about the size of U.S. resources and the improvement in technology affect domestic oil and natural gas-but global market conditions play a more significant role in oil price projections." February 6th, 2018.
<https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf>, page 30.
- AFP. *EU-Parlament fordert Türkei zur Anerkennung von „Völkermord“ an Armeniern auf*. EURACTIV.de. April 16th, 2015. <https://www.euractiv.de/section/eu-aussenpolitik/news/eu-parlament-fordert-turkei-zur-anerkennung-von-volker-mord-an-armeniern-auf/>.
- Ahvalnews. *Turkey, U.S. disagree on five issues over northern Syria safe zone*. August 17th, 2019.
<https://ahvalnews.com/us-turkey/turkey-us-disagree-five-issues-over-northern-syria-safe-zone>.
- Albertone et.al., Eurostat. "Giovanni Albertone, Simon Allen and Andrew Redpath - Eurostat: Industry, trade and services - Key figures on Europe." 2017.
<https://ec.europa.eu/eurostat/documents/3217494/8309812/KS-EI-17-001-EN-N.pdf/b7df53f5-4faf-48a6-aca1-c650d40c9239>.
- Alexandrou, Χρήστος Αλεξάνδρου. *Θυμάται κανείς το Δόγμα EAX ανάμεσα σε Ελλάδα και Κύπρο;* www.defence-point.gr. July 1st, 2016. <https://www.defence-point.gr/news/θυμάται-κανείς-το-δόγμα-εαχ-ανάμεσα-σε>.

- Allister, Thomas. "EnQuest hails 25% boost to production thanks to North Sea operations." May 23rd, 2019. <https://www.energyvoice.com/oilandgas/north-sea/199982/enquest-hails-25-boost-to-production-thanks-to-north-sea-operations/>.
- Ammon, Herbert - ABLIS Jahrbuch für europäische Prozesse 8. Jg. "Geopolitik – Zur Wiederkehr eines verloren geglaubten Begriffs im 21. Jahrhundert ." 2009. https://www.iablis.de/iablis_t/2009/ammon09.html.
- Anadolu Agency, AG. *Turkey marks 566th anniversary of conquest of Istanbul*. May 29th, 2019. <http://www.hurriyetdailynews.com/turkey-marks-566th-anniversary-of-conquest-of-istanbul-143791>.
- Anderson, Richard. "Methane hydrate: Dirty fuel or energy saviour?" April 17th , 2014. <https://www.bbc.com/news/business-27021610>.
- Arsonists attack Hellas gold mine in northern Greece*. BBC News. February 17, 2013. <https://www.bbc.com/news/world-europe-21489779> (accessed 12 22, 2018).
- ASFA. *το έργο - ΑΣΦΑ ΑΛΕΞΑΝΔΡΟΥΠΟΛΗΣ*. gastrade.gr . 2013. <http://www.gastrade.gr/η-εταιρεια/to-εργο.aspx>.
- Associated Press of Pakistan, APP. *CPEC manifestation of Pak-China economic relations: Hafeez*. September 6th, 2019. <https://www.app.com.pk/cpec-manifestation-of-pak-china-economic-relations-hafeez/>.
- Athenian-Macedonian Press. "makthes.gr - Makedonia: Αλεξανδρούπολη: Ενέργεια, λιμάνι και επενδύσεις στο τραπέζι." December 11th, 2018. <https://www.makthes.gr/synantisi-toy-dimarchoy-alexandroypolis-me-tin-epitetrammeni-tis-presveias-toy-kanada-stin-ellada-180409>.
- Athenian-Macedonian Press, ©. *Parliament ratifies four concessions for offshore oil and gas drilling in Ionian, seas west of Crete*. ANA-MPA. October 3rd, 2019. <https://www.amna.gr/en/article/397220/Parliament-ratifies-four-concessions-for-offshore-oil-and-gas-drilling-in-Greek-seas>.
- Athenian-Macedonian Press, AMP. *State Department calls Turkey to halt drilling in Cyprus' Exclusive Economic Zone*. ANA-MPA . May 6th, 2019. <https://www.amna.gr/en/article/357578/State-Department-calls-Turkey-to-halt-drilling-in-Cyprus-Exclusive-Economic-Zone>.
- Australian Department of Foreign Affairs and Trade, Commonwealth of Australia. *Australia's maritime arrangements with Timor-Leste*. Commonwealth of Australia. March 6th, 2018. <https://dfat.gov.au/geo/timor-leste/Pages/australias-maritime-arrangements-with-timor-leste.aspx>.
- Bar'el, Zvi. *Analysis // Libya Is Now a Battleground Between Turkey and the UAE*. www.haaretz.com/. September 4th, 2019. <https://www.haaretz.com/middle-east-news/.premium-libya-war-uae-turkey-1.7796171>.

- Basias, Ioannis. *Το διαφαινόμενο «Ελντοράντο» και οι «πράσινες» ιδεοληψίες*.
<https://www.neakriti.gr>. 09 10, 2018. <https://www.neakriti.gr/article/apopseis/1522284/to-diafainomeno-eldorado-kai-oi-prasines-ideolipsies/>.
- Bassias, Yannis , President and CEO. *Chasing for local energy resources in Greece*. Hellenic Hydrocarbon Resources Management SA. March 28, 2019 .
https://www.greekhydrocarbons.gr/news_en/OMC_March_2019.pdf.
- BBC. *Indigenous rights outlined by UN*. September 13th, 2007.
http://news.bbc.co.uk/2/hi/in_depth/6993776.stm.
- Boura. "General Assembly Security Council, Oceans and the law of the seas." *Catherine Boura, United Nations*. May 17th, 2017. <https://undocs.org/A/71/901>.
- . *Letter dated 10 May 2017 from the Permanent Representative of Greece to the United Nations, Catherina Boura addressed to the Secretary-General*. United Nations - General Assembly Security Council. May 17th, 2017. <https://undocs.org/A/71/901>.
- Breeze, Paul. "Business Insights Ltd - The Cost of Power Generation." . 2010. <http://lab.fs.uni-lj.si/kes/erasmus/The%20Cost%20of%20Power%20Generation.pdf>.
- Breeze, Paul. *The Cost of Power Generation. The current and future competitiveness of renewable and traditional technologies*. Business Insights Ltd, 2010.
- Bruneton et.al., Rieas. *Economic and Geopolitical importance of Eastern Mediterranean, Gas Fields for Greece and the E. U. - Emphasis on the probable Natural Gas Deposits occurring in the Libyan Sea within the EEZ - by Alain Bruneton, Elias Konofagos, Anthony E. Foscolos*. 2011.
<http://www.rieas.gr/images/aoz1.pdf>.
- Buffett, B. and Archer, D. "Global inventory of methane clathrate: sensitivity to changes in the deep ocean,." October 8, 2004.
<http://geosci.uchicago.edu/~archer/reprints/buffett.2004.clathrates.pdf>.
- "businessdictionary.com." n.d. <http://www.businessdictionary.com/definition/internal-rate-of-return-IRR.html>.
- Butt, Gerald. *ExxonMobil gas discovery boosts Cyprus' energy hopes*. Petroleum Economist. February 28th, 2019. <https://www.petroleum-economist.com/articles/upstream/exploration-production/2019/exxonmobil-gas-discovery-boosts-cyprus-energy-hopes> .
- Cafiero, Giorgio. *Israel's Involvement in Libya's Civil War*. Consortium News. July 13th, 2019.
<https://consortiumnews.com/2019/07/13/israels-involvement-in-libyas-civil-war/>.
- Capital.gr. *Ενισχύεται η αμυντική συνεργασία Ελλάδας-ΗΠΑ*. October 5th, 2019.
<https://www.capital.gr/politiki/3386120/enisxuetai-i-amuntiki-sunergasia-elladas-ipa>.
- . *Προσκλητήριο Μητσοτάκη για γαλλικές επενδύσεις - Στήριξη Μακρόν για τις προκλήσεις της Τουρκίας*. August 22nd, 2019. <https://www.capital.gr/politiki/3378071/prosklitirio-mitsotaki-gia-gallikes-ependuseis-stirixi-makron-gia-tis-prokliseis-tis-tourkias>.

- Chasopoulos, Nikos. *Χασαπόπουλος, Νίκος: Τι προβλέπει η αμυντική συμφωνία Κύπρου – Γαλλίας, toVima.gr*. May 19th, 2019. <https://www.tovima.gr/2019/05/20/politics/ti-provlepei-i-amyntiki-symfonia-kyprou-gallias/> .
- Christou, Jean. *New licences will strengthen gas consortium says minister*. CyprusMail. July 30th, 2019. <https://cyprus-mail.com/2019/07/30/new-licences-will-strengthen-gas-consortium-says-minister/> .
- Chrysochou & Dalaklis, Chaumette. "Offshore Energy Exploration Activities and the Exclusive Economic Zone Regime: A Case Study of the Eastern Mediterranean Basin." *Chrysochou, Georgios; Dalaklis, Dimitrios; Patrick Chaumette: Wealth and miseries of the oceans: Conservation, Resources and Borders Richesses et misères des océans: Conservation, Ressources et Frontières, GOMILEX, In press, 978-84-17279-02-8. hal-01983521*. January 16th, 2019. <https://hal.archives-ouvertes.fr/hal-01983521/document>.
- Commission, European Union. *Instrument for Pre-Accession Assistance*. European Union. 2019. https://ec.europa.eu/regional_policy/en/funding/ipa/.
- Conophagos. *Conophagos, Dr. Elias: ΕΠΕΝΔΥΣΕΙΣ ΕΡΕΥΝΑΣ & ΠΑΡΑΓΩΓΗΣ ΦΥΣΙΚΟΥ ΑΕΡΙΟΥ ΝΟΤΙΑ ΤΗΣ ΚΡΗΤΗΣ*. Flow - Energy and Environmental Operations, Oil and Gas. 2011. <https://www.iene.gr/energy-development2011/articlefiles/4session/konofagos.pdf>.
- . *EEZ, The Cypriot issue and delusions by Dr. E. Conophagos, et. al*. September 2015. <http://www.lygeros.org/articles.php?n=21274&l=en>.
- . *Elias Conophagos: Τι πρέπει να κάνουν Ελλάδα και Κύπρος για να οχυρώσουν την ΑΟΖ τους*. SLPress. August 2nd, 2019. <https://slpress.gr/oikonomia/ti-prepei-na-kanoun-ellada-kai-kypros-gia-na-ochyrosoyn-tin-aoz-toys/>.
- . *ENI και BP μιλούν για τεράστια κοιτάσματα δίπλα στην Κρήτη και η Ελλάδα κοιμάται...* <https://www.iellada.gr/>. March 27, 2019. <https://www.iellada.gr/diplomatia/eni-kai-bp-miloun-gia-terastia-koitasmata-dipla-stin-kriti-kai-i-ellada-koimatai>.
- Conophagos et. al., Ηλιας Κονοφάγος, Νικολαος Λυγερος, Αντώνης Φωσκολος. *Η αυτοκρατορία κυπριακών γιγαντιαίων στόχων κοιτασμάτων γύρω από τον «Ερατοσθένη»*. lygeros.org. March 17th, 2016. <http://www.lygeros.org/lygeros3/24011.pdf>.
- Conophagos. *The Achilles reserve causes strategic institutional concerns, by Dr. E. Conophagos, Dr. N. Lygeros*. 2015. <http://www.lygeros.org/articles.php?n=20962&l=en>.
- . *Κονοφάγος, Ηλίας Κ, «Ο ορυκτός μας πλούτος βρίσκεται μέσα στην ελληνική ΑΟΖ»*. Η Λαυρεωτική. March 2, 2019. <https://www.alltimeclassic.net/h-agwnia-kai-ekstash-twn-ydrogonanthrakwn/>.
- . *Νότια της Κρήτης βρίσκονται στρατηγικά αποθέματα υδρογονανθράκων, τα οποία είναι τουλάχιστον κατά δέκα φορές μεγαλύτερα από αυτά που βρίσκονται στο Ιόνιο*. CretePlus.gr. July 9th, 2015. <http://www.creteplus.gr/news/deka-fores-megalutera-ta-apothemata-udrogonanthrakon-tis-kritis-apa-pou-briskontai-sto-ionio-137302.html>.

- Cooper, Craig. *Appreciate The Peaceful, NATO-Dominated Mediterranean Sea While You Can*. November 21st, 2019. <https://www.forbes.com/sites/craighooper/2019/11/21/appreciate-the-peaceful-nato-dominated-mediterranean-sea-while-you-can/#2ab1d6a2c5a3>.
- Copelouzos.gr. 2010. <http://www.copelouzos.gr/en/productiontrading/ccgt/>.
- CORPORATION, TURKISH PETROLEUM. "domestic exploration and production activities." 2011. http://www.tpao.gov.tr/tpfiles/userfiles/files/2011_activities.pdf.
- Council, United Nations Security. "Resolution 541, 543 - The situation of Cyprus." November 18, 1983. [https://undocs.org/S/RES/534\(1983\)](https://undocs.org/S/RES/534(1983)).
- Cypriot Ministry of Foreign Affairs, Exclusive Economic Zone and Continental Shelf. *www.mfa.gov.cy*. Democracy of Cyprus. October 19th, 2016. http://www.mfa.gov.cy/mfa/mfa2016.nsf/mfa86_en/mfa86_en?OpenDocument.
- Cyprus & World News, Financial Mirror. *ENERGY: More US companies will join Cyprus gas exploitation*, . 2019 Financial Mirror. . September 5th, 2019. <http://www.financialmirror.com/news-details.php?nid=37498>.
- cyprus-mail.com Staff, Reporter. *Erdogan: there will be no gas without our involvement*. August 23rd, 2019. <https://cyprus-mail.com/2019/08/23/erdogan-there-will-be-no-gas-without-our-involvement/>.
- Daily Bunker Report, HSN. *MABUX: Bunker market this morning, Aug 27*. International Shipping News. August 27th, 2019. <https://www.hellenicshippingnews.com/mabux-bunker-market-this-morning-aug-27/>.
- Dandanidis Geogrios. *The impact of emissions trading on electricity investments and prices*. Thessaliniiki: International Hellenic University, 2011.
- de Quetteville, Harry. *US troops pack up and go as Turkey refuses any help*. Telegraph Media Group Limited 2019. March 24th, 2003. <https://www.telegraph.co.uk/news/worldnews/middleeast/iraq/1425507/US-troops-pack-up-and-go-as-Turkey-refuses-any-help.html>.
- DeCanio. "“Game theory and climate diplomacy”, Ecological Economics, journal homepage: www.elsevier.com/locate/ecocon." *Stephen J. DeCanio, Anders Fremstad*. June 22th, 2011. <https://eclass.gunet.gr/modules/document/file.php/LABGU362/Game%20theory%20and%20climate%20diplomacy%202013.pdf>.
- Defencepoint. *defence-point.gr – Πολιτική Απορρήτου: MPU RX-4: Το νέο ελληνικό κάθετης απο/προσγείωσης (VTOL) mini-UAS*. September 6th, 2019. <https://www.defence-point.gr/news/mpu-rx-4-to-neo-elliniko-kathetis-apo-prosgeiosis-vtol-mini-uas>.
- . *MPU RX-4: Το νέο ελληνικό κάθετης απο/προσγείωσης (VTOL) mini-UAS*. defence-point.gr – Πολιτική Απορρήτου. September 6th, 2019 . <https://www.defence-point.gr/news/mpu-rx-4-to-neo-elliniko-kathetis-apo-prosgeiosis-vtol-mini-uas>.

- DEI, ΔΕΗ Α.Ε. "Detailed map of power plant." 2013. <https://www.dei.gr/en/i-dei/i-etairia/tomeis-drastiriotitas/paragwgi/analutikos-xartis-stathmwn>.
- Dikastiko, Newsroom. *Με πρωτοβουλία της ΡΑΕ διασυνδέονται όλα τα νησιά της Ελλάδας*. 2018
Dikastiko - Τα μάτια της Δικαιοσύνης. September 15th, 2019.
<https://www.dikastiko.gr/ειδηση/με-πρωτοβουλια-της-ραε-διασυνδεονται/>.
- Dimokratiki, News room. *Περιοδεία στα Δωδεκάνησα του υφ/ργού Εθνικής Αμυνας αρχής γενομένης από τη Ρόδο*. Δημοκρατική της Ρόδου. May 20th, 2015.
<https://www.dimokratiki.gr/20-05-2015/periodia-sta-dodekanisa-tou-ifrgou-ethnikis-aminas-archis-genomenis-apo-ti-rodo/>.
- Dimotsi, Despina. *ΣΤΕΙΛΤΕ ΜΙΑ ΚΑΡΤΑ ΣΤΟ ΚΑΣΤΕΛΟΡΙΖΟ*. Ενημέρωση WordPress.com. November 29th, 2012. <https://enimerwsi.wordpress.com/2012/11/29/στειλτε-μια-καρτα-στο-καστελοριζο/>.
- D-Mitch. *Naval power in the Eastern Mediterranean in 2017*. Turkish Navy modernization and shipbuilding plans through 2030 . September 16th, 2017.
<https://www.navalanalyses.com/2017/09/turkish-navy-modernization-and.html>.
- . *Naval power in the Eastern Mediterranean in 2017, Turkish Navy modernization and shipbuilding plans through 2030* . September 16th, 2017.
<https://www.navalanalyses.com/2017/09/turkish-navy-modernization-and.html>.
- E.C. *EU Emissions Trading System (EU ETS) - European Comission*. 2015.
https://ec.europa.eu/clima/policies/ets_en (accessed 10 6th, 2019).
- EC. *€200 million EU funding for cross-border energy infrastructure*. European Comission. March 19, 2018. https://ec.europa.eu/info/news/eu200-million-eu-funding-cross-border-energy-infrastructure-2018-mar-19_en?pk_campaign=ENERNewsletterApril2018 (accessed 12 22, 2018).
- Economic Times, PTI. *Pakistan most dangerous country, its leaders don't care about their people: Jim Mattis*. September 5th, 2019.
<https://economictimes.indiatimes.com/news/defence/pakistan-most-dangerous-country-its-leaders-dont-care-about-their-people-jim-mattis/articleshow/70993529.cms>.
- Edisoninvestmentresearch. "https://www.edisoninvestmentresearch.com - Magnolia – starting to bloom." April 3rd, 2014.
<https://www.edisoninvestmentresearch.com/?ACT=18&ID=11645&LANG=>.
- eetaa.gr. "STRUCTURE AND OPERATION OF LOCAL AND REGIONAL DEMOCRACY ." 2012.
https://www.eetaa.gr/en_pages/Structure_and_operation_Greece_2012.pdf.
- Egypt Daily News, Egypt. "Turkey's illegal drilling in Cyprus' EEZ revives geopolitical rivalries in Eastern Mediterranean." October 7th, 2019.
<https://ww.dailynewssegypt.com/2019/05/09/turkeys-illegal-drilling-in-cyprus-eez-revives-geopolitical-rivalries-in-eastern-mediterranean/>.

Egypt Today staff, ETS. *Egypt Today 2019: Egypt, France conduct joint military exercise 'Ramses 2019'*. July 2nd, 2019. <https://www.egypttoday.com/Article/1/72349/Egypt-France-conduct-joint-military-exercise-Ramses-2019>.

EIA. *2 Choke Points That Threaten Oil Trade Between The Persian Gulf And East Asia*. Forbes Media LLC. April 17th 2017. <https://www.forbes.com/sites/johnmauldin/2017/04/17/2-choke-points-that-threaten-oil-trade-between-persian-gulf-and-east-asia/#678d3aaf4b96>.

—. "https://www.eia.gr." July 13, 2018.
https://www.eia.gov/energyexplained/index.php?page=natural_gas_lng.

EIA, U.S. Energy Information Administration. *Annual Energy Outlook 2019 with projections to 2050*. Annual Energy Outlook 2019. January 24th, 2019.
<https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf>.

—. *Natural Gas, Analysis and projections - Annual Energy Outlook 2018*. U.S. Energy Information Administration. February 8th, 2018.
https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2018/02_08/#itn-tabs-2,

—. "Overview of oil and natural gas in the Eastern Mediterranean region." August 15th, 2013.
https://www.eia.gov/beta/international/analysis_includes/regions_of_interest/Eastern_Mediterranean/eastern-mediterranean.pdf.

Ekathimerini.com. *Anastasiades proposes creation of escrow account in bid to ease tension*. April 9th, 2019. <http://www.ekathimerini.com/244203/article/ekathimerini/news/anastasiades-proposes-creation-of-escrow-account-in-bid-to-ease-tension>.

—. *Greece licenses Exxon, Total to explore untapped waters off Crete*. June 27, 2019.
<http://www.ekathimerini.com/241968/article/ekathimerini/business/greece-licenses-exxon-total-to-explore-untapped-waters-off-crete>.

—. "Greece licenses Exxon, Total to explore untapped waters off Crete." June 27, 2019.
<http://www.ekathimerini.com/241968/article/ekathimerini/business/greece-licenses-exxon-total-to-explore-untapped-waters-off-crete>.

—. *Greece-Cyprus expand alliance to include Armenia*. June 4th, 2019.
<http://www.ekathimerini.com/241230/article/ekathimerini/business/greece-cyprus-expand-alliance-to-include-armenia>.

Ekathimerini.gr. *Τζέφρι Πάιατ: Η Ελλάδα θεματοφύλακας της ευρωπαϊκής ενεργειακής ασφάλειας*. ΚΑΘΗΜΕΡΙΝΕΣ ΕΚΔΟΣΕΙΣ Α.Ε. September 6th, 2019.
<https://www.kathimerini.gr/1041404/article/epikairothta/politikh/tzefri-paiat-h-ellada-8ematofylakas-ths-eyrwpaikhs-energeiakhs-asfaleias>.

Eleftherostypos.gr. *ΑΣΠΙΔΑ ΣΤΗΝ ΠΡΟΚΛΗΤΙΚΟΤΗΤΑ - Ισχυρό μήνυμα στην Τουρκία: Η Γαλλία στέλνει στόλο στην Κύπρο*,. May 16th, 2019.
<https://www.eleftherostypos.gr/diethni/409362-isxyro-minyma-stin-toyrkia-i-gallia-stelnei-stolo-stin-kypro/>.

- Ellinas, Charles. *Turkey False claims on Cyprus exclusive economic zone (EEZ)*. July 25th, 2017. <https://maritimecyprus.com/2017/07/25/turkey-false-claims-on-cyprus-exclusive-economic-zone-eez/>.
- Energypress. *Ratification of Cretan, western offshore licenses just days away*. <https://energypress.eu/>. September 2019, 2016. <https://energypress.eu/ratification-of-cretan-western-offshore-licenses-just-days-away/>.
- ENERGYPRESS. *Τέσσερις κύκλους διασυνδέσεων προωθεί για τα νησιά ο ΔΕΣΜΗΕ*. October 20th, 2010. <https://energypress.gr/news/tesseri-kyklois-diasyndeseon-proothei-gia-ta-nisia-o-desmie>.
- Energypress.eu. "Greek, Cypriot, Israeli officials seeking Italy's East Med return." August 7th, 2019. <https://energypress.eu/greece-israel-cyprus-seeking-italys-east-med-return/>.
- . *PM decision on Crete link, wider PCI plan support needed today*. October 4th, 2019. <https://energypress.eu/pm-decision-on-crete-link-support-for-wider-pci-project-needed-today/>.
- energypress.gr. *Το Ισραήλ αναγνωρίζει ως ελληνική την ΑΟΖ στο Καστελόριζο*. ENERGYPRESS. February 18th, 2011. <https://energypress.gr/news/israil-anagnorizei-os-elliniki-tin-aoz-sto-kastelorizo>.
- Eni.com. *Eni discovers a supergiant gas field in the Egyptian offshore, the largest ever found in the Mediterranean Sea*. August 30th, 2015. https://www.eni.com/en_IT/media/2015/08/eni-discovers-a-supergiant-gas-field-in-the-egyptian-offshore-the-largest-ever-found-in-the-mediterranean-sea.
- EPA, United States Environmental Protection Agency. "https://www.epa.gov/." January 17th, 2017. <https://www.epa.gov/uog/process-unconventional-natural-gas-production>.
- Ertl, Balu. "Euclidean Voronoi diagram." 2015. https://en.wikipedia.org/wiki/Voronoi_diagram#/media/File:Euclidean_Voronoi_diagram.svg.
- EU Factsheet, Energy Union. *Why is the Commission proposing an Energy Union now? Why do we need an Energy Union?* European Commission. February 25, 2015. https://europa.eu/rapid/press-release_MEMO-15-4485_en.htm.
- Euro2Day. *Total και ENI στο οικόπεδο 7 της κυπριακής ΑΟΖ*. Stockwatch. July 30th, 2019. <https://www.euro2day.gr/news/Cyprus/article/1692346/total-kai-eni-sto-oikopedo-7-ths-kypriakhs-aoz.html>.
- EuroAsia interconnector, 2018. *EuroAsia Interconnector route*. 2018. <https://www.euroasia-interconnector.com/at-glance/the-route/>.
- . *Former Foreign Minister of the Republic of Cyprus Ioannis Kasoulides joins EuroAsia Interconnector Chairman of the Strategic Council*. March 30, 2018. <https://www.euroasia->

interconnector.com/former-foreign-minister-of-the-republic-of-cyprus-ioannis-kasoulides-joins-euroasia-interconnector-chairman-of-the-strategic-council/, 30/3/2018.

— . *Funding for Projects of Common Interest*. 2018. <https://www.euroasia-interconnector.com/at-glance/the-big-picture/euroasia-eu-status/>.

— . *ISSUE OF THE TENDER DOCUMENTS for the award of the contracts for the construction of Stage 1 of the EuroAsia Interconnector Israel – Cyprus – Crete – Attica*. January 10, 2019. <https://www.euroasia-interconnector.com/completionmain/>.

— . *Official Support for EuroAsia Interconnector*. European Union – European Commission – European Parliament. 2018. <https://www.euroasia-interconnector.com/at-glance/the-big-picture/official-support/>.

"europarl.europa.eu." n.d.

[http://www.europarl.europa.eu/RegData/etudes/STUD/2017/595356/IPOL_STU\(2017\)595356_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/595356/IPOL_STU(2017)595356_EN.pdf), page 12.

European Commission, EU. "Enhancement of Crete's potential for a dedicated calibration facility for satellite radar altimeters and for tectonic deformation monitoring using continuously operating geodetic arrays." April 29th, 2015. <https://cordis.europa.eu/project/rcn/89372/reporting/fr>.

— . *Fifth CESEC meeting: important milestones reached in energy projects in Central and South-Eastern European Countries*. Energy. June 29th, 2018. https://ec.europa.eu/info/news/fifth-cesec-meeting-important-milestones-reached-energy-projects-central-and-south-eastern-european-countries-2018-jun-29_en.

— . "Interreg : European Territorial Co-operation." 2019. https://ec.europa.eu/regional_policy/de/policy/cooperation/european-territorial/.

— . "Komotini power plant." January 1st, 2004. https://ec.europa.eu/regional_policy/bg/projects/greece/komotini-power-plant.

— . "Project of Common Interest: Greece-Bulgaria Gas interconnectop." 2017. https://ec.europa.eu/energy/sites/ener/files/documents/pci_factsheet_igb_2017.pdf.

— . "United in delivering the Energy Union and Climate Action - Setting the foundations for a successful clean energy transition." June 18th, 2019. https://ec.europa.eu/energy/sites/ener/files/documents/recommendation_en.pdf.

European Commission. January 1, 2004. <https://ec.europa.eu>.

European Commission study, EU. "Country reports - LIBYA, COUNTRY CHARACTERISTICS." February 2011. https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/libya_01_en.pdf

- . "Country reports Italy - COUNTRY CHARACTERISTICS." February 2011.
https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/italy_01_en.pdf.
- European Commission, EC. "Our Vision for A Clean Planet for All." November 2018.
https://ec.europa.eu/clima/sites/clima/files/docs/pages/vision_4_economic_en.pdf.
- European Emission Allowances (EUA)*. n.d. www.eex.com.
- European Union, EU. "EUROPEAN STRUCTURAL AND INVESTMENT FUNDS 2014-2020." November 2015.
https://ec.europa.eu/regional_policy/sources/docgener/guides/blue_book/blueguide_en.pdf.
- Eurostat. *From where do we import energy and how dependent are we?* European Union. 2017.
<https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>.
- Evolution of loans & non-performing loans*. Bank of Greece. n.d.
<https://www.bankofgreece.gr/Pages/en/Statistics/loans.aspx> (accessed 12 22, 2018).
- Fellow, Nugzar Dundua - United Nations – The Nippon Foundation. "Delimitation of maritime boundaries between adjacent States ." 2006-2007.
https://www.un.org/depts/los/nippon/unff_programme_home/fellows_pages/fellows_papers/dundua_0607_georgia.pdf.
- Ferdinand, Marcus. "The MSR: Impact on balance and prices." Brussels, 2014.
- Financial Mirror, Cyprus & World News. "ENERGY: East Mediterranean Gas Forum brings Cyprus closer to its goal." January 15th, 2019. <http://www.financialmirror.com/news-details.php?nid=36405>.
- . *ENERGY: Egypt, Greece and Cyprus condemn Turkey's illegal drilling*. October 9th, 2019.
<https://financialmirror.com/news-details.php?nid=37665>.
- "financial-dictionary.thefreedictionary.com." n.d. <https://financial-dictionary.thefreedictionary.com/discount+rate>.
- Fintiakis. *Μπαίνουν δυναμικά στα πετρέλαια οι Γάλλοι, αγόρασαν όλα τα σεισμικά δεδομένα*.
<https://energypress.gr>. 11 9, 2013. <https://energypress.gr/news/Μpainoy-n-dynamika-sta-petrelaia-oi-Galloi-agorasan-ola-ta-seismika-dedomena>.
- Fintiakis, Φιντικιάκης Γιώργος. *Ακτινογραφία στα κοιτάσματα πετρελαίου σε Ιόνιο και Κρήτη*.
<https://www.tanea.gr/>. April 5th, 2013.
<https://www.tanea.gr/2013/04/05/greece/aktinografia-sta-koitasmata-petrelaiou-se-onio-kai-kriti/>.
- Ford, Neil. *Egypt ramps up its LNG exports [LNG Condensed]*. July 26th, 2019.
<https://www.naturalgasworld.com/egypt-ramps-up-its-lng-exports-lng-condensed-71775>.
- Foskolos. *Hydrate volume calculation re: the Greek EEZ, and its geo-economic importance by A. Foskolos, N. Lygeros*. 2014. <http://lygeros.org/articles.php?n=10105&l=en>.

- . Φώσκολος: Η Κρήτη είναι περικυκλωμένη από υδρογονάνθρακες. <https://energypress.gr/>. January 29, 2018. <https://energypress.gr/news/foskolos-i-kriti-einai-perikyklomeni-apo-ydrogonanthrakes>.
- Foskolos, Dr. Antonios. *Γιατί αφήσαμε να χαθεί πολύτιμος χρόνος στο θέμα των υδρογονανθράκων στην Ελλάδα;*. <http://www.globalview.gr/>. March 11th, 2019. <http://www.globalview.gr/2019/03/11/giati-afisame-na-chathei-polytimos-chronos-sto-thema-ton-ydrogonanthrakon-stin-ellada/>.
- Four Greek holiday islands protesting wind park plans*. Kathimerini. April 2018, 08. <http://www.ekathimerini.com/217536/article/ekathimerini/news/four-greek-holiday-islands-protesting-wind-park-plans> (accessed 12 22, 2018).
- Francis, K.A. *The Importance of Funding for Business*. n.d. <https://smallbusiness.chron.com/importance-funding-business-59.html> (accessed 12 22, 2018).
- Friedman. "The EastMed Pipeline Project in Perspective by Ezra Friedman." January 6th, 2019. <https://globalriskinsights.com/2019/01/eastmed-pipeline-project-in-perspective/>.
- Friedman, George. *Toward a New Geopolitical Model*. Geopolitical futures. March 7th, 2019. <https://geopoliticalfutures.com/toward-a-new-geopolitical-model/>.
- Gärtner, ETH Zürich - Prof. Emo Welzl and Prof. Bernd. "Voronoi Diagrams - Theory of Combinatorial Algorithms." 2010. <https://www.ti.inf.ethz.ch/ew/courses/CG12/lecture/Chapter%2010.pdf>.
- Gasiamis, Marinos - Μαρίνος Γκασιάμης. *Οι Τούρκοι «έστριψαν» απέναντι στην «ψύχραιμη» στάση της «Νικηφόρος»*. News.gr. October 19th, 2018. <https://www.news.gr/ellada/article/1371877/i-tourki-estripsan-apenanti-stin-psichremi-stasi-tis-nikiforos.html>.
- Gayle, Damien. *Japan becomes the first country to unravel the mystery of 'Fire ice', unlocking the world's 'next major energy resource'*. <https://www.dailymail.co.uk/>. March 13, 2013. <https://www.dailymail.co.uk/sciencetech/article-2292555/Japanese-breakthrough-country-extract-fuel-ice-reserves-locked-beneath-coast.html#ixzz2NSgeQfQe>.
- Geropoulos, Kostis. "East Med Gas Forum wants worldwide upgrade." July 31st, 2019. <https://www.neweurope.eu/article/east-med-gas-forum-wants-worldwide-upgrade/>.
- Gkizas, Apostolos G. "Interconnections of Greek islands - The Regulatory Approach, Regulatory Authority for Energy." July 10th, 2018. <http://www.rae.gr/site/file/system/docs/ActionReports/naxos2018/30;jsessionid=c3fb776630d928aa9141d71247428109bdf5e3071da4.e3aPb3iLbxySe38QaNmPaheQai1ynknvrkLOIQzNp65In0>.
- "globalriskinsights.com." n.d. <https://globalriskinsights.com/2019/01/eastmed-pipeline-project-in-perspective/>.

- Green Energy News, Balkan. *Bulgaria and Greece will soon be connected by new transmission line*. Balkan Green Energy News. March 21, 2018. <https://balkangreenenergynews.com/bulgaria-greece-will-soon-connected-new-transmission-line/> (accessed 12 22, 2018).
- Grigoriadis, Ioannis N. "The Davutoglu Doctrine and Turkish Foreign Policy." August 2010. http://www.eliamep.gr/wp-content/uploads/2010/05/KEIMENO-EPΓΑΣΙΑΣ-8_2010_IoGrigoriadis1.pdf.
- Haaretz. *Israel, Greece Constructing New Radar System on Crete, Report Says*. Haaretz. March 19, 2019. <https://www.haaretz.com/israel-news/israel-greece-constructing-new-radar-in-crete-report-says-1.7039210>.
- Hadjioannou, Bouli. *Greek Cypriot side ready for additional assurances on natural gas issue when peace talks enter final stage*. In-Cyprus. July 24th, 2019. <https://in-cyprus.com/greek-cypriot-side-ready-for-additional-assurances-on-natural-gas-issue-when-peace-talks-enter-final-stage/>.
- Hansson, Sven Ove. *Decision Theory - A Brief Introduction*. Department of Philosophy and History of Technology - Royal Institute of Technology. August 23, 2005. <https://people.kth.se/~soh/decisiontheory.pdf>.
- Heath, Thomas. *Crude prices jump, Wall Street recoils after drone strike erases half of Saudi Arabia's oil output*. The Washington Post. September 16th, 2019. <https://www.washingtonpost.com/business/2019/09/15/oil-prices-jump-after-weekend-drone-attack-saudi-arabian-oil-fields-infrastructure/?noredirect=on>.
- Hellenic Ministry of Foreign Affairs, HMFA. *Lebanon - Political Relations, Hellenic Republic*. 2019. <https://www.mfa.gr/en/blog/greece-bilateral-relations/lebanon/>.
- Hellenic Ministry of Foreign Affairs, The Hellenic Republic. *Statements of Foreign Minister Avramopoulos and Libyan International Cooperation Minister M. Abdel Aziz*. December 20th, 2012. <https://www.mfa.gr/en/current-affairs/top-story/statements-of-foreign-minister-avramopoulos-and-libyan-international-cooperation-minister-abdel-aziz-libya-20-december-2012.html>.
- Henderson, S. *Cyprus Gas Discovery Could Be an East Mediterranean Game-Changer*. The Washington Institute. 2019. <https://www.washingtoninstitute.org/policy-analysis/view/cyprus-gas-discovery-could-be-an-east-mediterranean-game-changer>.
- Hoffmann, Stefanie. *The Four Ps of Marketing*. Munich: GRIN Verlag, 2008.
- "icgb.eu/home." n.d. <http://www.icgb.eu/home>.
- IGI-poseidon.com. "Eastmed - A direct link to new sources for Europe." 2018. <http://www.igi-poseidon.com/en/eastmed>.
- . "Poseidon - A multi-source project." 2019. <http://www.igi-poseidon.com/en/poseidon>.
- Ignitions, - Νίκος Λυγερός. *Dr. Nikos Lygeros*. 2013. lygeros.org.

- In.gr. ΑΛΤΕΡ ΕΓΚΟ Α.Ε.: *Μάζης: Ελληνογαλλική Φιλία και Ελληνικοί Εξοπλισμοί*. August 15th, 2019. <https://www.in.gr/2019/08/15/politics/diplomatia/mazis-ellinogalliki-filia-kai-ellinikoi-eksoplismoi/>.
- *Μάζης: Ελληνογαλλική Φιλία και Ελληνικοί Εξοπλισμοί*. ΑΛΤΕΡ ΕΓΚΟ Α.Ε. August 15th, 2019. <https://www.in.gr/2019/08/15/politics/diplomatia/mazis-ellinogalliki-filia-kai-ellinikoi-eksoplismoi/>.
- INEA, Innovation and Networks Executive Agency. *CEF Energy*. European Commission. 2018. <https://ec.europa.eu/inea/en/connecting-europe-facility/cef-energy> (accessed 12 22, 2018).
- "investopedia.com." n.d. <https://www.investopedia.com/terms/d/discount-rate.asp>.
- "investopedia.com." n.d. <https://www.investopedia.com/terms/d/discount-rate.asp>.
- "investopedia.com." n.d. <https://www.investopedia.com/terms/d/discount-rate.asp>.
- Ioannidou, Lizzy. *President offered Turkish Cypriots a share of gas funds in return for Turkey's recognition of Cyprus' EEZ*. September 4th, 2019. <https://cyprus-mail.com/2019/09/04/president-offered-turkish-cypriots-a-share-of-gas-funds-in-return-for-turkeys-recognition-of-cyprus-eez/>.
- Jewkes et. al., writing by Maria Pia. "Giuseppe Fonte and Stephen Jewkes; Quaglia, writing by Maria Pia: Italy opposes Poseidon gas pipeline landfall." May 7th, 2019. <https://www.reuters.com/article/us-italy-pipeline-pm/italy-opposes-poseidon-gas-pipeline-landfall-idUSKCN1SD223>.
- Juvyns, Olivier, et.al., European Environment Agency. "Annual European Union greenhouse gas inventory 1990–2017 and inventory report 2019, SUMMARY OF EMISSIONS AND REMOVALS BY MAIN SOURCE AND SINK CATEGORY. page viii." May 27th, 2019. <https://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2019>.
- Kaminaris, Spiros Ch. *GREECE AND THE MIDDLE EAST*. Journal: Volume 3, No. 2 June 1999, MERIA HOMEPAGE. September 3rd, 2019. <https://web.archive.org/web/20120201100748/http://meria.idc.ac.il/journal/1999/issue2/jv3n2a4.html>.
- Karaoulanis, Theodore. *Θοδωρής Καραουλάνης: Πέφτουν οι υπογραφές για την μικρή ηλεκτρική διασύνδεση της Κρήτης – τί λενε παράγοντες των Βρυξελλών για το έργο στη Euractiv*. EurActiv.gr. May 9th, 2019. <https://www.euractiv.gr/section/energia/news/peftoyn-oi-yprografes-gia-tin-mikri-ilektriki-diasyndesi-tis-kritis-ti-lene-paragontes-ton-vryxellon-gia-to-ergo-sti-euractiv/>.
- Kariotis, Kassinis S., Lygeros N. - Θεόδωρος Καρυώτης Σόλωνας Κασίνης, Νίκος Λυγερός. "Αποκλειστική Οικονομική Ζώνη (ΑΟΖ): Απο τη στρατηγική κίνηση στην οικονομική λύση." Published by: ΚΑΣΤΑΝΙΩΤΗΣ - Έκδοση, κατσανιωτη ετος 2012, 2012.
- Kastrisios, Lysandros. "Christos Kastrisios, Lysandros Tsoulos: Maritime zones delimitation - Problems and solutions." International Cartography Association, National Technical

- University of Athens, Cartography Laboratory. 2017.
https://ccom.unh.edu/sites/default/files/publications/Kastrisios_Tsoulos_2017_ICC_Maritime%20zones%20delimitation-Problems%20and%20solutions_ICC%202017%20Proceedings.pdf.
- Kathimerini Cyprus, Ekathimerini.com. *Cyprus EEZ: Map of northern boundaries published*. May 7th, 2019. <http://www.ekathimerini.com/240191/article/ekathimerini/news/cyprus-eez-map-of-northern-boundaries-published>.
- Kathimerini.gr. *ΥΠΕΝ: Ψήφος εμπιστοσύνης οι συμβάσεις για τους υδρογονάνθρακες - Επενδύσεις 140 εκατ. στις έρευνες*. ΚΑΘΗΜΕΡΙΝΕΣ ΕΚΔΟΣΕΙΣ Α.Ε. . September 18th, 2019.
<https://www.kathimerini.gr/1043237/article/epikairothta/politikh/ypen-yhfos-empistosynhs-oi-symvaseis-gia-toys-ydrogonan8rakes---ependyseis-140-ekat-stis-ereynes>.
- Key industry sectors for global growth*. <http://www.uhy.com/>. n.d. <http://www.uhy.com/key-industry-sectors-for-global-growth/>.
- Khalfallah. "Reconstruction of Marine Fisheries catches for Libya (1950-2010)." *Myriam Khalfallah, Dyhia Belhabib, Dirk Zeller*. 2015.
<http://www.seaaroundus.org/doc/publications/wp/2015/Khalfallah-et-al-Libya.pdf>.
- Konofagos and Karageorgis, Hellenic Naval Academy. "Elias Konofagos and Konstantinos Karageorgis: East Mediterranean Gas Discoveries Offshore Security Challenges and "The Greek Case"."
 2014. <http://nausivos.hna.gr/docs/2014D1.pdf>.
- Kostopoulos, Sotiris. *Die Menschenrechte der griechischstämmigen Bewohner von Nordepirus*. EUROPÄISCHES PARLAMENT. Oktober 20th, 1993. https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=OJ:JOC_1994_025_R_0001_01&from=FR.
- Labrianidis, Lois. "Investing in Leaving: The Greek Case of International Migration of Professionals, Department of Economics, University of Macedonia, Thessaloniki, Greece." October 29, 2013.
<https://www.knowledgebridges.gr/sites/knowledgebridges/files/files/Mobilities%20brain%20Odrain%20Doi%281%29.pdf>.
- Labrianidis, Sachini and Karampekios. *Establishing a Greek Diaspora Knowledge Network through "Knowledge and Partnership Bridges"*. <http://sciencediplomacy.org/>. March 6th, 2019.
<http://sciencediplomacy.org/article/2019/establishing-greek-diaspora-knowledge-network-through-knowledge-and-partnership-bridges>.
- Laessing, Ahmed Elumami and Ulf. *Libyan fighters seize U.S. and Chinese missiles from Haftar's forces*. REUTERS. June 29th, 2019. <https://www.reuters.com/article/us-libya-security/libyan-fighters-seize-u-s-and-chinese-missiles-from-haftars-forces-idUSKCN1TU0W8>.
- Lakes, Gary. *Cyprus and Egypt move to establish regional energy cooperation*. Global Source LLC. July 10th, 2015. <http://www.eurokerdos.com/cyprus-and-egypt-move-to-establish-regional-energy-cooperation/>.

- Lambakis, Fotis Lambakis. *Λαμβάκης, Φώτης: Τουρκικό drone πέταξε πάνω από ελληνικό ωκεανογραφικό*. CRETE DOCS O.E. August 27th, 2019. <https://cretedoc.gr/toyrkiko-drone-petaxe-pano-apo-elliniko-oceanografiko/>.
- Leanza et.al., Umberto. "The Exclusive Economic Zone." In *The IMLI Manual on International Maritime Law: Volume I: The Law of the Sea*, by Maria Cristina Caracciolo, edited by: David Attard, Malgosia Fitzmaurice, Norman A Martínez Gutiérrez Umberto Leanza, page 2. Oxford Scholarly Authorities on International Law [OSAIL], 2014.
- Leifheit, Drew S. *150 Years Of Gas (And A Bright Future)*. www.naturalgasworld.com. July 27th, 2015 . <https://www.naturalgasworld.com/world-natural-gas-outlooks-expert-panel-paris-86754>.
- Liakouras, Prof. Dr. Petros. *Energy EEZ May 2018*. <https://eclass.unipi.gr/modules/auth/opencourses.php?fc=48>, Piraeus, Piraeus, 2018.
- Liakouras, Prof. Dr. Petros. *Energy Rev. Continental Shelf 2019*. <https://eclass.unipi.gr/modules/auth/opencourses.php?fc=48>, Piraeus, 2019.
- Lialos, Georgios. *ΛΙΑΛΙΟΣ, ΓΙΩΡΓΟΣ: Στις Περιφέρειες οι φορείς διαχείρισης των περιοχών Natura*. ΚΑΘΗΜΕΡΙΝΕΣ ΕΚΔΟΣΕΙΣ Α.Ε. 2014-2017. September 13th, 2019. <https://www.kathimerini.gr/1042437/article/epikairothta/ellada/stis-perifereies-oi-foreis-diaxeirishs-twn-perioxwn-natura>.
- Liam, Darek. *Libya: Turkish-made Bayraktar TB2 UAV seen at the GNA-held airbase* . Military Africa. June 11th, 2019 . <https://www.africanmilitaryblog.com/2019/06/libya-turkish-made-bayraktar-tb2-uav-seen-at-the-gna-held-airbase>.
- . *Military Africa - Libya: Turkish-made Bayraktar TB2 UAV seen at the GNA-held airbase*. June 11th, 2019. <https://www.africanmilitaryblog.com/2019/06/libya-turkish-made-bayraktar-tb2-uav-seen-at-the-gna-held-airbase>.
- Lim, Sokchea - Ficawoyi Donou-Adonsou. "Review of Development Finance." In *On the importance of Chinese investment in Africa*, 63-73. John Carroll University, Cleveland, USA: Elsevier, 2018.
- LNGWorldNews. *The EU Member States have approved the Commission's proposal to invest €873 million (\$1.09 billion) in key European energy infrastructure projects*. LNG World News. January 25, 2018. <https://www.lngworldnews.com/eu-grants-funds-for-croatian-lng-terminal-natural-gas-projects/> (accessed 12 22, 2018).
- Lygeros. "Εξυπνη Ιστορία, στο μετά το μέλλον" - Νίκος Λυγερός (Dr. Nikolaos Lygeros). Ignitions 2016, 2016.
- . *Dr. Nikos Lygeros - Νίκος Λυγερός: Ελληνική ΑΟΖ: Η εθνικά κρίσιμη ανάγκη καθορισμού της*. Ignitions 2012. February 19th, 2012. <https://olympia.gr/2012/02/19/νίκος-λυγερός-ελληνική-αοζ-η-εθνικά-κρ/>.
- . *Dr. Nikos Lygeros: Με την απονομή του 2015, του Βραβείου Abel στον John Nash, έρχεται επιτέλους η δικαίωση αυτού του μεγάλου Μαθηματικού*. March 27th, 2015. <http://www.creteplus.gr/news/brabeio-abel-ston-john-nash-123065.html>.

- . <http://www.lygeros.org/Images/> by Dr. Nikolaos Lygeros. May 1st, 2012.
<http://www.lygeros.org/Images/8464.jpg>.
- . *Lygeros, Dr. Nikolaos: Η ΑΟΖ, ένα όραμα για την Ελλάδα*. Ignitions 2012. 2012.
<http://lygeros.org/articles.php?n=8526&l=gr>.
- . *New developments in the EEZs of Cyprus and Greece, by Dr. Nikolaos Lygeros*. 2019.
<http://lygeros.org/articles.php?n=45543&l=en>.
- . "The contribution of the utilization of methane hydrates by E. Conophagos, N. Lygeros." 2014.
<http://www.lygeros.org/articles.php?n=20914&l=en>.
- . "The definition of topostrategy." *Dr. Nikolaos Lygeros, translated by Paola Vagioni*. 2009.
<http://www.lygeros.org/lygeros/4573EN.pdf>.
- . *ΑΟΖ και διάγραμμα ροής* by Dr. Nikolaos Lygeros. Ignitions 2012. 2012.
<http://lygeros.org/articles.php?n=9873&l=gr>.
- . *Η Γαύδος, το άλλο μας Καστελλόριζο* by Dr. Nikolaos Lygeros. 2011.
<http://www.lygeros.org/lygeros/7638-gr.html>.
- . *Νικόλαος Λυγερός: ΑΟΖ και Euroasia Interconnector*. March 2012.
<https://www.logiosermis.net/2012/03/euroasia-interconnector.html>.
- Lygeros. "Στρατηγικές προετοιμασίες για το EuroAsia Interconnector." In *Το πνεύμα της Στρατηγικής*, by Dr. Nikos Lygeros - Νικόλαος Λυγερός. 2017.
- Marine Spatial Planning, MSP. "European Economic Area EEZs and waters under special regime." February 2016. http://msp.ioc-unesco.org/wp-content/uploads/2016/02/EU_EEZ.jpg.
- Marineregions.org. *Continental Shelf Boundary: Greece-Italy*. 1977.
<http://www.marineregions.org/documents/l96.jpg>.
- Mastorakis, Michalis. *Μιχάλης Μαστοράκης: Η ηλεκτρική επάρκεια της Κρήτης μέσω LNG και "εικονικού αγωγού" στο 10ετές Πρόγραμμα Ανάπτυξης του ΔΕΣΦΑ*. ENERGYPRESS. August 8th, 2019. <https://energypress.gr/news/i-ilektriki-eparkeia-tis-kritis-meso-Ing-kai-eikonikoy-agogoy-sto-10etes-programma-anaptyxis>.
- Mazis. "Mazis I. Th., Sotiropoulos I. P.: The role of Energy as a geopolitical factor for the consolidation of Greek-Israeli relations." *Regional Science Inquiry - Vol. VIII, (2), Special Issue 2016*. June 2016. http://www.rsijournal.eu/ARTICLES/June_2016/2.3.pdf.
- McBride, Andrew Chatzky and James. *China's Massive Belt and Road Initiative*. May 21, 2019 .
<https://www.cfr.org/backgroundunder/chinas-massive-belt-and-road-initiative>.
- Mechanical Engineering, Blogspot. *Gas turbine power plant*. October 29, 2012. <http://mechanical-engineering-info.blogspot.com>.
- Megahid, Ahmed. *In Egypt, calls grow for boycott of Turkish goods* . 2015-2019 The Arab Weekly. March 4th, 2018. <https://theArabweekly.com/egypt-calls-grow-boycott-turkish-goods>.

- Mehta, Aaron. *Senate moves to allow weapon sales to Cyprus, block F-35 to Turkey*. Sightline Media Group. June 26th, 2019. <https://www.defensenews.com/congress/2019/06/26/senate-takes-step-to-allow-weapon-sales-to-cyprus-block-f-35-to-turkey/>.
- Meliksetian, Vanand. *Turkey Pushes Regional Tensions To Breaking Point*. oilprice.com. July 24th, 2019. <https://oilprice.com/Energy/Energy-General/Turkey-Pushes-Regional-Tensions-To-Breaking-Point.html#>.
- Michalopoulos, Sarantis. *Commission asks Turkey to respect international agreements after new spat with Greece*. EURACTIV.com. October 24th, 2018. <https://www.euractiv.com/section/enlargement/news/commission-asks-turkey-to-respect-international-agreements-after-new-spat-with-greece/>.
- . *Commission asks Turkey to respect international agreements after new spat with Greece*. EURACTIV.com. October 24th, 2018. <https://www.euractiv.com/section/enlargement/news/commission-asks-turkey-to-respect-international-agreements-after-new-spat-with-greece/>.
- Miller. "Five Pillars of American Grand Strategy." In *Survival: Global Politics and Strategy*, by Paul D. Miller, 8-28. London, UK: Routledge, 2012.
- Miller, Terry, Anthony B. Kim, and James M. Roberts. *2018 Index of Economic Freedom*. Washington: Heritage Foundation, 2018, 200-201.
- mingmei, Xinhua. *China, Turkey sign 2 MoUs to boost trade*. June 6th, 2019. http://www.xinhuanet.com/english/2019-09/06/c_138371800.htm.
- Ministry Foreign Affairs, of. *Hellenic Republic, Ministry o. Foreign Affairs: Foreign Minister announcement on the verbal note sent by Turkey to the UN*. Hellenic Republic. March 12th, 2013. <https://www.mfa.gr/en/current-affairs/news-announcements/foreign-minister-announcement-on-the-verbal-note-sent-by-turkey-to-the-un.html>.
- Ministry of Energy, Commerce and Industry - Hydrocarbon Service. *Licensing Rounds - 2nd Licensing round*. Republic of Cyprus 2015 - 2019. September 23rd, 2019. <http://www.mcit.gov.cy/mcit/hydrocarbon.nsf/All/9D1FB4E966F93F27C2257FA200235A16?OpenDocument>.
- MRAG Ltd, IDDRA and LAMANS Management Services S.A. "Costs and benefits arising from the establishment of maritime zones in the Mediterranean Sea - Final Report." June 2013. https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/maritime-zones-mediterranean-report_en.pdf.
- Nasdaq, Inc. *CL:NMX in Crude Oil - historical market activity of crude oil up to ten years*. www.nasdaq.com/. September, 20th, 2019. <https://www.nasdaq.com/market-activity/commodities/cl%3Anmx?timeframe=10y>.
- National Academy of Sciences, 2019. "BASIC TOOLS FOR APPLIED DECISION THEORY." 2001. <https://www.nap.edu/read/10566/chapter/5>.

NATIONAL PRINTING HOUSE, OFFICIAL TO THE GOVERNMENT OF THE GREEK REPUBLIC, ΕΘΝΙΚΟ ΤΥΠΟΓΡΑΦΕΙΟ: ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ. ΝΟΜΟΣ ΥΠ' ΑΡΙΘ. 4001: Για τη λειτουργία Ενεργειακών Αγορών Ηλεκτρισμού και Φυσικού Αερίου, για Έρευνα, Παραγωγή και δίκτυα μεταφοράς Υδρογονανθράκων και άλλες ρυθμίσεις. Υπουργείο Περιβάλλοντος και Ενέργειας, ΤΕΥΧΟΣ ΠΡΩΤΟ, Αρ. Φύλλου 179. August 22nd, 2011.
<http://www.ypeka.gr/LinkClick.aspx?fileticket=9rVkiH6aN2E%3D&tabid=506&language=el-GR>.

—. "Άρθρο 156 - ΕΡΕΥΝΑ, ΠΑΡΑΓΩΓΗ ΚΑΙ ΔΙΚΤΥΑ ΜΕΤΑΦΟΡΑΣ ΥΔΡΟΓΟΝΑΝΘΡΑΚΩΝ ΚΑΙ ΑΛΛΕΣ ΡΥΘΜΙΣΕΙΣ, ΣΥΣΤΑΣΗ ΕΛΛΗΝΙΚΗΣ ΔΙΑΧΕΙΡΙΣΤΙΚΗΣ ΕΤΑΙΡΙΑΣ." August 22nd, 2011.
<http://www.ypeka.gr/LinkClick.aspx?fileticket=9rVkiH6aN2E%3D&tabid=506&language=el-GR>.

NATO. *Alliance Maritime Strategy*. Nato.int, Nato.int . June 17th, 2011.
https://www.nato.int/cps/ua/natohq/official_texts_75615.htm.

NewsNowgr.com. *Εγκαίνια Έργου «Εναέριος Σχισοτροχιόδρομος Μεταφοράς Φορτίων» στο ΕΦ ΣΤΡΟΓΓΥΛΗΣ*. September 14th, 2017.
<http://www.newsnowgr.com/article/1041012/egkainia-ergou-enaerios-sxinotroxiodromos-metaforas-fortion-sto-ef-stroggylis.html>.

Nikolaou. *Dr Konstantinos A. Nikolaou: Exploration & Production of Hydrocarbons in Greece: Discoveries, Petroleum Systems and Analogues and Perspectives*. ENERGEAN OIL & GAS, Hellenic Petroleum, KANERGY Ltd. April 26th, 27th, 2012. <https://www.iene.gr/workshop-for-hydrocarbon/articlefiles/session4/Nikolaou.pdf>.

—. *Νικολάου, Κωνσταντίνος: ΥΔΡΟΓΟΝΑΝΘΡΑΚΕΣ: ΤΑ ΠΡΑΓΜΑΤΙΚΑ ΔΕΔΟΜΕΝΑ ΚΑΙ ΤΑ ΔΙΔΑΓΜΑΤΑ ΑΠΟ ΤΗΝ ΕΜΠΕΙΡΙΑ ΤΗΣ ΚΥΠΡΟΥ*. May 14th, 2015.
<https://energypress.gr/news/ydrogonanthrakes-ta-pragmatika-dedomena-kai-ta-didagmata-apo-tin-empeiria-tis-kyproy>.

Nisami, Eleni. *Τα τουρκικά μαχητικά πετούν με πιλότους από το Πακιστάν*. Σεπτεμβρίου 6th, 2019 .
<https://eretikos.gr/ta-toyrkika-machitika-petoy-n-me-pilotoys-apo-to-pakistan/246376>.

Nobel Seminar, 1994. "THE WORK OF JOHN NASH IN GAME THEORY." 1994.
<https://www.nobelprize.org/uploads/2018/06/nash-lecture.pdf> (accessed June 2018).

Norskipetroleum. *Employment in the petroleum industry*. Norskipetroleum - Norwegian Petroleum. 2014. <https://www.norskipetroleum.no/en/economy/employment/>.

Novinite JSC., 2001-2019. "Interconnector Greece-Bulgaria: Over 80% of Work Complete to Start Construction." August 6th, 2018.
<https://www.novinite.com/articles/191499/Interconnector+Greece-Bulgaria%3A+Over+80+of+Work+Complete+to+Start+Construction>.

Office of the Law Commissioner, Republic of Cyprus. "THE EXCLUSIVE ECONOMIC ZONE AND THE CONTINENTAL SHELF LAWS 2004 AND 2014." October 2014.

https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/CYP_EEZ-CS_Law_2014.pdf.

Official Journal of the Cypriot Government, UN. *List of geographical coordinates North and North-Western Outer limits of Cyprus EEZ*. Republic of Cyprus. May 4th, 2019.
https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/Cyprus_Deposit.pdf.

P.B. BEAZLEY, FRICS. "MARITIME BOUNDARIES ." In *International Hydrographic Review*, , LIX (I). Monaco: RN Paper presented at the "Survey and Mapping 1981" Conference, Reading University, U.K., 1982.

Panagoulis, Th. - Θεωρήσης Παναγούλης. *Η ΑΚΤΙΝΟΓΡΑΦΙΑ ΤΩΝ ΚΟΙΤΑΣΜΑΤΩΝ ΣΤΑ ΟΙΚΟΠΕΔΑ ΤΗΣ ΚΥΠΡΟΥ – ΓΙΑΤΙ ΠΗΡΕ «ΦΩΤΙΑ» Η Ν.Α. ΜΕΣΟΓΕΙΟΣ*. <https://energypress.gr>. February 15th, 2018 . <https://energypress.gr/news/i-aktinografia-ton-koitasmaton-sta-oikopeda-tis-kyproy-giati-pire-fotia-i-na-mesogeios>.

Papasachos, Sinon. *Τα Γρεβενά βρίσκονται πάνω σε τεράστια κοιτάσματα φυσικού αερίου και πετρελαίου, Επιστήμη - Τεχνολογία, Παπαζαχος, Ζηνων*. Ινστιτούτο Ενέργειας Νοτιοανατολικής Ευρώπης. June 3rd, 2017. <https://www.e-grevena.com/ta-grevena-vriskontai-pano-se-terastia-koitasmata-fysikou-aeriou-kai-petrelaiou/>.

Paris, Costas. *Greek Shipowners Splash the Cash on Liquefied-Natural-Gas Carriers* . December 16th, 2014. <https://www.wsj.com/articles/greek-shipowners-splash-the-cash-on-liquefied-natural-gas-carriers-1418732622>.

Persynakis, Ioannis N. "«Μέγα τὸ τῆς θαλάσσης κράτος» (Θουκ. Ι 143, 5): αρχαιολογία της ιδέας,." *Historika V - ISSN 2240-774X e-ISSN 2039-4985, page 387*. 2016. www.ojs.unito.it/historika/article/download.

Peter, Michael. "European leaders say important that EU involved in Cyprus talks." *CyprusMail*. January 29th, 1960. <https://cyprus-mail.com/2019/01/29/european-leaders-say-important-that-eu-involved-in-cyprus-talks/>.

Pilavachi et. al. "Department of Engineering and Management of Energy Resources, Laboratory of Energy Systems Management: The energy policy of the Republic of Cyprus by P. A. Pilavachi, N. G. Kalampalikas, M. K. Kakouris, E. Kakaras, D. Giannakopoulos." November 13th, 2017. journal homepage: www.elsevier.com/locate/energy.

Platias, Dr. Athanasios. "Διεθνείς Σχέσεις και Στρατηγική στο Θουκυδίδη, σελ.30." *ΕΣΤΙΑ, 4η Έκδοση, Αθήνα* . 2007.
https://setha.army.gr/sites/setha.army.gr/files/attachments/selaidinakos_georgios_shipsz_9i_es_dima_atomiki_diatrivi.pdf.

poiostigiati.gr. "Είναι πιθανό να συναντήσουμε καρχαρία σε ελληνική θάλασσα;." May 4th, 2019.
<https://doryforos.gr/348522-2/>.

Polytechnical school, Institute of Solar Technology. "National Conference on Simple Energy Sources - in memory of Kyriaki Nikou." November 26th - 28th, 2014.
http://library.tee.gr/digital/books_notee/book_65512/book_65512_b.pdf.

Poullados. "Νέα δυναμική στην ελληνική ΑΟΖ." *Ενέργεια: Μάριος Πούλλαδος*. October 30th, 2016.
<https://www.sigmalive.com/news/energia/375434/nea-dynamiki-stin-elliniki-aoz>.

Power Technology. April 14, 2014. www.power-technology.com.

Pronews.gr. Έκλεισε η συμφωνία για τις Belharra: Έδωσαν τα χέρια Κ.Μητσotάκης-Ε.Μακρόν . September 2nd , 2019. https://www.pronews.gr/amyna-asfaleia/naytiko/800824_ekleise-i-symfonia-gia-tis-belharra-edosan-ta-heria-kmitsotakis.

— . Έκλεισε η συμφωνία για τις Belharra: Έδωσαν τα χέρια Κ.Μητσotάκης-Ε.Μακρόν. September 2nd, 2019. https://www.pronews.gr/amyna-asfaleia/naytiko/800824_ekleise-i-symfonia-gia-tis-belharra-edosan-ta-heria-kmitsotakis.

pronews.gr. *Ενεργειακή διάσκεψη Ελλάδας – Κύπρου – Ισραήλ – ΗΠΑ στην Αθήνα με φόντο τις τουρκικές προκλήσεις*. pronews.gr 2019. August 07th, 2019.
https://www.pronews.gr/oikonomia/energeia/795104_energeiaki-diaskepsi-elladas-kyproy-israil-ipa-stin-athina.

Prontera, A. / Ruszel, M. "Energy Security in the Eastern Mediterranean, Middle East Policy, Vol. XXIV, No. 3." 2017. journal homepage: www.elsevier.com/locate/energy.

"psc.ky.gov." n.d. https://psc.ky.gov/pscecf/2017-00179/slsharp%40aep.com/07122017040039/KPCO_R_KPSC_1_57_Attachment1.pdf.

"publications.iadb.org." n.d. <https://publications.iadb.org/publications/english/document/Fossil-Fuel-Power-Plants-Available-Technologies-and-Thermal-Plant-Prospective-Potential-in-Latin-America.pdf>.

Pytheas, Ltd. "East-Med-pipeline - Lygeros, Stavros." November 20th, 2014.
<https://slpress.gr/oikonomia/koitasmata-kai-eastmed-allazoyn-ton-energeiako-charti/attachment/east-med-pipeline01-20november2014/>.

rae.gr. n.d.
http://www.rae.gr/site/system/docs/various/anartiseis/140918_1.csp?viewMode=normal&callbackPath=%2Fsystem%2Fdocs%2Fvarious%2Fanartiseis%2F140918_1.

Rafiq, Arif. *Why a warmer US-Pakistan relationship is a win for China*. July 24th, 2019.
<https://www.scmp.com/week-asia/opinion/article/3019948/why-warmer-us-pakistan-relationship-win-china>.

Rahimov. "Azerbaijan Struggling to Convert Partnership Priorities Into Agreement." *Rahim Rahimov in Eurasia Daily Monitor: Volume: 16 Issue: 75*. May 22nd, 2019.
<https://jamestown.org/program/eu-azerbaijan-struggling-to-convert-partnership-priorities-into-agreement/>.

- RESEARCH, Ted Petropoulos - PETROFIN. "TRENDS AND PROSPECTS - 2018 RESEARCH AND ANALYSIS: GREEK SHIPPING COMPANIES." March 2019. <https://www.petrofin.gr/wp-content/uploads/2019/03/1stPart-2018-PetrofinResearch-GreekShippingCompanies.pdf>.
- Reuters. *Greece's Gastrade launches market test for Alexandroupolis LNG terminal*. Reuters. October 30, 2018. <https://af.reuters.com/article/commoditiesNews/idAFL8N1XA7DT> (accessed 12 22, 2018).
- Reynolds, Clark G. "Empires of the Eastern Mediterranean 2000—200 B.C., EGYPT AND THE MINOANS." In *Command of the Sea: The history and strategy of maritime empires*, 46. 1974.
- Reynolds, Clarke G. "EGYPT AND THE MINOANS,." In *Command of the Sea: The history and strategy of maritime empires, Empires of the Eastern Mediterranean 2000—200 B.C*. MadMaxAU, 1972.
- Röckmann et.al., Christine Röckmann, Tomas Vega Fernandez and Carlo Pipitone. "Mediterranean and Black Sea Basin - Regulation and Planning in the Mediterranean Sea." 2016. https://www.riverpublishers.com/pdf/ebook/chapter/RP_9788793609259C12.pdf.
- Rothwell, Donald. *Australia and Timor-Leste: the 2018 Timor Sea Treaty*. The Strategist — The Australian Strategic Policy Institute Blog. March 14th, 2018. <https://www.aspirategist.org.au/australia-timor-leste-2018-timor-sea-treaty/>.
- Samir, Mohamed. *Egypt expresses concern over Turkish illegal drilling in Cyprus' economic zone*. Dailynewssegypt.com. July 9th, 2019. <https://www.dailynewssegypt.com/2019/07/09/egypt-expresses-concern-over-turkish-illegal-drilling-in-cyprus-economic-zone/>.
- . "Turkey's illegal drilling in Cyprus' EEZ revives geopolitical rivalries in Eastern Mediterranean." May 9th, 2019. <https://dneegypt.nyc3.digitaloceanspaces.com/2019/05/potential-east-med-gas-export-stratsfor.png>.
- SARKAR, ASIS, DHIREN KUMAR BEHERA², and BIJAN SARKAR. "THE MAINTENANCE STRATEGY SELECTION OF A GAS TURBINE POWER PLANT." *Journal of Information and Operations Management* 2, no. 1 (2011): 09-16.
- Seferian, Nareg. *The US Congress' recognition of the Armenian Genocide goes beyond trying to vex Turkey*. November 11th, 2019. <https://www.euronews.com/2019/11/08/the-us-congress-recognition-of-the-armenian-genocide-goes-beyond-trying-to-vex-turkey-view>.
- Selaidinakos, Georgios. "«ΕΙΝΑΙ ΕΦΙΚΤΗ Η ΑΝΑΔΙΑΡΘΡΩΣΗ ΤΩΝ ΕΛΛΗΝΙΚΩΝ Α-ΜΥΝΤΙΚΩΝ ΔΑΠΑΝΩΝ, ΜΕ ΣΚΟΠΟ ΤΗΝ ΕΠΙΤΕΥΞΗ ΜΕ-ΓΑΛΥΤΕΡΗΣ ΑΠΟΤΕΛΕΣΜΑΤΙΚΟΤΗΤΑΣ ΜΕ ΜΙΚΡΟΤΕΡΟ ΛΕΙΤΟΥΡΓΙΚΟ ΚΟΣΤΟΣ, ΥΠΟ ΤΟ ΠΡΙΣΜΑ ΤΩΝ ΤΟΥΡΚΙΚΩΝ ΥΠΕΡΕΞΟΠΛΙΣΜΩΝ;»." *ΤΟΝΣΧΗ(ΠΖ) ΓΕΩΡΓΙΟ ΣΕΛΑΪΔΙΝΑΚΟ, ΣΧΟΛΗ ΕΘΝΙΚΗΣ ΑΜΥΝΑΣ 9η ΕΚΠΑΙΔΕΥΤΙΚΗ ΣΕΙΡΑ ΔΙΑΔΙΚΤΥΑΚΗΣ ΜΑΘΗΣΗΣ*. June 2019. https://setha.army.gr/sites/setha.army.gr/files/attachments/selaidinakos_georgios_shipsz_9i_es_dima_atomiki_diatrivi.pdf.

- . "«ΕΙΝΑΙ ΕΦΙΚΤΗ Η ΑΝΑΔΙΑΡΘΡΩΣΗ ΤΩΝ ΕΛΛΗΝΙΚΩΝ Α-ΜΥΝΤΙΚΩΝ ΔΑΠΑΝΩΝ, ΜΕ ΣΚΟΠΟ ΤΗΝ ΕΠΙΤΕΥΞΗ ΜΕ-ΓΑΛΥΤΕΡΗΣ ΑΠΟΤΕΛΕΣΜΑΤΙΚΟΤΗΤΑΣ ΜΕ ΜΙΚΡΟΤΕΡΟ ΛΕΙΤΟΥΡΓΙΚΟ ΚΟΣΤΟΣ, ΥΠΟ ΤΟ ΠΡΙΣΜΑ ΤΩΝ ΤΟΥΡΚΙ-ΚΩΝ ΥΠΕΡΕΞΟΠΛΙΣΜΩΝ;»." *ΑΠΟ ΤΟΝ ΣΧΗ (ΠΖ) ΓΕΩΡΓΙΟ ΣΕΛΑΪΔΙΝΑΚΟ, ΣΧΟΛΗ ΕΘΝΙΚΗΣ ΑΜΥΝΑΣ 9η ΕΚΠΑΙΔΕΥΤΙΚΗ ΣΕΙΡΑ ΔΙΑΔΙΚΤΥΑΚΗΣ ΜΑΘΗΣΗΣ*. June 2019.
https://setha.army.gr/sites/setha.army.gr/files/attachments/selaidinakos_georgios_shispz_9i_es_dima_atomiki_diatrivi.pdf.
- Serfare. "Αιγιαλίτιδα Ζώνη Υφαλοκρηπίδα: Τι Είναι, Ερμηνεία." *Serfare.com*. October 21st, 2018.
<https://serfare.com/aigialitida-zoni-yfalokripida-ti-einai-erminia/>.
- Sertin, Carla. *Eni makes new gas discovery in Nour prospect offshore Egypt*.
<https://www.oilandgasmiddleeast.com>. March 14, 2019.
<https://www.oilandgasmiddleeast.com/exploration/33541-eni-makes-new-gas-discovery-in-nour-prospect-offshore-egypt>.
- Shell.com. "Shell gives green light to invest in LNG Canada." October 2nd, 2018.
<https://www.shell.com/media/news-and-media-releases/2018/shell-gives-green-light-to-invest-in-lng-canada.html>.
- Shor. *Pareto Efficient, .net - Game Theory by Mike Shor*. Glossary of game theory terms. 2001-2006.
<http://www.gametheory.net/dictionary/ParetoEfficient.html>.
- Singer. *EIA projects rise in U.S. crude oil and other liquid fuels production beyond 2017*. U.S. Energy Information Administration, Annual Energy Outlook 2016, . July 11th, 2016.
<https://www.eia.gov/todayinenergy/detail.php?id=27012>.
- Singer, Slavica, José Ernesto Amorós, and Daniel Moska Arreola. *Global Report 2014*. London: Global Entrepreneurship Monitor, 2014.
- Sinirlioğlu, Permanent Representative Feridun H. Sinirlioğlu. *Letter dated 18 March 2019 from the Permanent Representative of Turkey to the United Nations addressed to the Secretary-General*. United Nations - General Assembly. March 22nd, 2019.
<https://undocs.org/en/A/73/804>.
- Skinner, Kiron K. *Grand Strategy - Carnegie Mellon University*. Institute for Politics and Strategy › Center for International Relations and Politics. 2019. <https://www.cmu.edu/ir/cirp-research/grand-strategy.html>.
- SLpress.gr. *EastMed: Ο αγωγός που θα περιθωριοποιήσει την Τουρκία*. March 26th, 2019.
<https://www.orgi.gr/wp-content/uploads/2018/12/east-med-agogos-1000x560.jpg>.
- SLpress.gr, Stavros Lygeros. *East-Med-pipeline*,. SLpress. November 20th, 2014.
<https://slpress.gr/oikonomia/koitasmata-kai-eastmed-allazoyn-ton-energeiako-charti/attachment/east-med-pipeline01-20november2014/>.

- Smith, Helena. *Greece relaxes capital controls to prove worst of turmoil is over*. The Guardian. Jun 3, 2018. <https://www.theguardian.com/world/2018/jun/03/greece-relaxes-bank-withdrawal-rule-bailout-normality> (accessed 12 22, 2018).
- Smith-Windsor, Brooke A. "NATO's Maritime Strategy and the Libya Crisis as Seen from the Sea, Research Division - NATO Defense College, Rome." March 2013. https://www.files.ethz.ch/isn/161498/rp_90.pdf.
- Sofokleous In, sofokleousin.gr. *Εντείνει τις προκλήσεις η Τουρκία σε Αιγαίο και Κύπρο*. August 30th, 2019. <https://www.sofokleousin.gr/enteinei-tis-prokliseis-i-tourkia-se-aigaio-kai-kypro>.
- Solimano, Lucas. "Nicaragua, Colombia, and the ICJ - Making and Unsettling the Maritime Order in the." *Institute for International Law and Justice (IILJ) Emerging Scholars Paper 27 (2017)*. July 27th, 2017. <https://www.iilj.org/wp-content/uploads/2017/07/Solimano-Making-and-Unsettling-the-Maritime-Order-in-the-South-West-Caribbean-IILJ-ESP-27-2017.pdf>.
- . "Nicaragua, Colombia, and the ICJ - Making and Unsettling the Maritime Order in the South West Caribbean ." *Institute for International Law and Justice (IILJ) Emerging Scholars Paper 27 (2017)* . July 27th, 2017. <https://www.iilj.org/wp-content/uploads/2017/07/Solimano-Making-and-Unsettling-the-Maritime-Order-in-the-South-West-Caribbean-IILJ-ESP-27-2017.pdf>.
- staff, Egypt Today. *Egypt, France conduct joint military exercise 'Ramses 2019'*. Egypt Today. July 2nd, 2019. <https://www.egypttoday.com/Article/1/72349/Egypt-France-conduct-joint-military-exercise-Ramses-2019>.
- Stolyarov, Gleb. *Russia, Turkey agree steps to tackle militants in Syria's Idlib: Putin*. Reuters. August 27th , 2019. <https://www.reuters.com/article/us-syria-security-russia-turkey/russia-turkey-agree-steps-to-tackle-militants-in-syrias-idlib-putin-idUSKCN1VHOM8>.
- Stubbs and Solovyov, REUTERS. *Kremlin says Turkey apologized for shooting down Russian jet by Jack Stubbs and Dmitry Solovyov*. Reuters. June 27th, 2016. <https://www.reuters.com/article/us-russia-turkey-jet/kremlin-says-turkey-apologized-for-shooting-down-russian-jet-idUSKCN0ZD1PR>.
- Symonds, Michelle. *SWOT ANALYSIS IN PROJECT MANAGEMENT*. June 29, 2011. <https://www.projectsart.co.uk/swot-analysis-in-project-management.php> (accessed 12 22, 2018).
- Team, Brief. *6th Cyprus- Egypt-Greece, Trilateral Summit - Joint Declaration*. October 10th , 2018. <https://www.brief.com.cy/english/6th-cyprus-egypt-greece-trilateral-summit-joint-declaration>.
- team, Mind tools content. *Porter's Five Forces is a simple but powerful tool for understanding the competitiveness of your business environment, and for identifying your strategy's potential profitability*. n.d. https://www.mindtools.com/pages/article/newTMC_08.htm (accessed 12 22, 2018).

- Thayer Mahan, Alfred. "1660-1783 DISCUSSION OF THE ELEMENTS OF SEA POWER. Chapter I." In *The Influence of Sea Power Upon History*. Dodo Press, n.d.
- The Maritime Executive, LLC. *Despite Competing Claims, Exxon Begins Drilling off Cyprus*. November 12th, 2018. <https://www.maritime-executive.com/article/despite-competing-claims-exxon-begins-drilling-off-cyprus>.
- Thodos, Nick. *Years of active service per warship type, newest and oldest*. Hellenic Navy – Brief analysis of the current situation of the Fleet and its future. September 18th, 2019. <https://www.navalanalyses.com/2019/09/hellenic-navy-brief-analysis-of-current.html>.
- . *Years of active service per warship type, newest and oldest Hellenic Navy – Brief analysis of the current situation of the Fleet and its future*. September 18th, 2019 . <https://www.navalanalyses.com/2019/09/hellenic-navy-brief-analysis-of-current.html> .
- Tidey, Alice. *EU sanctions Turkey for drilling off the coast of Cyprus*. euronews. July 16th, 2019 . <https://www.euronews.com/2019/07/16/eu-sanctions-turkey-for-drilling-off-the-coast-of-cyprus>.
- Time required to start a business (days)*. The World Bank. n.d. <https://data.worldbank.org/indicator/IC.REG.DURS?locations=GR-DE-NZ-OE> (accessed 12 22, 2018).
- Today's Economy Requires a Skilled, Motivated Workforce*. n.d. <https://www.amanet.org/training/articles/todays-economy-requires-a-skilled-motivated-workforce.aspx> (accessed 12 22, 2018).
- ToVIMA Team, ToBHMA. *Ankara's 'Blue Motherland' exercise seen as warning to Cyprus, Greece*. February 25th, 2019. <https://www.tovima.gr/2019/02/25/international/ankaras-blue-motherland-exercise-seen-as-warning-to-cyprus-greece/>.
- Treves, Tullio. *1958 Geneva Conventions on the Law of the Sea*. United Nations. 2019. <http://legal.un.org/avl/ha/gclos/gclos.html>.
- . "United Nations Convention on the Law of the Sea - Montego Bay, 10 December 1982." *United Nations: Office of Legal Affairs*. 2018. <http://legal.un.org/avl/ha/uncls/uncls.html>.
- TRT. *Pakistan thanks Erdogan for his support on Kashmir*. 2019 TRT World. August 27th, 2019. <https://www.trtworld.com/turkey/pakistan-thanks-erdogan-for-his-support-on-kashmir-29306>.
- Tsafos, Nikos. *East Med Tensions Rise (Again)*. July 29th, 2019. https://csis-prod.s3.amazonaws.com/s3fs-public/CyprusTurkey_map_v4-01.jpg.
- Tsukerman, Irina / Maher, Mohamed. *Tensions Between Egypt and Turkey Are on the Rise*. The Washington Institute for Near East Policy. July 2019. <https://www.washingtoninstitute.org/fikraforum/view/tensions-between-egypt-and-turkey-are-on-the-rise>.

- Turkish Ministry of Foreign Affairs, Turkey. *Agreement Reached by Turkey and Greece Regarding the Confidence-Building Measures in the Aegean June 5, 1998*. Republic of Turkey - Ministry of Foreign Affairs. June 5th, 1998. http://www.mfa.gov.tr/agreement-reached-by-turkey-and-greece-regarding-the-confidence-building-measures-in-the-aegean_br_june-5_-1998.en.mfa.
- Tzanetis, Ioannis. *Αποψη: Λιμάνι Πειραιά - το συγκριτικό πλεονέκτημα και οι προοπτικές του*. August 8th, 2015. <https://www.kathimerini.gr/826680/article/oikonomia/ellhnikh-oikonomia/apoyh-limani-peiraia---to-syγκritiko-pleonekthma-kai-oi-prooptikes-toy>.
- Tzionis. "Recent developments in the continental shelf/EEZ of the Republic of Cyprus." *Tzionis, Tasos: Ministry of Foreign Affairs - Republic of Cyprus*. June 7th, 2019. [http://www.mfa.gov.cy/mfa/mfa2016.nsf/5D23B385435B9E54C2258412003676D0/\\$file/Παρουσίαση_προς_εταυρείες_07.06.2019_\(wfinal\).pdf](http://www.mfa.gov.cy/mfa/mfa2016.nsf/5D23B385435B9E54C2258412003676D0/$file/Παρουσίαση_προς_εταυρείες_07.06.2019_(wfinal).pdf).
- Tzionis, Tasos - Ministry of Foreign Affairs, Republic of Cyprus. "Recent developments in the continental shelf/EEZ of the Republic of Cyprus ." May 31, 2019. [http://www.mfa.gov.cy/mfa/mfa2016.nsf/3151B8BA8E492239C225840B00415D3C/\\$file/FOR%20WEB%20Presentation%20to%20EU%20HoMs%2031.05.2019%20\(FINAL%2031.05.2019\)ii.pdf](http://www.mfa.gov.cy/mfa/mfa2016.nsf/3151B8BA8E492239C225840B00415D3C/$file/FOR%20WEB%20Presentation%20to%20EU%20HoMs%2031.05.2019%20(FINAL%2031.05.2019)ii.pdf).
- UGS. *Greek shipping and economy 2019 - The Strategic and Economic Role of Greek Shipping*. 2018. <https://www.ugs.gr/en/greek-shipping-and-economy/greek-shipping-and-economy-2019/>.
- UN. *Agreement on the delimitation of the respective continental shelf areas of the two States (with maps)*, United Nations, Office of Legal Affairs. GREECE and ITALY, No. 21048. May 24, 1977. <https://treaties.un.org/doc/Publication/UNTS/Volume%201275/volume-1275-I-21048-English.pdf>.
- . *Division for Ocean Affairs and the Law of the Sea: "ISRAEL"*, United Nations. Division for Ocean Affairs and the Law of the Sea: Office of Legal Affairs. July 12th, 2011. <https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/ISR.htm>.
- . *Division for Ocean Affairs and the Law of the Sea: "LEBANON"*, United Nations. Division for Ocean Affairs and the Law of the Sea: Office of Legal Affairs, , . November 14th, 2011. <https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/LBN.htm>.
- . *Division for Ocean Affairs and the Law of the Sea: "CYPRUS"*, United Nations, Office of Legal Affairs,. April 20th, 2004. <https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/CYP.htm>.
- . "THE SMALLER RELIGIOUS GROUPS, CYPRUS - Cmnd. 1093." *Constitution for the independent Republic of Cyprus, Treaties of London and Zurich 1960*. July 1960. <http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan039703~1.pdf>.
- UNCLOS. *Agreement between Albania and Italy for the determination of the continental shelf of each of the two countries*, Division for Ocean Affairs and the Law of the Sea. Office of Legal Affairs, United Nations. . December 18th, 1992.

<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/ALB-ITA1992CS.pdf>.

- . *Agreement between the Government of the French Republic and the Government of the Italian Republic on the Delimitation of the Maritime Boundaries in the Area of the Strait of Bonifacio, Division for Ocean Affairs and the Law of the Sea.* Office of Legal Affairs, United Nations. . November 28th, 1986.
<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/FRA-ITA1986MB.PDF>.
 - . *Agreement between the Government of the Republic of Tunisia and the Government of the Italian Republic concerning the Delimitation of the Continental Shelf between the two Countries, Division for Ocean Affairs and the Law of the Sea.* Office of Legal Affairs, United Nations. August 20th, 1971.
<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/TUN-ITA1971CS.PDF>.
 - . *Conservation of the living resources (Art.61) & Utilization of the living resources (Art. 62), Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea.* EXCLUSIVE ECONOMIC ZONE, PART V. 2018.
https://www.un.org/Depts/los/convention_agreements/texts/unclos/part5.htm.
 - . *Convention between Spain and Italy on the Delimitation of the Continental Shelf between the two States, Division for Ocean Affairs and the Law of the Sea.* Office of Legal Affairs, United Nations. February 19th, 1974.
<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/ESP-ITA1974CS.PDF>.
 - . *PART IV - ARCHIPELAGIC STATES.* 2018.
https://www.un.org/depts/los/convention_agreements/texts/unclos/part4.htm.
 - . "PART IV, ARCHIPELAGIC STATES , Paragraph 46, United Nations 2018 - Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea ." 2018.
https://www.un.org/depts/los/convention_agreements/texts/unclos/part4.htm.
 - . *PART VIII - REGIME OF ISLANDS, Paragraph 121.* 2018.
https://www.un.org/depts/los/convention_agreements/texts/unclos/part8.htm.
 - . "Straight baselines, paragraph 7, SECTION 2. LIMITS OF THE TERRITORIAL SEA, TERRITORIAL SEA AND CONTIGUOUS ZONE, United Nations 2018, Office of Legal Affairs, Division for Ocean Affairs and the Law of the Sea." 2018.
https://www.un.org/Depts/los/convention_agreements/texts/unclos/part2.htm.
- United Nations, ©. "Agreement between the Government of the Republic of Turkey and the Government of the Union of Soviet Socialist Republics concerning the delimitation of the continental shelf btw. the Rep. of Turkey & the Union of Sov. Socialist Republics in the Black Sea." *Division for Ocean Affairs and the Law of the Sea.* 2018.

<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/TUR-RUS1978CS.PDF>.

— "Agreement between the Great Socialist People's Libyan Arab Jamahiriya and the Republic of Malta implementing Article III of the Special Agreement and the Judgment of the International Court of Justice." November 10th, 1986.

<https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/LBY-MLT1986ICJ.PDF>.

— *Maritime Boundary Agreement Between the United States of America and the Republic of Cuba - Office of Legal Affairs*. December 16th, 1977.

<https://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/USA-CUB1977MB.PDF>.

United Nations, Office of Legal Affairs. *Declarations made upon signature of, ratification of, accession or succession to the UNCLOS and implementation Agreements, or any time thereafter*. THE LAW OF THE SEA BULLETINS - Division for Ocean Affairs and the Law of the Sea. 2018.

https://www.un.org/Depts/los/doalos_publications/Bulletin_repertory.htm#_Declarations_made_upon.

University of Caen Normandy, AREC, Research and Studies Association on Caribbean area. *The phantom island of Bermeja*. 2007 - 2009. <http://atlas-caraibe.certic.unicaen.fr/en/page-122.html>.

Uploader. *Pakistan, Turkey agree to enhance cooperation in aviation sector*. Associated Press of Pakistan. August 28th, 2019. <https://www.app.com.pk/pakistan-turkey-agree-to-enhance-cooperation-in-aviation-sector/>.

"uscallc.com." n.d. <https://www.uscallc.com/docs/default-source/institutional-research/raising-Ing-price-target-scenario-analysis-9-17-14.pdf?sfvrsn=2>.

Venizelos, Βενιζέλου, Ελευθεριος. "Αίτια και αφορμαί του πολέμου (Causes and the occasion of the war), Θουκυδίδης Ιστορία, ΒΙΒΛΙΟΝ Α΄." October 10, 2016.

https://eclass.unipi.gr/modules/document/file.php/EBI115/Θουκυδίδου_Ιστορία%2C_μετ_Ελ._Βενιζέλου.pdf.

Vessels Value, The Maritime Executive. *Top 10 Shipowning Nations: China Sees Biggest Increase*. February 6th, 2019. <https://www.maritime-executive.com/article/top-10-shipowning-nations-china-sees-biggest-increase>.

Viadiplomacy.gr. «EastMed Act» – Η Ελλάδα στο επίκεντρο του στρατηγικού ενδιαφέροντος των ΗΠΑ. Via Diplomacy. May 23rd, 2019. <https://www.viadiplomacy.gr/eastmed-act-i-ellada-sto-epikentro-tou-stratigikou-endiaferontos-ton-ipa/>.

Webb, Whitney. *How the US Occupied the 30% of Syria Containing Most of its Oil, Water and Gas*. MintPress News LCC. April 16th, 2018. <https://www.mintpressnews.com/how-the-us-occupied-the-30-of-syria-containing-most-of-its-oil-water-and-gas/240601/>.

Willnow, Dr. Klaus. "Global CCS Institute." August 2013. https://www.globalccsinstitute.com/wp-content/uploads/2019/03/Global-CCS-Institute_Key-Messages-2019-3.pdf.

Winchester, Levi. *Turkey lira PLUNGES after Trump vows to punish Erdogan over Russia missile purchase*. Express Newspapers. June 19th, 2019. <https://www.express.co.uk/finance/city/1142336/turkey-lira-news-us-dollar-donald-trump-recep-tayyip-erdogan-missile-russia>.

Xuequan, Mu. *Agreement on hydrocarbon exploration off Crete is vote of confidence in Greece: PM*. XINHUANET.com. June 28th, 2019. http://www.xinhuanet.com/english/2019-06/28/c_138179365.htm.

—. *First drilling for Block 4 in Lebanese waters to start by year end*. Xinhua . August 24th, 2019. http://www.xinhuanet.com/english/2019-08/24/c_138332942.htm.

—. *Xinhua: First drilling for Block 4 in Lebanese waters to start by year end*. August 24th , 2019 . http://www.xinhuanet.com/english/2019-08/24/c_138332942.htm .

Γιώργος, Φιντικιάκης. "Ακτινογραφία στα κοιτάσματα πετρελαίου σε Ιόνιο και Κρήτη". www.tanea.gr – Greece. April 5th, 2013. <https://www.tanea.gr/2013/04/05/greece/aktinografia-sta-koitasmata-petrelaiou-se-ioniokai-kriti/>.

—. n.d.

Γρηγόριος, Βαρυμποπιώτης. *Σενάρια πραγματικών επιλογών με σκοπό τις βέλτιστες αποφάσεις σε ενεργειακές επενδύσεις*. Αθήνα: ΕΜΠ, 2010.

Δανάη, Διακουλάκη. *Οικονομική ανάλυση επιχειρηματικών αποφάσεων*. Αθήνα: ΕΜΠ, 2013.

Economist.com. *The EU's relationship with Turkey is failing*. July 25th, 2019. <https://www.economist.com/europe/2019/07/25/the-eus-relationship-with-turkey-is-failing>.

Ekathimerini.com. *Turkish defense minister accuses Greece of violating Libyan continental shelf*. November 12th, 2018. <http://www.ekathimerini.com/234574/article/ekathimerini/news/turkish-defense-minister-accuses-greece-of-violating-libyan-continental-shelf>.

Euronews. *ΗΠΑ: Στο Κογκρέσο ο EastMed*. May 23rd, 2019. <https://gr.euronews.com/2019/05/23/hpa-kogreso-eastmed>.

"investopedia.com." n.d. <https://www.investopedia.com/terms/d/discounttrate.asp>.

ΙΣΧΥΟΣ, ΙΣΟΖΥΓΙΟ ΣΤΡΑΤΙΩΤΙΚΗΣ. *ΝΑΥΤΙΚΗ ΙΣΧΥΣ* . November 29th, 2019. <https://isozygio.wordpress.com/>.

Κουτσούμπα, Μαρίνα. *Τα προβλήματα σύνδεσης στέλνουν τους Καστελοριζιούς στην Τουρκία για να επιστρέψουν στην Ελλάδα*. ΟΜΙΛΟΥ 24MEDIA - 2019 NEWS 24/7. November 6th, 2012.

<https://www.news247.gr/koinonia/ta-provlimata-syndesis-stelnoyn-toys-kastelorizioys-stin-toyrkia-gia-na-epistrepsoyn-stin-ellada.6178234.html>.

Λαμπριανίδης, Λόης. *Brain drain: Μύθοι και αλήθειες*. Huffington Post. August 18, 2018.

https://www.huffingtonpost.gr/entry/brain-drain-methoi-kai-aletheies_gr_5b77b82fe4b018b93e94115a (accessed 12 22, 2018).

Μανιφάβα, Δήμητρα. *Αυξάνονται αντί να μειώνονται τα εμπόδια στις επιχειρήσεις*. Καθημερινή. 11 01, 2018. <http://www.kathimerini.gr/992790/gallery/oikonomia/ellhnikh-oikonomia/ay3anontai-anti-na-meiwnontai-ta-empodia-stis-epixeirhseis> (accessed 12 22, 2018).

Νικολάου, Ντίνου. *Υδρογονάνθρακες: Τα πραγματικά δεδομένα και τα διδάγματα από την εμπειρία της Κύπρου*. GREEK ENERGY 2015. May 14, 2015. <https://energypress.gr/news/ydrogonanthrakes-ta-pragmatika-dedomena-kai-ta-didagmata-apo-tin-empيريا-tis-kyproy>.

Νίκος, Γεωργόπουλος. *Στρατηγικό Μανιαζμέντ*. Αθήνα: Μπένου, 2013.

Προδρόμου Μιχάλης, Damien Moris,. *Η εφαρμογή του Συστήματος Εμπορίας Δικαιωμάτων Εκπομπών στην Ελλάδα*. WWF-Sandbag, 2013.

Ράπτη, Konstantinos Raptis - Κώστα. *Μια πρώτη αποτίμηση της επίσκεψης Πομπέο*. Capital.gr. October 6th, 2019. <https://www.capital.gr/politiki/3386150/mia-proti-apotimisi-tis-episkepsis-pompeo>.

Tanea.gr. *EYPHMATA χαρτης NORDIC EXPLORER-PGS*. 11 11, 2012. https://www.tanea.gr/files/1/2013/EYPHMATA_NORDIC_EXPLORER-K.pdf.

TEI Kavalas, Ανατολικής Μακεδονίας και Θράκης, Mitropoulos, Pr. Athanasios. *MSc in Oil and Gas Technology*. T.E.I. Kavalas, Τεχνολογικό Εκπαιδευτικό Ίδρυμα Ανατολικής Μακεδονίας και Θράκης. 2016. <http://www.teikav.edu.gr/portal/index.php/el/studies/masters/msc-in-oil-and-gas-technology>.

ΤοΒΗΜΑ Team, ΤοVima.gr. *European Council President tells Turkey to back off from Cyprus' EEZ*. toVima.gr. May 9th, 2019. <https://www.tovima.gr/2019/05/09/international/european-council-president-tells-turkey-to-back-off-from-cyprus-eez/>.

ΤοΒΗΜΑ, Team. *Πόσο πετρέλαιο και φυσικό αέριο κρύβουν τα κοιτάσματα σε Ιόνιο και Κρήτη*. Οικονομία. June 19th, 2019. <https://www.tovima.gr/2019/06/19/finance/poso-petrelaio-kai-fysiko-aerio-kryvoun-ta-koitasmata-se-onio-kai-kriti/>.

ΦΕΚ Β 4800/2018. Εφημερίδα της Κυβερνήσεως. Οκτώβριος 26, 2018. <http://www.oaed.gr/documents/10195/1214512/RIS3+%CE%A6%CE%95%CE%9A+%CE%9C%CE%95%CE%A4%CE%91%CE%A0%CE%9F%CE%99%CE%97%CE%A3%CE%97.pdf/8744014f-1ad1-4975-86f8-38095f00fa19> (accessed 12 22, 2018).

Χασαπόπουλος, Νίκος. *Τι προβλέπει η αμυντική συμφωνία Κύπρου – Γαλλίας*. toVima.gr. May 19th , 2019. <https://www.tovima.gr/2019/05/20/politics/ti-provlepei-i-amyntiki-symfonia-kyprou-gallias/>.