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# **Viable Scenarios of exploiting Greek Natural Gas Reserves within Geopolitical Turmoil of SE Mediterranean: Security Issue and Antagonistic Challenges**

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## ABSTRACT

This dissertation was written as part of the MSc in Energy Law, Business, Regulation and Policy at the International Hellenic University.

The current thesis discusses the complex geopolitical Game that engages the most important Players (States) using utterly pivotal geostrategic coefficients; Security-Sovereignty-Autonomy-Energy, in the sub-system of South East Mediterranean Sea, which coincides with the South East NATO Wing. State-entities are the main players and enormous national interests are at stake.

Dissertation starts with an argument to link national security to energy security and how this formats and defines a state's Grand Strategy.

At the first part the several aspects of energy security incorporation in EU states are highlighted. The impacts to the environment and the strict policies towards a greener and cleaner energy future are coupling Greece and EU to a common framework, away from carbon, named "NECP" inwards part of EU "Green Deal" planning.

The gas neo-reserves are the connecting bond with the second part; the geopolitical constraints that shape Greek policy and define its course of actions, are utilizing its tools by its politicians mind-set, using an outer-European mechanism, which is adopted to South-Eastern Mediterranean essential facts and knowledge, since Greece is located in the crossroad of three continents.

By illuminating "*The Way to Autonomy*" via the capitalization of gas neo-reserves we are entering the second part, where an attempt to assess and esteem the value of the multilateral partnerships in East Mediterranean that were shaped the previous years (trilaterals-EMGF) is made. The Great Projects planned to change the region's Energy Map are introduced and the new security architecture is projected, which will allegedly lead to member-states fortification; under the fundamental term that maritime disputes will settle calmly.

On the above basis, the interminable Greece-Turkey bilateral disputes are presented and Turkey's arrogations are catholically deconstructed by the consultation of the predominant Law of the Sea (UNCLOS), where my thinking arrow is reaching to the core of this thesis, the Scenarios and Feasibility of Gas Exploration in Greek waters by their sole proprietor. Through the analysis of "*Points of Friction*" and each scenario's reflections, is argued that the key to the utilization of its maritime wealth is for Greece a strong inter-partnership scheme with security element present, a qualitative and forceful deterrence power and a decisive non-dilatory political willingness and coercive statecraft.

In the end, the Conclusions chapter attempts to predict, but not to preconceive the remaining options in the menu for Greece and the dissertation closes by alerting the decision making parties to act fast and think creatively, as the post-Covid-19 era, that we're now approaching, steers country to unmapped waters, that require proactive foresight and vigilance.

Keywords: Gas Reserves, Green Deal, UNCLOS, Geopolitics, South-Eastern Mediterranean, Security, Sovereignty, Autonomy, Energy

At this point I would like to thank Professor Enzo Di Giulio, my thesis supervisor for his excellent guidance and support during this process. I also wish to thank my wife and

son for their support and patience, throughout all this challenging period of my academic and professional life.

Christos D. Vlachos  
January 31<sup>st</sup>, 2021

## PREFACE

As an officer of the Hellenic Air Force I have always been attracted by solid and tangible topics such as the Geopolitical Front. Energy is a vulgate geopolitical factor, which delivers not only prosperity and growth but even survivability to a state and that was a strong initiative to deflect from the common to me, engineering (Aviation) field of expertise and turn to the *International Affairs and Security* pitch, thus attaining my 2<sup>nd</sup> Msc Academic Degree.

My previous master's thesis about the "Security Networks 3+1 in South East Mediterranean" dealing with the trilateral partnerships in the South East Mediterranean Sea (security-oriented benefits and implications) and my continuously growing apprehension about the developments in my country's regional and territorial waters and its overall stagnation of taking national initiatives in the energy sector, propelled my willingness to engage with this thesis as the "swansong" of my IHU studies.

The following thesis dissertation is addressed not only to academics, geopoliticians, energy experts, or research students and entities (colleges, institutes, etc) but also to all citizens with sensitized interests and common ground to national perspectives, that are concerned about Greece' future fate, which is fundamentally based on energy security narrative, particularly at the post Covid-19 era, where all pawns in the whilom familiar geopolitical chessboard will have been displaced.



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## INTRODUCTION

Nowadays and for the existing natural resources under exploitation natural gas accounts for the cleanest fossil fuel considering its emissions of carbon dioxide (CO<sub>2</sub>) gases. Inevitably, despite the Covid-19 implications, natural gas market is expected to experience a relative growth in the future.

### **1. Importance of “Energy Security”**

As a definition for the term “Energy Security” can be ascribed the long-term security of supply and its connection to international politics in the areas of diversification, infrastructure, investments and market governance.

Synonym to the ability to maintain and reserve sufficient amount of hydrocarbon resources (predominantly oil and later natural gas), Energy Security is, for the Western World-given unidimensionally-equivalent to the Security of Supply (consumer’s view). In other words, being able to function not only its industrialized economy, but primarily to sustain and guarantee the perpetuation of a prosperous, modern society, is a desideratum for a state and a proviso for its sovereignty.

On the above evergreen unaltered definition, more erudite aspects imposed by the current geopolitical evolutions and economic developments, have been introduced: Rising oil prices, terror-wave originated instability, the Arab Spring uprising, the global demand transferal towards fast-growing Asian economies, the increasing rate of fail-states among which some serious energy producers, are factors that dictate new dimensions in the energy security perception, such as energy security from the view of producers (security of demand), environmental concerns and sustainable development (the resulted externalities from production, consumption, transportation of fossil fuels to the climate change and the ecosystem, in general), (e.g., Yergin 2006; Sovacool 2011; Dyer and Trombetta 2013). In individual level of study, issues such as human and social security (equity, access to energy services), energy poverty and distribution of revenues from exploitation over national energy resources, are also facets indicating the multidimensional nature and importance of Energy Security.

Moreover energy sectors traditionally considered as “secure” are latterly due to globalization and liberalization of legislation that governs those sectors, adding up high value to the security paradigm. Such sectors are electricity, nuclear energy, hydro (management of dams) and the modern associated risks are market manipulation, natural disasters and unfortunate events, such as terrorism attacks and nationalism (radically generated) of resources.

It is inexorable for a consumer country under these circumstances, to set as ultimate priority and a basic aspect of its foreign policy the safeguarding of its energy future needs and secure adequate supply of gas and oil over all conditions. By adding a constant stress and tension to its relations with other counterpart nations and setting

a rally of fortifying the necessary quantities from the producer countries, it is building in a sense a competitive block of relations that produces insecurity and in some cases hostile actions to competitors. On the other hand, being the keeper of vast reserves of fundamental energy resources has proved to be catastrophic during the past major wars (WWI-WWII). Even further, it revealed that the road to future energy dependency was unidirectional and would have to pass through international politics and diplomacy, since energy resources are not evenly spread among the globe and hard power would rarely serve as an energy insurer for a country especially when it's not a global or at least a peripheral actor. The 70's oil shock along with the Gulf Wars of the 90's set the rails of antagonism over energy security, highlighting with a very convincing manner the necessary variable strategies that had to be developed thereafter to maintain energy dependency. These strategies would also prevent from disruptions and the effects of extreme commercialization, closing the gates permanently to the post-colonial era and opening the ones of diversification, re-rooting the energy tracks and introducing the definitions "short and long-term" energy security.

## **2. Grand Strategy, Energy Security and Foreign Policy**

In our effort to outline and establish the notion of a state's "Grand Strategy" we can use Silove's definition (2017) according to which "A state's grand strategy reflects its basic principles and/or policies in the long term, as it describes its highest priorities in all spheres of statecraft (e.g., military, diplomatic, and economic)". And its true as grand strategy consists of all those ways that national power (hard and soft) is utilized and prioritized towards the achievement of the state's long term goals and materialization of prospects, for what is destined to be the national security ideal, that guarantees the nation's existence and continuation through all times.

In the light of the above we realize that one fundamental aspect of a nation's trend to secure its very existence is to preserve uninterrupted energy supply, in a nutshell called Energy Security. We well saw above that Energy Security is not a fixed object. Energy stands not only as a source of potential economic grow, hence determining the state of its economy in an absolute manner, but also the ability of a country to reach, acquire, maintain and use on its people willpower energy supplies, pledges and warranties its national security.

This strong bond between grand strategy and energy security derives from energy's dual attributes concerning economy and sovereignty, the former providing necessary revenues for development and the latter constitutes a national asset that consolidates state's domestic order and external influence. These political features of energy establish several incentives in terms of state's sovereignty violation, for others to engage and assert ownership, access, transport and sale and arrogate exploitation of this strategic significance good which proves to be a "source of relative power" (Hadfield 2012, 442). Therefore, energy is the key driver of a grand strategy's three main components: ends (securing sufficient energy at affordable prices), ways

(instruments or tools to pursue non energy goals), and means (revenue for pursuing non-energy goals) (O’Sullivan 2013, 32).

In the light of the above, we can introduce a new definition, more accurate for the energy security and directly linked to a nation’s grand strategy as: “ *A state retains adequate Energy Security when it has unlimited access to affordable energy supply (resources or trade) without waiving its claim to conduct solely its political, diplomatic, security and military affairs and/or altering its statehood significantly*”. The attempted definition clearly stresses another more modern and progressive characteristic for energy as a foreign policy tool for states.

Taking into account that strategic prominence of energy resources is connected with political and economic weaknesses of all resource dependent states, it’s sensible to assume that those concerning states will respond accordingly by formatting their domestic and foreign strategies. This “modified” language of international affairs includes all anxieties/keys in its newly constructed alphabet (maintaining adequate supplies, political leverage exercised by producer-states) and it is best represented by foreign policy administrations of a state. Linking with the above sub-chapter where we analyzed the importance of energy security in the modern politics we set as milestone incident for the “entanglement” of foreign policy the Oil Shock of the 70’s. Both short and long-term (not respectively as short-term security is mostly based in internal/domestic governmental strings of actions) energy security assumes interstate cooperation mechanisms such as interventions intended to prevent energy crises (excessive price increases or supply disruptions). Foreign policy toolkits also involve diversification of suppliers and routes, preferment of domestic energy sources, promotion of international energy markets and support for the investments necessary to develop adequate resources and infrastructure to match energy demand.

Striving for the uninterrupted progress and prosperity, states through their foreign policy imply all available forms of interaction, dialogue and cooperation between other consumer and producer states and between governments and market actors deploying all of their statecraft arsenal.

### **3. Natural Gas Security**

Natural gas is, according to the International Energy Agency (IEA), the fastest growing fossil fuel, accounting today for 23% of global primary energy demand and nearly a quarter of electricity generation (IEA, 2020). As the cleanest burning fossil fuel, natural gas delivers numerous eco-friendly benefits in comparison to other fossil fuels, principally considering air quality and greenhouse gas (GHG) emissions.

Storability and operational adoptability of gas-fired power plants, allow natural gas to sustain not only seasonal but also short-term demand fluxes and to boost electricity supply security in power generating systems where multiple renewable resources are engaged.

Globalization of natural gas market is an inflating phenomenon, due to the earliest expansion of shale gas availability and the intensifying supplies of flexible liquefied natural gas (LNG). The increment of global gas trade, leads to the

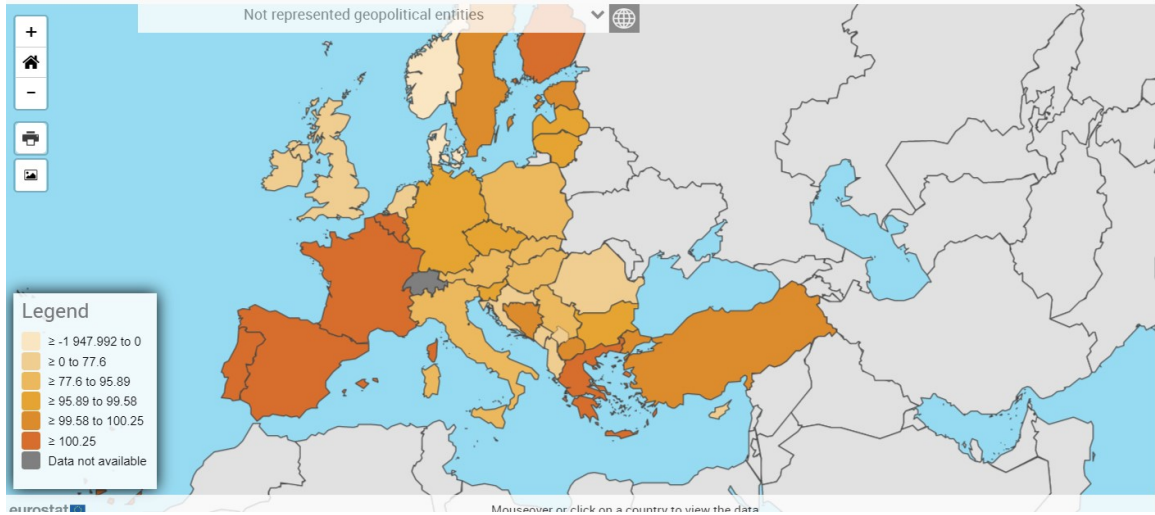
interconnectivity and improvement of gas markets proximity, generating new aspects and extents of natural gas security, sensitizing increasingly the response amplitude and intensity of distant regions over a potential demand or supply shock anywhere in the world.

Provided that natural gas is the energy resource at issue, a range of further political and economic correlated features supervene. Suggested as an environmentally friendly alternative and also a transition fuel towards 2050 (arrival milestone to achieve net-zero emissions from Paris Agreement Objectives), natural gas due to its low carbon emissions - unlike other types of plants, gas plants can be easily fired up and down and emit 50% less carbon dioxide than coal when burned (European Commission 2016) - is added to global energy arsenal dynamically and irreversibly. As IEA's prognostication of being the second largest energy source no later than 2030, its more than obvious that natural gas emerges as one of the most robust and substantial component of energy security.

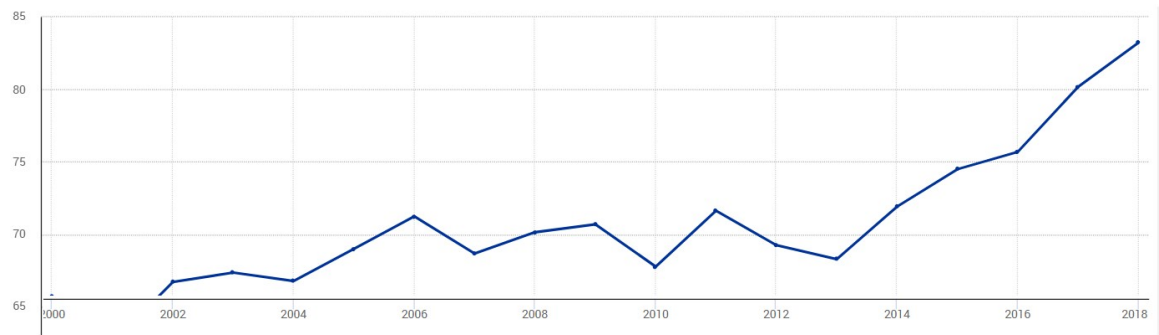
EU imports more than half of the energy it consumes, while numerous member states are deeply reliant on a single supplier for crucial energy sources. This is mainly true for gas, hence the EU remains susceptible to supply disruptions, whether caused by geopolitical struggles, political or marketable disputes and infrastructure failures. This substantial dependence on so few suppliers has been recognized since the 1990s, and the European Commission has made various efforts to downgrade its dependence on imports and make the concept of energy supply diversification a foundation stone of EU energy policy (Grätz 2011, 61-86).

However, natural gas trade is mainly regional and its distribution depends on permanent projects based on long-lasting infrastructures (pipelines and LNG facilities), and securitized contracts highly sensitive to geopolitical instability and rearrangements. Europe's overall annual gas consumption is still fulfilled predominantly by Russia (over one-third of its natural gas supply), also by Norway and other countries including Algeria, although gas production in Norway is gradually declining as its fields mature (Coote 2016). In 2019 net imports raised to 18,95EJ-Gross In the lowermost of demand projections, import needs could be about 20 bcm higher than 2015 levels by 2025(fig.1-2). Therefore, EU gas imports will carry on holding a major share in the future EU gas markets in the EU diversification-policy framework for gas supplies.

Consequently, the term "Natural Gas Security" is an enhanced facet of energy security, requiring stronger and abiding bonds and horizons among all implicating parties (companies, states, organizations) a predictable and stable geopolitical and economic environment and a long term certainty, founded on inter-governmental agreements which guarantee supply. It is quite obvious that Natural Gas Security self-contains its own dynamics: For instance a natural gas supply chain (i.e., upstream, midstream, and downstream) has considerable potential to trigger (geo)political tensions that could disrupt gas supply itself.



(Figure 1: Percentage of Energy Import Dependency from Natural Gas (2018), Eurostat, 2020)



(Figure 2: Percentage of Energy Import Dependency from Natural Gas (EU-27) 2002-18, Eurostat, 2020)



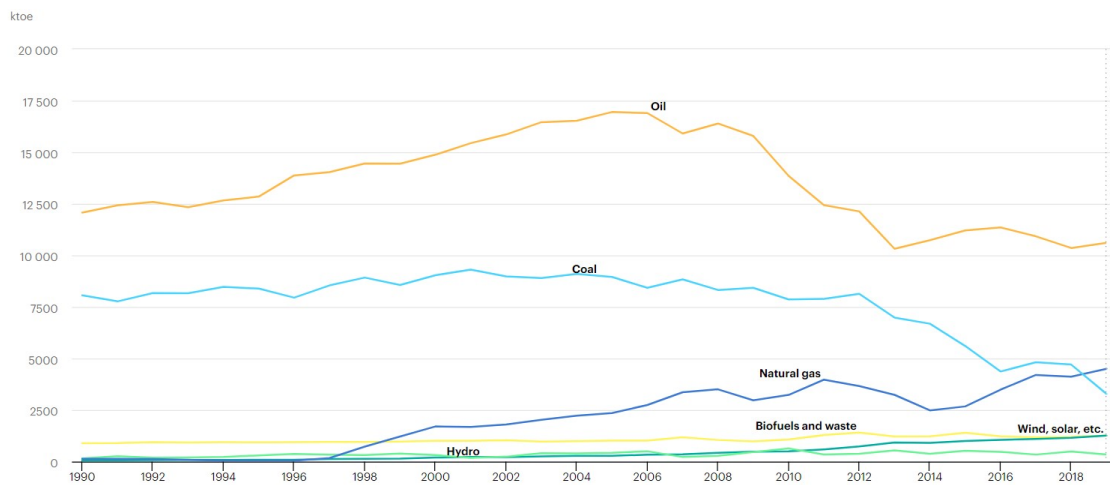
## A. THE GENERAL ENERGY STATUS OF GREECE

Despite the fact that the word energy derives from Greek ἐνέργεια (energeia), which appeared for the first time in the 4th century BCE works of Aristotle (OUP V, 240, 1991), the story of energy in Greece is not an old one.

### 1. The Energy Situation in Greece

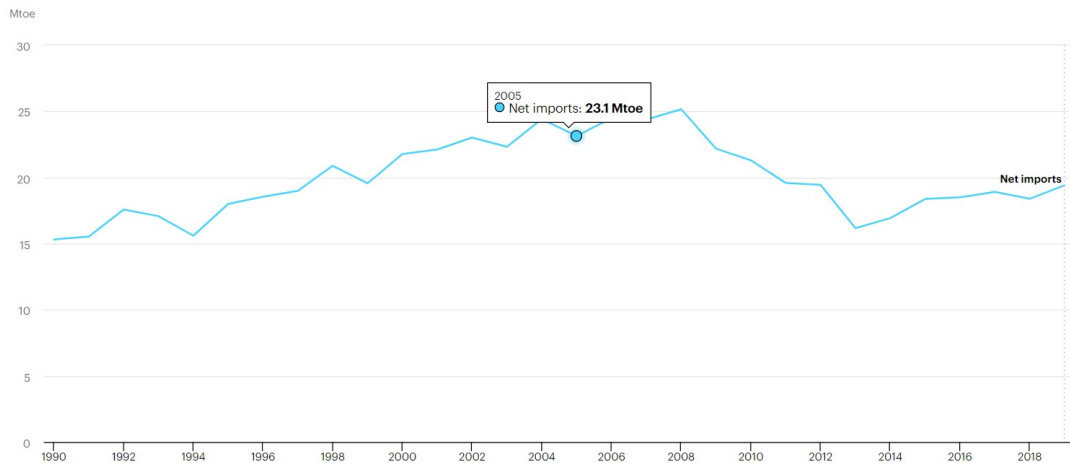
The majority of necessary energy needs in Greece are covered from imports, while the Greek Energy sector is one of the most fossil fuels-dependent in European Union (tables 1-2).

Total energy supply (TES) by source, Greece 1990-2019



(Table 1: Total energy supply (TES) by source, Greece 1990-2019)



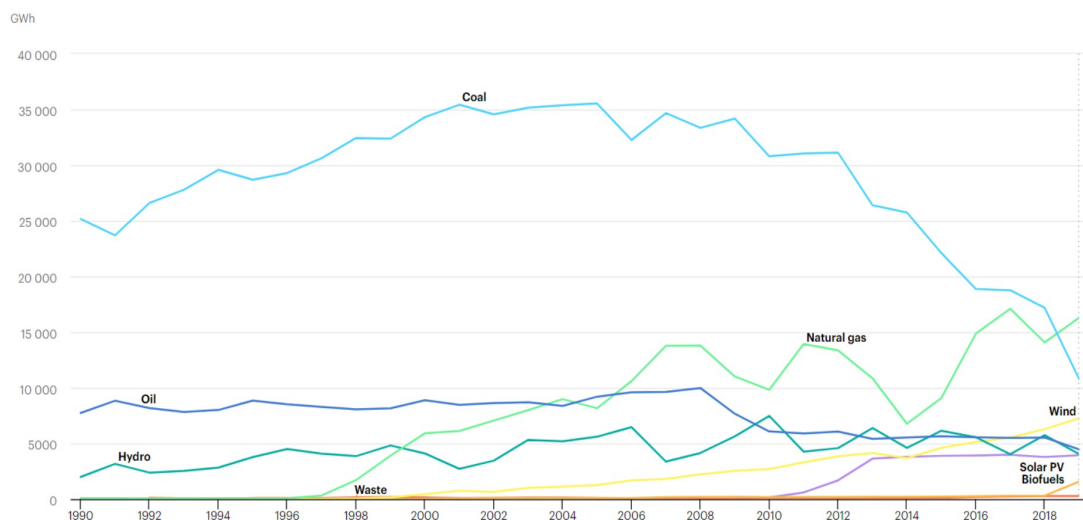


(Table 2: Net energy imports, Greece 1990-2019)

Obviously, as represented in the tables above in the previous year 2019 petroleum products alone served approximately 50% of country's energy requirements, which were not only used in transport sector, but also redirected to electricity production sector. A typical energy-intensive province is the Aegean archipelago, where total energy needs are fed by petroleum fueled expensive and inefficient diesel generators.

Natural gas which, for the time being is imported in a relatively high cost, holds a sizable share in total state's energy requirements and this trend shows high growing rate and generates even wider expectations for the future.

Electricity generation by source, Greece 1990-2019



(Table 3: Electricity generation by source, Greece 1990-2019)

In addition, domestic resources include rapidly declining lignite which represents around 29% of electricity generation for the year 2018 (22,1%-2019) as well as renewable energy sources (RES) such as hydro-power, wind, solar energy and biomass, which accounted for 11,3%(8,4%-2019), 12,4%(14,9%-2019), 7,5%(8,2%-2019) and 0,6%(3,3%-2019), respectively(Table 3).

In terms of electricity production, Greece has made considerable progress and diversified fuel mix, mainly by augmenting the share of renewable energy, which increased to almost 34,8% of the total generation for the year 2019, which is a striking surge compared to the year 2006, when it was no more than 9%. As of December 2019, a RES and heCHP power plants (no large hydro included) share of 6,97MW, were operating connected to the Greek National Grid. Moreover, 3,607 MW of wind power plants, 2,793 MW of PV plants (including PV installations of the Special Photovoltaic Rooftop Programme), 240 MW of small hydro-power, 88 MW of biomass/biogas plants and 233 MW of heCHP plants were also connected in the National Power System of Greece.

Greece's energy sector today undergoes a huge €44 planned investments destined to liquefy in the new decade, transforming the country into a regional hub. Throughout land and sea, pipelines are being installed, wind farms are built, and the prospects for hydrocarbon reserves flutter. Eventually, the EU's so-called Southern Gas Corridor, a vision of diversifying western Europe's natural gas supplies – is now close to become reality. Three major gas pipelines, an array of subsea and underground electrical interconnections, and a new natural gas power plant are either in operation, under construction, or nearing completion. In the meantime, ventures in renewable energy are also soaring.

Among the most important projects is the €4.5 billion Trans Adriatic Pipeline (TAP) being built across Greece, Albania, and onwards to Italy that will bring natural gas from Azerbaijan to Europe hopefully within 2021. Also, in 2018, EU approved construction of the Greece-Bulgaria Interconnector (IGB), a natural gas pipeline that will deliver gas Bulgaria from TAP, along with other sources (natural gas facility near Athens and the awaited one in northern Greece).

In addition, a €370 million offshore floating LNG storage and regasification unit (FSRU) with a conduction pipeline planned to connect the floating unit to Greece's transmission system will ignite its commercial operation at the early 2022.

These ventures will terminate the country's almost total dependence on Russian gas.

As mentioned above, as a result of the numerous scattered Greek islands of all sizes, throughout Aegean Sea with uneven distances that harden connections to the mainland, electricity requirements are fulfilled via inefficient and costly diesel generators. Thus, one of the most strategic projects that are due to alter the big energy picture in Greece is the interconnection of Crete with Attica via a submarine power cable. Worth €1 billion and set to be electrified by 2023, the *Ariadne Interconnection Project* will be one of the largest infrastructure projects in country's history. With a future potential to link via undersea cable to the Cypriot and Israeli

electricity grids, “Ariadne” will enable Israel to deliver its excess electricity while targeting the end of Cyprus energy isolation. Separately, a €330 million project to connect Crete with the Greek mainland through a medium-capacity cable linking the island with the Peloponnese came in reality at late 2020. By its electrification, the line became the longest submarine alternating current (AC) interconnection in the world.

Energy sector’s market liberalization is vast. Successive privatizations have already initiated, while others are about to. During the last three years a 24% stake has been sold in IPTO to China State Grid for €320 million and a 66% stake in DESFA (the state-owned natural gas transmission operator) to an international consortium for €535 million. Energy companies such as Belgium’s Fluxys, Spain’s Enagas and Italy’s Snam comprise this conglomerate.

Last but not least Greek State has pledged to close all 14 of the country’s lignite-fuelled plants by 2028, with closures starting in 2021, and replace the majority of them with renewable energy sources (RES).

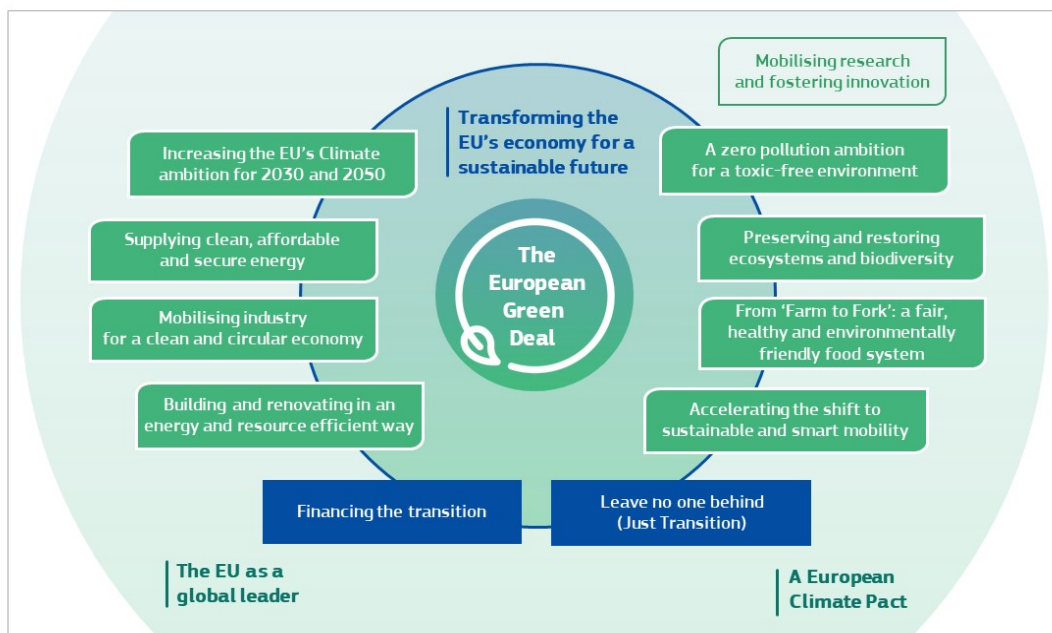
Consistent with the latest facts and figures, Greece has met its 2020 target. But it will be forced to endow the sector heavily with capital, in both RES and new energy infrastructure, to obtain the 2030 goals and decline its present severe reliance on coal and oil for power production.

Auspiciously, a series of regulatory and legislative modifications over the last few years, with more anticipated, are paving the way. The Investing in Greece law, passed by parliament in October 2019, streamlines business licensing processes, while unambiguous actions to enable investments in RES will take place too.

## **2. *The Green Deal EU Project: Decoupling from Resources***

The European Green Deal (Table 4) provides a roadmap with actions to enhance the effectual use of resources by steering to a clean, greener, circular economy and halt climate transformation, revert biodiversity loss and truncate pollution. It frameworks investments that necessitate and appropriate financing tools accessible, while describes how to guarantee a just and complete transition.

It is EU’s commitment to confronting climate and ecosystem-related challenges that is this generation’s major task. The atmosphere is warming and the climate is shifting with each passing year. The extinction of one million out of the eight million species on the planet is at stake. Forests and oceans are being polluted and devastated every single minute. The European Green Deal is the retort to eco-system’s degradation. It is a new era growing strategy that targets in converting EU into a fair and thriving society, with a fresh, resource-efficient and competitive economy with zero net emissions of GhG in 2050 and where economic prosperity is decoupled from natural reserves use. The principal aim of the European Green Deal is for the European Union to turn into the world's first “climate-neutral bloc” by year 2050. Targets extend too many different sectors, such as construction, industry, biodiversity, energy, transport and food.



(Table 4: The European Green Deal various elements)

Strategy comprises potential carbon tariffs for countries that don't limit their (GhG) emissions at the same rate. It consists of:

- a. A circular economy action plan.
- b. A review and possible amendments (optionally) of the all relevant climate-related policy mechanisms, including the Emissions Trading System.
- c. The Farm to Fork strategy along with a focus shift from compliance to performance (which will incorporate a reward mechanism for farmers to handle and store carbon in the soil, value-added nutrient practices, sinking emissions).
- d. A revised Energy Taxation Directive which bones up on fossil fuel subsidies and tax exclusions (air travel, shipment).
- e. An ecological and shrewd kinesic strategy and an EU forest stratagem. It's time to rehab environment's lungs through afforestation, and plantation preservation and restoration in Europe.

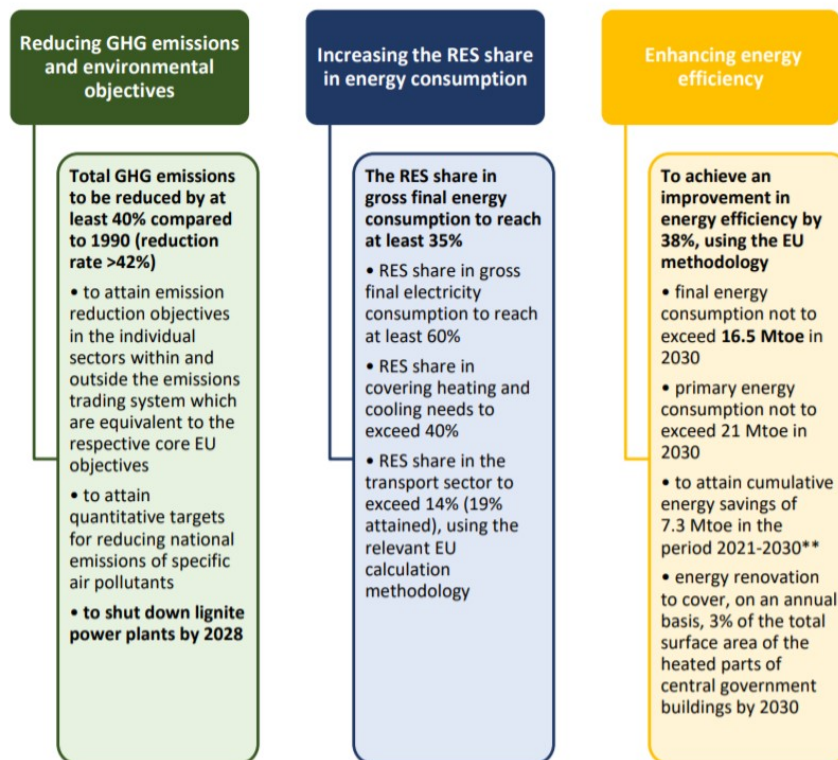
Unquestionably one of the most possible means of decarbonisation of the economy is the Carbon Border Adjustment Mechanism which is a powerful tool, since it reflects the carbon intensity of imported products with in EU, such as ores.

It also rests on Horizon Europe, to perform a key role in uplifting national public and leveraging private investments. Via collaborations involving member States and industry, it will promote research and innovation applied on transportation technologies, such as batteries, low-carbon steel making, clean hydrogen, circular bio-based sectors and the built environment The EU launches an investment plan (InvestEU) in order to fund the policies necessary for the Green Deal actualization,

which conjectured minimum amount reaches 1 trillion euros. Additionally, the set out goals, that derive from the Deal are estimated as much as approximately €260 billion per year by 2030 in investments.

### 3. Greece Framed: The 10-Year Energy National Plan

The National Energy and Climate Plan (NECP) is a combination of ambitious and coherent energy policies that aim to conform to EU's Energy Union goals by 2030. National energy transition is reliant to four basic axes, reduction of GHG emissions, higher penetration of RES in gross final energy consumption, improved energy efficiency for greater energy reserves, and lignite phase-out in power generation, to ensure that this drastic sector transformation drives to a climate decoupled economy by 2050 (Table 5).



\* Without taking into account the contribution of ambient heat

\*\* The target has been calculated on the basis of the ex-post final energy consumption data for the period 2016-2017 and the temporary data for 2018

(Table 5: National energy and environmental objectives for the period 2021-2030 in the context of EU policies.)

In light of the above, the main objective of the NECP is to design, organize and adopt socially and environmentally efficient and cost-effective course of action measures that will serve the feasibility of medium- and long-term energy and climate

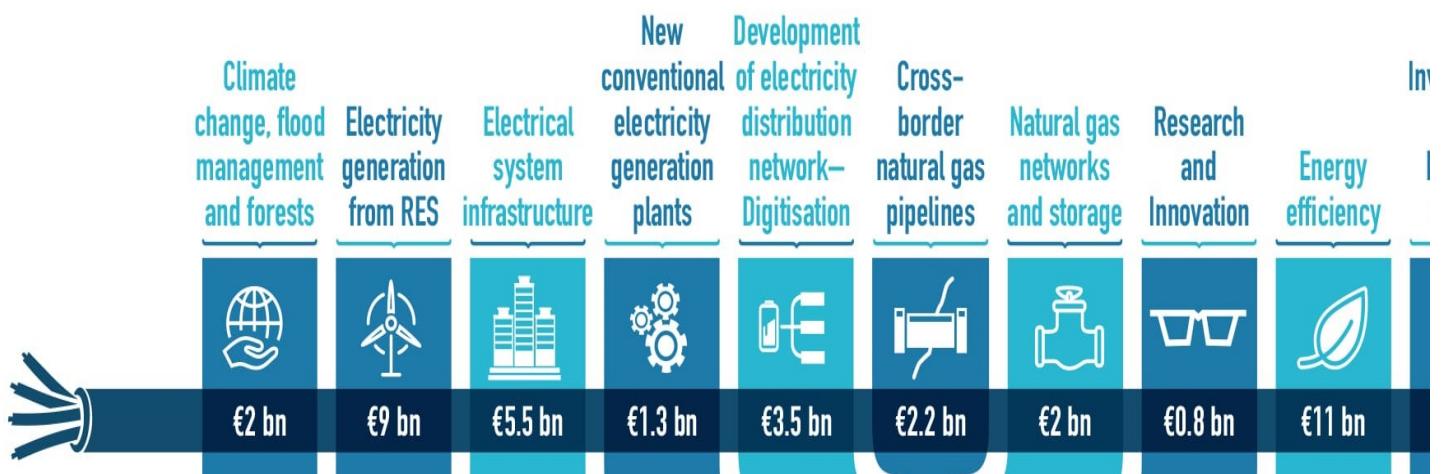
national objectives, will add to economic progress and also respond to the challenge of lowering energy expenses, by protecting both users and state financial system.

Submitted to the EU in December 2019, this plan suggests potential investments adding approx. €44 billions in energy sector transformation and environmental schemes spread over the next decade, anticipating up to 60,000 jobs in return (Table 6). New aspiring aims towards 2030 have been set by the National Energy and Climate Plan (NECP) including:

## ESTIMATED INVESTMENTS IN

### ACCORDING TO GREECE'S 2019 NATIONAL ENERGY AND

Total estimated investments for



(Table 6: Investments according NECP towards 2030 targets completion)

- 35% share of RES in gross final energy consumption.
- 60% share of RES in gross final electricity consumption.
- 40% share of RES in final energy for heating and cooling.
- More than 14% share of RES in final energy for transport.
- Reduction of final energy consumption by 38% compared to the respective forecasts of 2007.
- Lessening of total GhG by at least 40% compared to 1990.

The objectives above (Table 7) are intended to be reached by dint of a mixture of actions for energy efficiency and the all-encompassing penetration of RES technologies in electricity production, heat supply and transportation. A fundamental aspect of national strategy for the NECP is the highly aspirational, yet realistic package of definitive decreasing the share of lignite in power generation, the so-called “lignite phase-out”, by implementing an appropriate front-loaded time-plan in the following decade and terminating the use of lignite era in Greece by 2028. As a result, NECP determines the timeframe for closing down the lignite-fired plants that are still in operation, to be concluded by year 2023.

Year of objective: 2030	Final NECP	Initial NECP draft	New NECP objectives compared to EU objectives
RES share in gross final energy consumption	≥35%	31%	More ambitious than the corresponding core EU objective of 32%
RES share in gross final electricity consumption	≈61-64%	56%	
Final energy consumption	≈16.1-16.5 Mtoe (≥38% compared to the 2007 predictions)	18.1 Mtoe (32%) (referring to 17.3 Mtoe without ambient heat)	More ambitious than the corresponding core EU objective of 32.5% and attainment of the objective on the basis of a new EU indicator for reducing consumption compared to 2017
Share of lignite in power generation	0%	16.5%	
Reduced GHG	≥42% compared to 1990, ≥56% compared to 2005	33% compared to 1990, 49% compared to 2005	Identical with core EU objectives and overperformance compared to national commitments in non-ETS sectors

(Table 7: Summary of national objectives in the context of the NECP)

Policy priorities were established in relation to the six dimensions of the Energy Union:

- a. Climate change, emissions and removals of greenhouse gases.
- b. Renewable energy sources.
- c. Improvement in energy efficiency.
- d. Energy supply security.
- e. Energy market.
- f. Research, innovation and competitiveness, expanded to new exploitative fields and sectors, like agriculture, shipping and tourism, comprising the introduction of a prioritized horizontal policies device, linking to the governance mechanism which is reckoned to be decisive in certifying the efficacious monitoring

and, in due course, implementation of the measures planned and attaining the core national energy and climate objectives laid down in the present NECP.

The above **qualitative objectives** are divided into the following key categories:

a. Strengthening interconnectivity and security of energy supply, towards speeding up the electrical interconnection of the islands and evolving strategic storage projects.

b. Timetables for liberalised and competitive energy markets will speed up launching the new electricity market model.

c. Scheduling for the optimum advance and functioning of the energy system and energy infrastructures for the benefit of users by digitising the energy networks, coupling the final sectors and promoting electromobility.

d. Protecting and strengthening the role of consumers.

e. Changing consumption patterns and using energy-efficient and low emission fuels in final consumption sectors via promotion of new technologies.

f. Solidification the competitiveness of the national economy by developing new financial instruments.

g. Promoting research and innovation in environmental and energy issues

The above course of actions that derives from the NECP essentially demonstrates the state's holistic approach to tackle inauspicious environmental omens by planning smart climate and energy policies and measures.

#### ***4. Implications and Challenges of EU Green Deal in Greek Economic Future***

As it was well mentioned above, the National Energy and Climate Plan (NECP) 260 is a critical stratagem that targets to reverse the poor environmental course of the country and put it in a greener, more prosperous and economically auspicious track. However the deployment of this gigantic plan has significant drawbacks, characterized as "critical elements" such as:

a. The required amount to be invested just to ensure transition is expected to reach 260 billion per year based on the Commission's estimates to achieve the EU Green Deal, climate and energy related targets and ending point the year 2030.

b. The appendix to the EU Green Deal includes 50 actions to be in force in almost 24 months (2019- 2021) by means of regulations or directives correlated to climate, energy, circular economy, transportation, agriculture, financial services, biodiversity and waste management. Also includes clauses for updating current relevant legislations.

Mainly, on account of the above The EU Green Deal might face grim implications in virtually every sector of the Greek economy.

Power and Utility companies experience key challenges following the arrow of decarbonisation, and comprise sharply to the net-zero targets. Energy transition to a greener mix is key to this, providing ample space to the usage of RES or natural gas as



an interim fuel. As seen in the previous chapter, decarbonisation strategy is part of the EU Green Deal action plan and hence assimilated in the Hellenic NECP.

Conversely, transition to net zero via lignite phase out means substantial socio-economic impacts for local communities, where lignite units and coal mines operate. The challenge here is the suggested EU Just Transition Mechanism, National Plans and other funding sources to bring positive results and relief the decoupled economy participants.

Furthermore, transition to Circular Economy may force many companies in the sector to implement modifications to existing operating model to confront rapid changes and requirements. Examples of such modifications are:

- a. Imposing a regulatory minimum percentage of recycled materials re-entering the manufacturing line.
- b. Provisions on manufacturing products prone to recycling with minimum reparability specifications providing further lifetime.
- c. Evolution of economic instruments (environmental taxation, green tax reforms and improved waste management).

In the Construction sector, energy performance related buildings legislations become more ambitious and will be supplemented by partial funding and incentives to upgrade their energy efficiency profile. A wind of renovation will blow over public and private buildings bringing energy bills drops (that also can reduce poverty). Engaged to that scope EU and the Member States will have to boost the construction sector and especially SMEs and local jobs accordingly. Indispensable strategies to implement and promote sustainable development will be intensively demanded for innovative investments and landmark projects.

Moreover, concerning the Transportation sector, use of clean energy vehicles, electrification of railways, austere fuel consumption emissions monitoring and reporting requirements for shipping and aviation set the standards of time versus effort and money very high. Apropos marine transportation, IMO 2050 GHG emissions reduction targets incorporated to NECP and Green Deal objectives, challenge the Greek ship owners to invest in alternative fuels and acquire sustainable fleets.

In relation to National Economy, Sustainable Finance Regulation shall benefit eco-friendly investments and projects, through funding provided by Greek and international financial institutions, funds and private equity investors. Financial institutions' credit rating is challenged to incorporate ESG (Environmental, Social, Governance) factors, thus shifting financing into environmental friendly sectors and activities.

Last but not least, Tourism, though it's not currently governed by Green Deal or NECP provisions, it is a sector which is expected to be vastly affected. Country's geographical location and natural wealth raises prospects for sustainable tourism expansion. Vital targets to reach that state would be:

- a. The fortification of natural environment, waste management, and cultural resources.
- b. The support of the welfare of the local communities.

- c. The organization and rearrangement of tourism-related transport (mainly air and sea) in order to minimize its environmental footprint.
- d. The enhancing and cultural promotion of green tourism infrastructure, via financing and application of circular economy.
- e. Optimizing the tourism-oriented jobs features, such as fixity, welfare, legislative protection, etc.



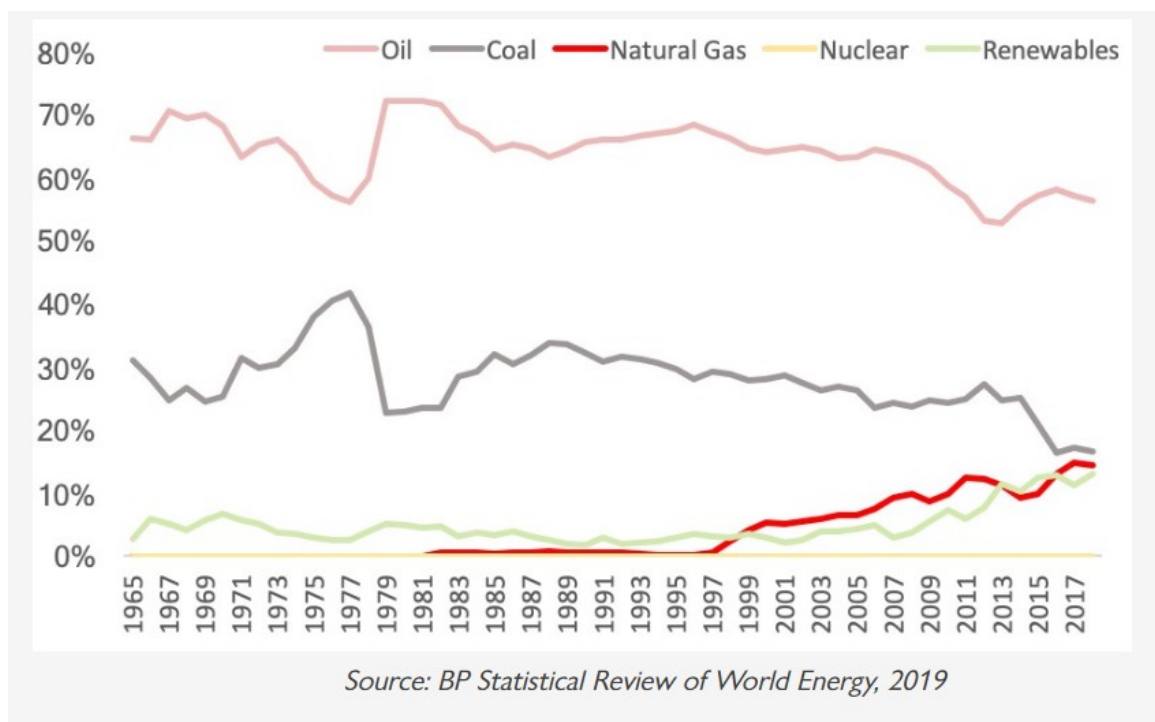
## B. GAS AS AN ASSET OR A SECURITY HARNESS FOR GREECE

### 1. *Natural Gas: The “Passage” to Decarbonisation*

If Greece wants to reap the harvest of this huge effort described above, then it must make use of all its available tools. Considered by far the cleanest fossil fuel, Natural gas, can play its part in this transition route. The role of gas as a passage from intensive energy to decarbonisation has been promoted for a long time, especially that of fuel switching primarily from coal.

Back in 1986, when it first entered the Greek market, gas was considered as energy means that would not only release the country from the oil dependency but also re-establish it in the European Energy Map. In spite of the fact that natural gas would help also to reach the evolving and rigorous, towards a greener future, EU environmental credentials, its penetration (no more than 0,2% as of 1996) was scarce. It was only a few years after in 2000, and the commissioning of the first LNG terminal in Revythoussa, backed by some faint efforts of market liberalization, that gas gained some ground, yet it stroke on the decennial economic crisis that crystallized any further effort for expansion or evolution whatsoever.

Today, with a highly arguable 13% of total energy demand in the market (Table 8),

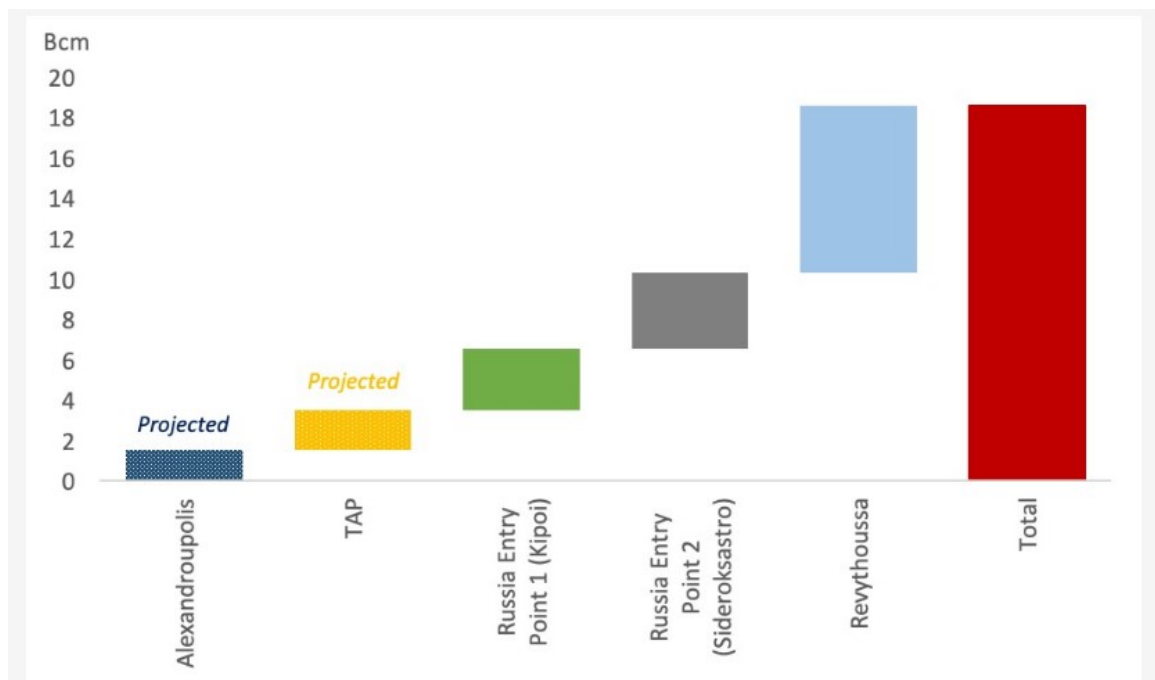


(Table 8: Primary Energy Consumption by Fuel Source in Greece, 1965-2018)

natural gas, after country's successful exit from the final bailout program in 2018 attempts to play the centerpiece of Greece's energy revived role. Privatisation of state-

owned distribution network undertaken by three major European natural gas transmission companies, along with positive and prosperous climate developed among investors followed the “Memorandums Regime Days” termination, led European Investment Bank (EIB) to finance the construction of a - first-of-its kind in the broader Eastern Mediterranean region -new LNG bunkering vessel in Greece, creating the conditions to turn the country into a regional hub.

Time is also an ally in this juncture as gas prices under the pressure of us shale gas neo-reserves head downwards and taking into account the geographical and geopolitical position of the country, this global abundance and affordability combined with the determining factor of vicinity to existing and potential infrastructures and resources, given that a great share of gas price is transportation charges, sets Greece’s energy future in the vanguard.

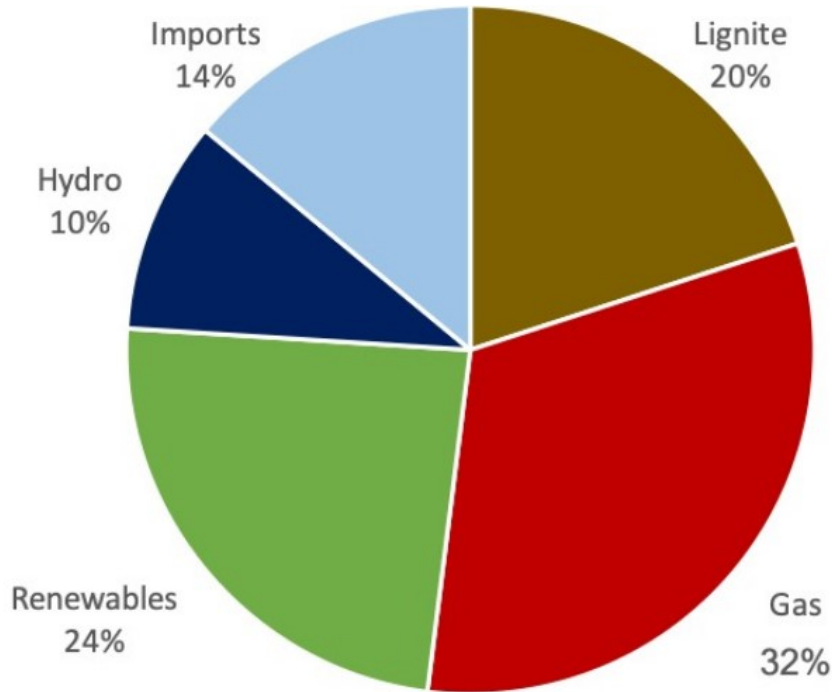


(Table 9: Natural Gas Supplies by Origin in Greece, MSc Panos Mavroeidis - ENI Trading & Shipping)

One can argue, judging from the present and projected gas flows as depicted in the above Table 9, that as potential supplies tend to 19 bcm per annum over the next few years, the country will sharpen its penetration into gas markets, capable to overlap demand by factor of more than 3. This projected throughput, in turn, would favor price competition domestically, leading to wider distribution of natural gas in the country.

The quickest win, concerning CO<sub>2</sub> emissions, is the lignite-to-gas switching fuel usage. Indeed, lignite (coal) the backbone of Greece’s energy production and heating element for decades and a plentiful natural resource, as we analyzed in previous chapters, is outdated and contractually terminating its usage. IEA suggests, an average, coal-to-gas switching reduces emissions by 50% when producing electricity and by 33% when providing heat, thus interpreted in emissions savings of about 10% in today’s

power and heat sectors in Greece. By switching from lignite to existing gas-fired plants, there is a prospective to 4% reduction of country's total emissions. As of today, after a fall of 4,5 TWh in 2019, still 10 TWh of lignite power generation shall be eliminated by 2028 and this great gap can be filled by natural gas (Table 10).

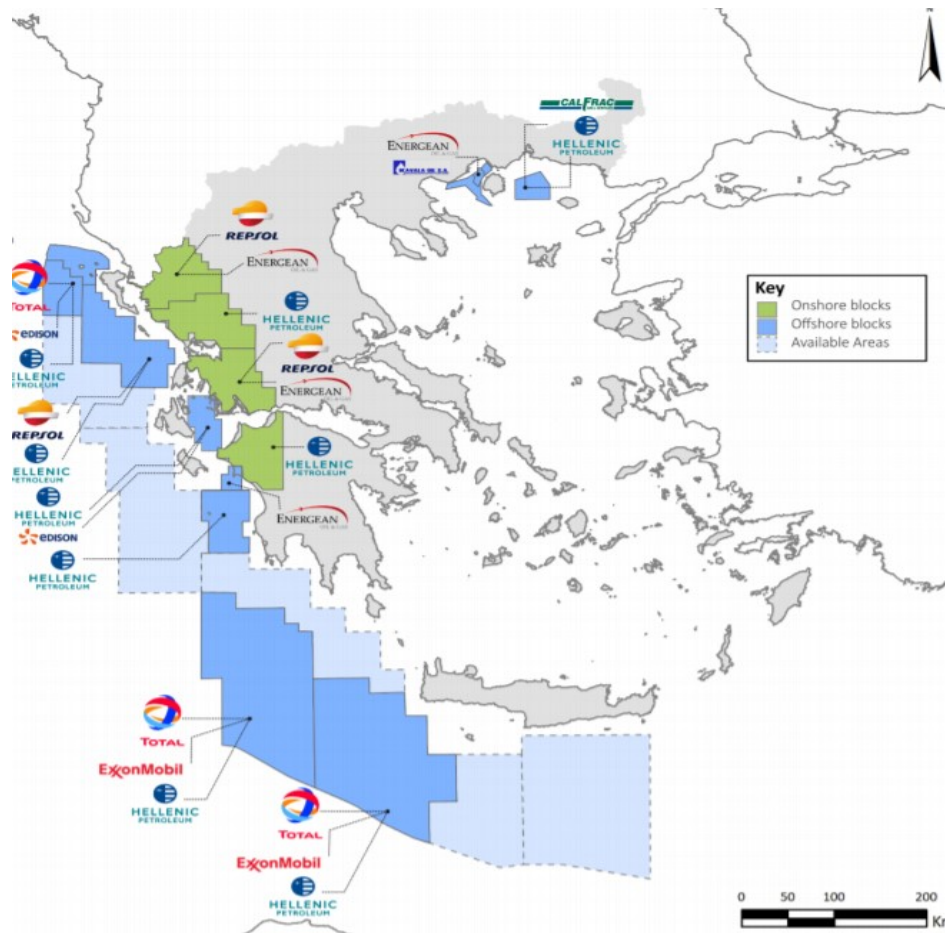


(Table 10: Electricity Generation by Fuel Source, 2019. Source: Entso-e, 2019)

In an environment of higher CO<sub>2</sub> emissions prices, as the one in EU the following years, significant financial burdens will be set and therefore prices will push lignite usage to the exit and plants to decommissioning. In the medium term, neither renewables nor heavier fossil fuels can respond to the call for decarbonization. Fast track to lower emissions need a stable transition vessel capable to withstand volatile RES irregularities and instability, while exiling coal, oil and securing the energy supply of the country. By the same token, gas can potentially become a strategic asset, that'll lead country to prosperous and securer horizons.

## 2. *The Neo-Reserves and Their Potentials*

The last decade and during the financial crisis years, the resurgence of the ever topical idea of recovering the somewhere-in-Greek-seas laid beneath fossil resources came to the fore again. Pushed by the EU imposed modern sustainability trends and policy, for the sake of a serious hunting of hydrocarbons, the Greek State founded Hellenic Hydrocarbon Resources Management S.A. (HHRM S.A.), a private sector but state-owned company that immediately launched exploration and production concessions, and active promotion of Greece as an attractive oil and gas destination to international investors. Since natural gas is considered and proved above to be the irrefutable transition hydrocarbon, we will mostly refer to gas hereafter.



(Table 11: Beyond the search for hydrocarbons in Greece, HHRM, London 2019)

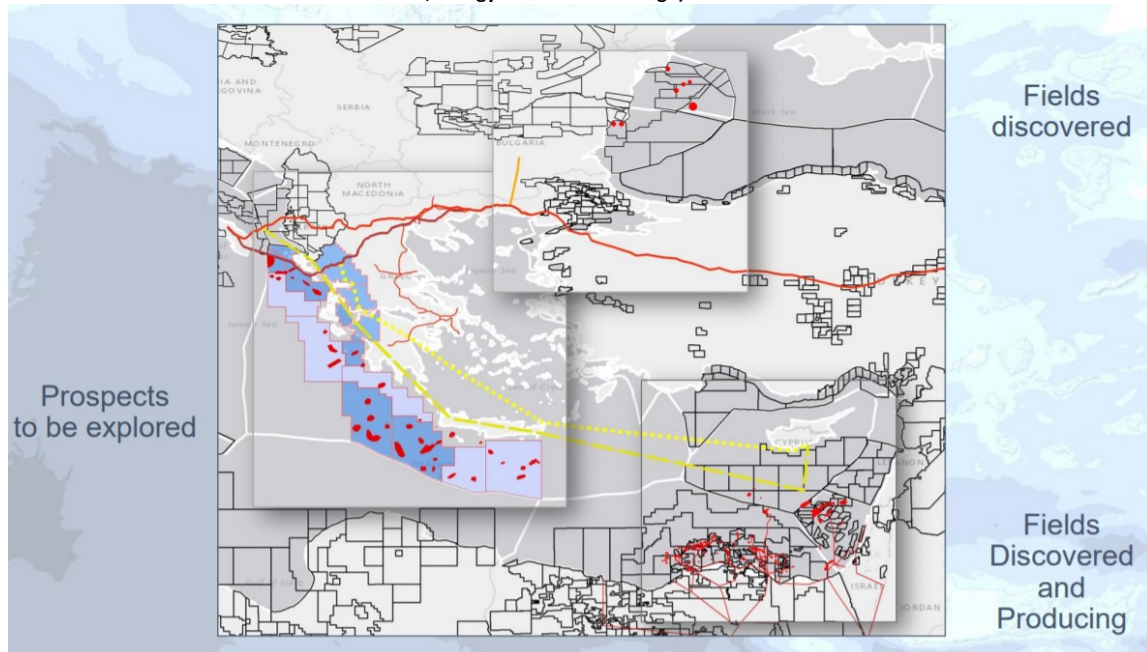
A few years earlier, in March 2010 the U.S. Geological Survey (USGS), using a geology-based valuation method, projected that the entire Levantine basin—geological formation surrounding the offshore segments of Israel, Gaza, Lebanon, Syria and Cyprus— could hold as much as 3.4 bcm of recoverable natural gas and 1.7 billion barrels of oil (USGS 2010). The USGS also estimated that the total acreage, including its present and anticipated oil and gas reserves (the Aegean Sea, for example), could capture more than 340K bcf of gas –more than the U.S. confirmed reserve, which is the fourth major in the world after Russia, Iran and Qatar (USGS 2010; BP Statistical Review of World Energy 2018, 27-28).

In Greece, though the licensed blocs are placed on the western and south-western regions (onshore and offshore - Table 11), due to their basic delimitation agreements, that thoroughly and officially established recently (with Italy completed and with Albania under re-negotiation overview), three areas keep serious energy interest, which demonstrably possess large volumes of gas. These are the Ionian sea, the wider off-shore areas south of the island of Crete, and the Herodotus Basin. Uncommonly in such cases, the scientific studies here agree on the existence of

extensive neo-reserves of natural gas south of Crete and the Herodotus Basin as well as of oil reserves along the Ionian.



(Table 12: The Greek 'blocks', as appear in the second licensing round for gas exploration, in 2014. Source: Greek Ministry of Environment, Energy and Climate Change)



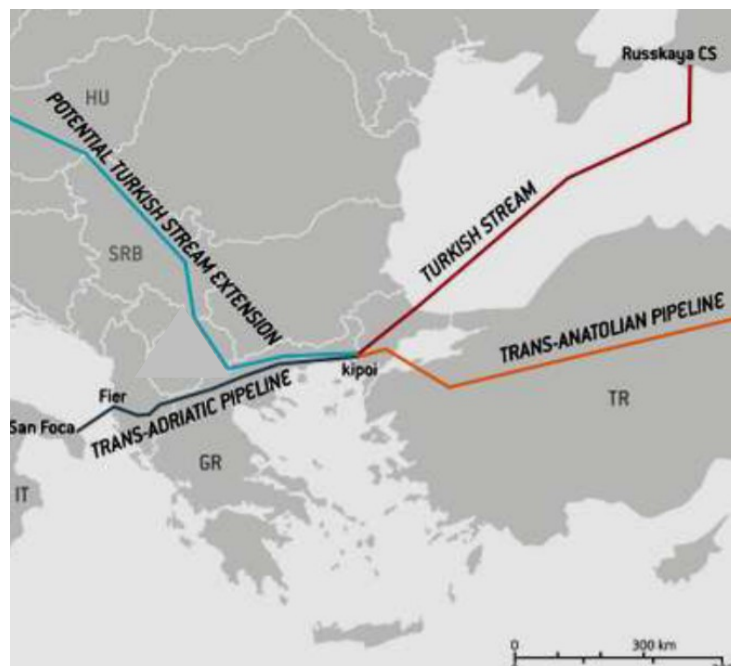
(Table 13: The Greek 'blocks' and reserves underneath, source HHRM, London 2019)

Hence, in consonance with the US Geopolitical Survey, it is appraised that there are ample volumes of natural gas 70km south of the Mesara Bay in Crete, which it is claimed that Greek block no 14 between the areas of Plakias and Frangokastello has 1,5 trillion m<sup>3</sup> of natural gas (Tables 12-13). Equally, a Greek study assesses the over-all



volume of natural gas in the same area to approximately 3,5 trillion m<sup>3</sup>, assigning it with the Mexico Bay, the Caspian Sea and the Persian Gulf.

With respect to the pecuniary value of the off-shore neo-reserves and the net profits of Greece from the aforementioned area, Deutsche Bank has estimated it to approximately €427 bn, while the profit for the Greek State approaches €214 bn. An analogous cost-effective study raises the Greek Public profit to €599 bn, over a period of 25 years, from the inauguration of the exploitation. Apropos the marine acreage of the Greek north-western part of the Herodotus Basin, as stated by the French Beicip-Franlab, it is projected that it might come to 2.5 trillion cubic meters of natural gas, while, the American Geological Review gives a 50% prospect there are 3 trillion cubic meters in excess of the 2.5 trillion m<sup>3</sup>, (i.e. a total of 5,5 tr. m<sup>3</sup>).



(Table 14: TAP, Turkish-Stream, and the potential extension of the later, upgrade Greece's traditional geopolitical value. Source: Institute of Energy for South-East Europe)

In conclusion, Greece as illustrated in the previous chapters, being a transition grid host country, upholds a robust geographical advantage, as a core transit country for the regional pipeline and route (LNG) planning. Greece is part of TAP, Turk-Stream (the former South-Stream), as well as the, particularly remarkable, Vertical Corridor, which vertically links Balkan and Eastern European States, from the Aegean to the Baltic, detouring Ukraine. Lastly, Greece has signed a Memorandum of Understanding with Russia, Serbia, Hungary and North Macedonia for the expansion of Turk-Stream towards Austria (Tables 14-15).



(Table 15: The Vertical Corridor connects vertically the Balkan and Eastern Europe states, from Aegean towards Baltic, can by-pass Ukraine. Source: Institute of Energy for South-East Europe)

### 3. *The Way to Autonomy*

A vista of a new gas export hub starting up in the Eastern Mediterranean is particularly attractive for Europe, which, as explained above, is concerned about diminishing production in the North Sea and its increasing dependence on Russia. The neoreserves could provide supplementary energy supply for the energy-suffocated European markets and increase the diversification prospects for countries dependent on a single supplier (EU Commission, 2017).

At present, the Eastern Mediterranean is a noteworthy route for the EU's natural gas and oil imports, as approximately 35% of its natural gas and 50% of its oil consumption are traded through the area (Szoke 2016).

Undoubtedly with all these potential energy reserves discovered and a deep prospect for further explorations, Greece has a strong potential to gallop towards development and prosperity. This concentrated wealth that lies beneath the seabed of Eastern Mediterranean, carries much anticipation for country's aim to become a more independent and self-reliant state the forthcoming years. With many projects to realize in a tight defined by the EU policies framework, a renewed air of positivity is sweeping across the country.

Neither the projected anticipated growth rates of the economy (+4.1% for 2021), nor the positive ratings from international agencies (Moody's upgrade, 11/2020) are able to explain the positivity alone, notwithstanding the fact that all those energy mega-plans are yet to yield outcomes. The fact that recent discoveries of large gas reserves in the Eastern Mediterranean mean that Greece could soon serve as an energy hub between European markets and regional producers, is the dragging force that fuels Greek aspires of brighter economic scenery.

Monetization of these unspoiled assets is a challenge to the country, but also a way to its multi-dimensional autonomy. Financially, demographically, culturally, defensively, autonomous State means, that the offshore unexploited resources are destined to enhance not only state's energy security, but to upgrade and re-establish

all current socio-economic-political interrelations that Greece maintains inter-alia with its partners in and out of EU.

Further to the above, country's hard power and diplomacy is not an average of its size. Greece is in events and affairs that take place currently in its neighbourhood silently present. This increased involvement does not come from nowhere. The end of the Yugoslav wars and its fragmentation in the late 1990s has turned Greek interest towards the Mediterranean. From the Greek point of view, with rich marine and nautical heritage, the Mediterranean is a source of threats and challenges.

On account of its geographical propinquity, country cannot afford to pay no attention to developments in the Middle East and North Africa. Owing to its location, Greece could easily deploy military action for joint security energies in the region. It is one of the few NATO countries that defence expenditures are well above than 2% of its GDP. The Hellenic Armed Forces are distinctive of excellency in numerous NATO missions and the country possesses military infrastructures that are vital to Western security.

In this milieu, Athens is building a new geopolitical identity as a rampart of the West in the Eastern Mediterranean, thus interpreting its new tasks within the framework of NATO/European development for regional security issues. Consequently, Greece can turn into not only a successful energy security example, but also to a security provider that will protect Western interests in a persistently fickle region.

**C. TURMOIL IN S/E MED: GREEK FOREIGN POLICY, ALLIANCES AND ANTAGONISTIC CHALLENGES**

**1. *Energy Security Amalgamates New Energy Alliances in the Geopolitics Furnace***

The location of gas reserves in the Eastern Mediterranean has been seen with keen response as a result of their prospective impact on the economic, geopolitical and political equilibriums in the region. It is generally recognized that the new reserves could have a major, positive effect on Europe's gas-diversification approach, empowering EU Member States to manage a long pursued goal, to considerably reduce their dependency on Russian gas. In early 2019, Greek, Egyptian, Cypriot, Israeli, Jordanian, Italian and PA Energy Ministers, had a summit in Cairo where they assessed the establishment the Eastern Mediterranean Gas Forum (EMGF), an instrument meant to serve as the aegis for collaboration and dialogue concerning the development of gas resources in the region. Energy maybe the basis for the forum, however broader geostrategic progressions were those that led to its formation, and they mirror the regional states' common perceptions vis-à-vis the significance of the Eastern Mediterranean to their national security (Winter and Lindenstrauss 2019).

With this move, the actors of the region bare their political willpower to transmute the issue of gas reserves into further not-exclusively- commercial "strategic" coalitions in the Eastern Mediterranean. However, this political drive may emanate serious geopolitical and economic tragedies. It is argued that these (positive) perceptions originate

from politically driven rather than fact-based assessments, and that they overlook firm geo-economic veracities.

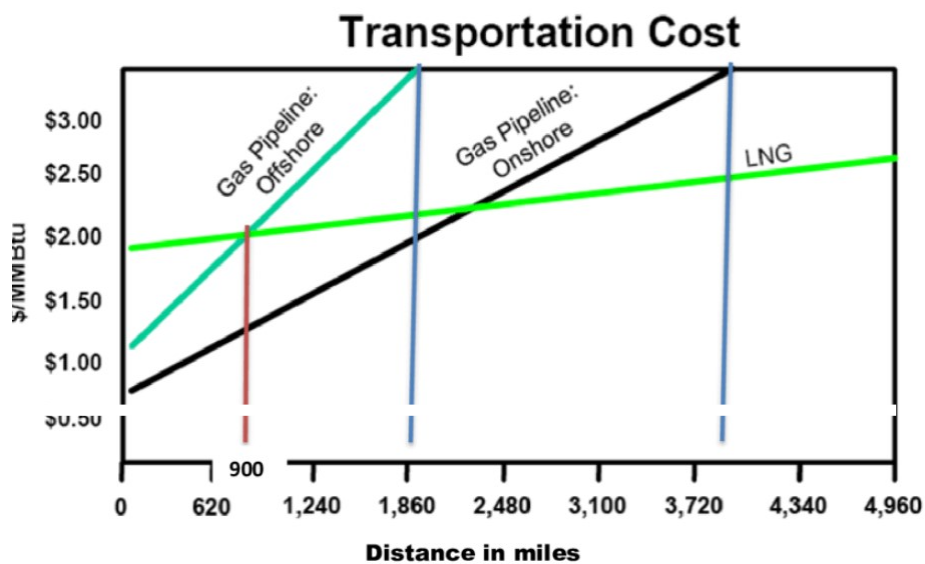
Gas exploration rally in the Eastern Mediterranean has started unfolding in 2009, when a group headed by U.S.-based Noble Energy discovered huge gas reserves in the Tamar field off Israel's coast, transmuting Israel's economy and international status overnight. Oil & Gas Journal valued Israel's proven oil reserves at 11.5 million barrels, in 2014 whereas, Netherland, Sewell & Associates, Inc., estimated the volume of natural gas in the Tamar field at 11.2 trillion cubic feet in 2017, with an additional 14.6 million barrels of condensate (an ultra-light mixture of hydrocarbon liquids-Graeber 2017).

Two years later, Noble Energy announced the discovery of the Aphrodite gas field in Cyprus's southern Exclusive Economic Zone, with a rather small natural gas find-projection of 4.5 trillion cubic feet (140 bcm) (Oikonomopoulos and Stambolis 2012; Tagliapetra 2013). Fuelled by those auspicious findings Cypriot authorities have granted licenses to other energy companies, rushed into the region eager to profit from the impending gas bonanza. Thus, all of Cyprus's 13 offshore blocks in its EEZ have been allotted to gas corporations from Italy, the Netherlands, France, United States and Israel, all of which have made major investments grounded on the promise of obtainable resources beneath the water. After a fruitfully completed international bidding in December 2016, Cyprus awarded the rights to reconnoitre Blocks 6, 8, and 10 to four international firms: Eni, Total, ExxonMobil and Qatar Petroleum International, respectively. Eni finally in early 2018 announced the discovery of a gas-bearing concavity in the Calypso 1 well it had drilled in Block 6. The favourable reserve lies just to the north of the maritime border with Egypt, within the Egyptian EEZ, where in 2015 the same company had discovered a giant gas field. Calypso is expected to contain somewhere between 6 to 8 trillion cubic feet of natural gas (Republic of Cyprus 2018).

Taking into account that neither Cyprus nor Israel has a large enough domestic gas market to facilitate the growth of gas fields, and that they both count on export markets, the monetisation of their gas has become a cumbersome issue: the present

energy resources require several billion dollars of new money in contracts to be commercialized. Israel and Cyprus have no pipelines to large consumers, nor the infrastructure to liquefy gas in order to export it by ship (Thrassou et al. 2016, 115-141). As these gas fields are sited in juxtaposition, collaboration on their monetisation is virtually obligatory and, in fact, several monetisation alternatives have already been considered for delivering gas from the Israeli and Cypriot gas fields to developed European markets.

Natural gas is an inherently mutable solution of gases that through its circulation undergoes a string of vivid variations. While it can become denser or less dense, depending on the local or the time it again can expand or contract. It responds lively to temperature fluctuations and varies its state from gas to liquid and vice versa. Hence, pipeline transportation is preferable when it comes to short-medium long distances, explaining why most natural gas markets are regional. LNG affords trading over much longer distances (Table 16). For pipelines, operating costs are relatively low as compared to capital costs. The more expensive the infrastructure, the larger the initial contracts must be to cover costs; as a result, solid and long term business-to-business, business-to-government and government-to-government contracts and agreements are necessary (Forman 2017, 225-230; IGEM 1993, 1995; Thomas 2006).



(Table 16: Alternatives to Natural Gas transportation in terms of cost, researchgate.com)

## 2. Greece's Foreign Policy Susceptibility to Policy Makers Beliefs

Greece is a relatively small state with a deep understanding of its political weight limitations by its leaders, compelled to act as a regional and not international actor. For a serious of years its Foreign Policy quiescence and inactivity was static, in such a degree that served solely the purpose of balancing relations with the Arab World (Voskopoulos, 2017, 148). Introverted and passive was the mentality of the Greek decision-makers officials, that has driven to limited initiatives, ignoring of advantageous opportunities for multilateral initiatives and formatting tactical or strategic coalitions in the Eastern Mediterranean, narrowing its string of positive developments only to the approach and ties cultivation with Israel, for a more visible energy footprint in the regional map (Dokos 2016, 37-38).

Undoubtedly, the order in our neighbourhood has dramatically change the concurrent years, following the vacuum of power that had been followed by the US withdrawal from the region, the substantial shift in rhetoric and policy of peripheral actors, historical revolutions and socio-religious groundswells like the uprising of Arab Spring and of course the discovery of the fossil resources. Hence Greece is obliged to transmit influence towards East Mediterranean, Middle East and Balkans consecutively.

Even more, the Crisis Years (2010-18), that enormous austerity along with fiscal and moral wave shocks hit the country, skyrocketing the unemployment and raised the abjuration of political stage, the parties and their representatives, the foreign policy practicing became poorer and initiatives were mainly seen as neglected elements and “best avoided” as anything that hadn’t had to do directly with money and fiscal matters that time.

The above ground was commented just to illustrate how important factor is for the standards of Greek Politics the decision makers instead of the decision construction mechanisms that are founded in solid systematic institutions systems. Truly throughout all 200 years of modern Greek state this political concept has been soaking all aspects of political exertion. Decision makers’ personal beliefs are much more important as the process of foreign policymaking reveals the underlying significance of personalities in the absence of efficient and systematic institutions (Ioakimidis 1999, 165). As poliheuristic theory suggests, a two-stage decision process where in heuristic shortcuts are implemented in the first stage in an effort to reduce complexity, and a rational maximizing strategy is applied in the second stage on the remaining alternatives in the choice set (Mintz 2004, 3-4).

As a result, decision-makers’ convictions are the important factor in understanding, identifying, and decreeing the decision-making method of states, mostly in situations of high ambiguity. Beliefs deriving from a specific operating milieu are expected to affect foreign policy experts. As research suggests, they tend to use their former knowledge and experience to decrease complexity and decode unknown reality.

Beliefs of Greek decision-makers are of utmost importance in the development of Greek foreign policy vis-à-vis the Eastern Mediterranean top-list matters. These beliefs that State’s foreign policy seems to continue to be based showcase three main dimensions:

a. A general view that Greece’s foreign policy had better be active, not passive, especially bearing in mind its location in key geopolitical region thus taking as much initiative as possible and not stay immobile. It should attempt to resolve problems more willingly than overlooking them.

For example from the previous decade it formed partnerships with Cyprus, Israel and Egypt, but has also introduced other regional associations with such countries as the Palestine Authority, Lebanon and Jordan and a novel one is under Ministry of Foreign Affairs’ consideration, lately with Bahrain. Furthermore, it has established a number of multilateral forums, based on those geo-economic rather than geostrategic alliances.

b. The second dimension is of a geopolitical nature. Greece is at the heart of a cross of instability, with Ukraine to the north, North Macedonia, Bulgaria and Kosovo to the north-west Turkey and its neighbouring countries – Iraq, Syria and Lebanon–to the east, and failed states, such as Libya, to the south. This unstable surrounding has

led country to reinforce regional security. Greece traditionally not only from geographical but also from cultural viewpoint, was the bridge between Europe and the Middle East, mediating and conciliate simultaneously the several social, political, and economic disorders across the region. Therefore the claim often expressed by previous generation Greek politicians that post Cold-War Era declined importance of Greece as a geopolitical actor has collapsed and revised to a state being an 'exporter of stability' nowadays, considering the dominant interrelations.

c. The third and maybe most currently important dimension is geo-economic, and is based on energy security. As we argued above, Greek decision makers believe that country could become a regional energy hub with gross geo-economic potential. On the one hand, this view showcases the unprecedented struggle for a least geo-economic cooperation, and gas resources provide the best incentive to that end. But on the other hand, here's the antilog: if the engaged countries expound policies that are indifferent to regional realities then, that can easily cause ignition particularly if the predominant geopolitical and economic circumstances locally, regionally and globally are hostile to such a setting.

### **3. *The Trilateral Partnerships***

Athens and Jerusalem in late-2000s, have come closer on the diplomatic, political, military and economic arenas. The pursuit, of the cherished strategic depth towards the Mediterranean by Israel and a productive deterrent regional coalition against Ankara, targeting to the sufficient protection of Nicosia's legitimate rights in extracting resources from its Exclusive Economic Zone, (EEZ), have inevitably promoted the convergence of the above states' regional interests, of the geopolitical sub-system of the South-Eastern Mediterranean.

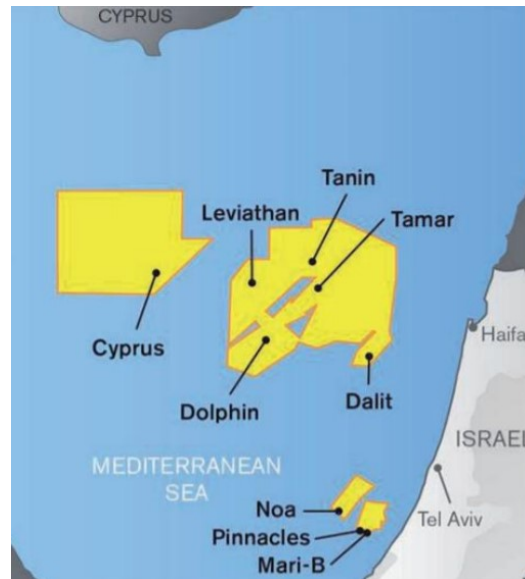
A core motive behind the tack changing of Athens and Nicosia by Jerusalem has been the progressive alienation in-between Turkey and Israel, resulting in the decisive break in their relations, in late 2000s. Undeniably, the strategic coalition between Turkey and Israel, which lasted no less than, ten successive years and provided the latter with the indispensable strategic-operational depth, began to deteriorate with Ankara's attempts to energize its neo-Ottoman doctrine, which has in store the paramountcy in the region for Turkey, beginning from the closest Middle East.

Synchronously, Greece and Cyprus were experiencing the challenge game of a revisionist Turkish policy throughout Mediterranean semicircle from Thrace and the north Aegean to the south east Mediterranean, right in the Cypriot EEZ. Given the objective convergence of interests of the three states, Greece and Cyprus chose to build-up a trilateral/tripartite strategic alliance with Israel, engaging by a new modus operandi an operationally powerful actor in the south-eastern Mediterranean region and gaining its support, Israel.

However, the geopolitical-geo-economical factor of energy is the one that promises the smooth co-operative and allied dynamic of the three states in the long term. The recently revealed reserves in the adjacent EEZs of the three states presage the reversal of the area to a global energy strategic spot. The declared strategic alliance of Greece-Cyprus-Israel is an undeniable fact. Generally, this is apprehended in all areas of activity of a sovereign state, with common springboard the political, diplomatic, economic and military association of the three states.



The above historic conjuncture has been enhanced due to the large hydrocarbon reserves (Tamar, Aphrodite, Leviathan, Fig.2) - as described in the previous chapter - that have been disclosed after the systematic exploration of their common EEZ. Consecutively, initiation of the political efforts of three states to build the strategic alliance, didn't take long, and inaugurated on 8 August of 2013, in Nicosia, where a Trilateral Memorandum of Understanding to confirm "...their volition for the promotion of their in-between economic relations and the reinforcement of the collaboration in the area of energy" was signed between the Ministers of Energy of Cyprus, Greece and Israel.



(Figure 2: Israel and Cyprus off-shore natural-gas fields)

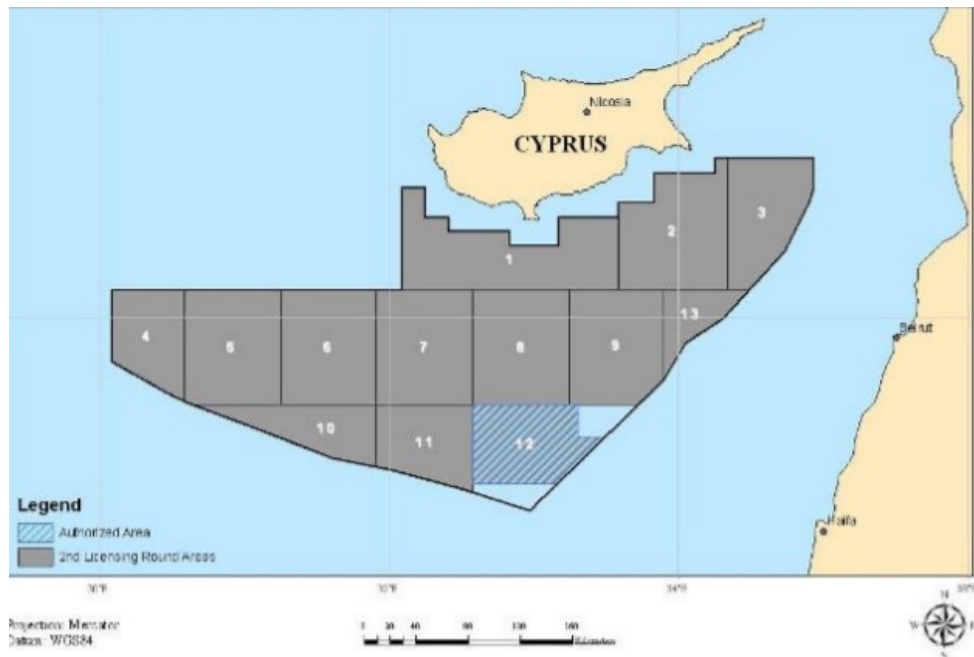
Till the discovery of the Leviathan, Tamar and Dalit neo-reserves, the Israeli deposits were in total 1, 7 trillion m<sup>3</sup>, from the well-known off-shore natural gas fields of Mari and Noa. In relation to the most recent estimations, the neo-reserves of natural gas in the Exclusive Economic Zone (EEZ) of Israel amount much higher. More specifically:

- a. Tamar: 90km from Haifa and in depth of 1.680m. Recoverable reserves 307 km<sup>3</sup>
- b. Dalit: 13km east of Tamar: Recoverable reserves: 14 km<sup>3</sup>
- c. Leviathan: 130km west of Haifa and in depth of 1.635m. Recoverable Reserves: 620 km<sup>3</sup>.

Israel began extracting from the gas field Tamar, back in 2009, while Leviathan yielded production the last day of 2019. Finally, it is estimated that the aforementioned volumes of natural gas can cover Israel's energy needs for the next 3 to 4 decades, while large quantities are to be exported.

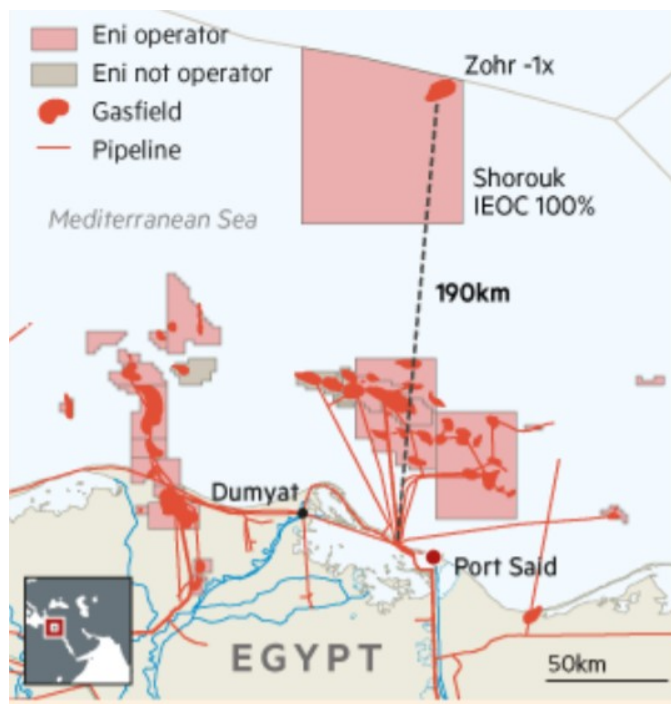
Potential acreages of neo-reserves within the Cypriot EEZ are blocks 12 and 9 (Fig.3) which are the first ones explored and have been conceded to international consortia for operation. Noble Energy and Delek commenced business on Block 12 and the Aphrodite gas field. The latter is located within Block 12, 34km west of the Israeli "Leviathan" field, which is also operated by the same consortium. Block 9 and the underlying gas fields "Onasagoras" and "Amathus" is operated by the Italo-Korean

Consortium Eni-Kogas. Israeli companies Delek and Avner, estimate that the natural gas quantities in 'Aphrodite' gas field exceed 140 km<sup>3</sup>. Calypso gas field in block 6 was found in 2018, and it is estimated that holds 170 to 230 km<sup>3</sup> as well.



(Figure 3: The neo-reserves in the EEZ of Cyprus are divided in 13 so-called “blocks”. The energy companies, Noble Energy and Delek are the operators of Block 12 and its Aphrodite natural gas field.(Source: Ministry of Energy, Commerce, Industry and Tourism of the Republic of Cyprus)

“Zohr” natural gas field, is the gigantic Egyptian offshore gas field located in the Egyptian zone (claimable EEZ) of the Mediterranean Sea. The field is located in the Shorouk concession, a concession with an area of 3,765 square kilometres (1,454 sq mi) which was won by Eni in 2013. Its quantities can cover Egyptian needs for more than ten years. A great point to illustrate is that that Zohr gas field attaches block 11 of the Cypriot EEZ, only 6 km away. Thus French company Total, holder of exploitation rights for the Cypriot block 11, shall elaborate the research and specify whether this gigantic neo-reserve extends to the Cypriot EEZ (Fig4).



(Figure 3: The Egyptian neo-reserve natural gas-field Zohr)

From the Greek viewpoint, the East Mediterranean Alliance initiative is vital. Greece's sovereign debt crisis and its insolvency in 2010 set its relationship with the northern EU members under austere strain. At the present time, Athens faces the revolting spectrum of longstanding foreign economic "monitoring" and weighty limitations placed upon its fiscal policies. Since current and future Greek administrations must function while in the provisions of EU "monitoring," Athens pursues to promote alternative bilateral and multilateral initiatives separate from the constricted Brussels-dominated radius – and the above alignment fits this bill seamlessly.

In an analogous movement Greece, Cyprus and Egypt, held a tripartite summit in Cairo on 8 November 2014, where the leaders of the three countries tackled the ongoing issues in Middle East as well as the East Mediterranean Sea. That was the beginning of another tripartite alignment, that already has been honoured by eight summits, where the three heads of governments joined forces to intensify the cooperation in sectors such as economy, tourism, culture and of course energy and security. Definition of common maritime borders was of course a central topic in the agenda as well as EEZ in the Eastern Mediterranean. Heretofore, sectorial cooperation has seen much progress, among others, in sectors such as tourism, environment, cultural heritage preservation and protection, research and innovation, education, diaspora support and of course energy security, investments and defence and security.

A notable clause for cooperation so as to protect vital infrastructures, in the hot-spots of the gas-fields in the south east Mediterranean, is also encompassed in the Document. In 2015, Israel and Greece co-signed a "status of forces" agreement that render legal defence to both militaries while training in each other's countries. A corresponding memorandum has also been signed by Greek and Egyptian governments.

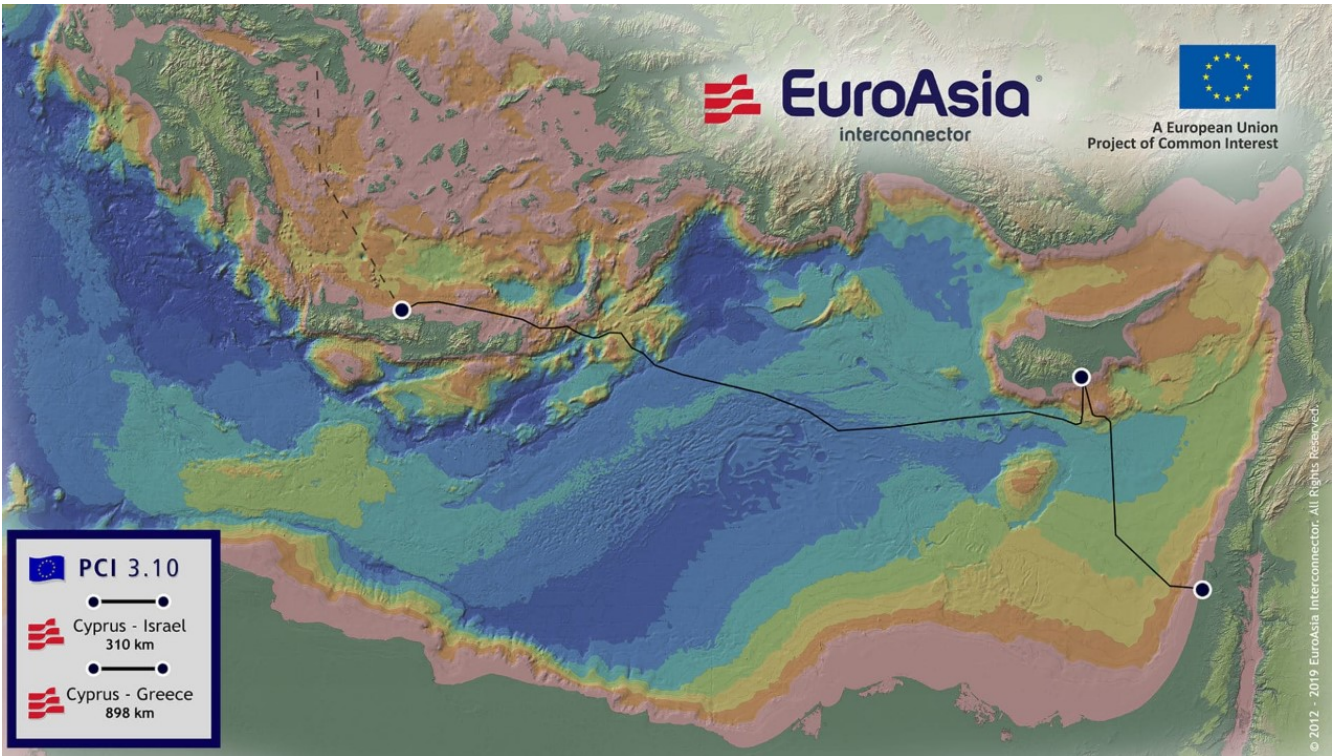
Furthermore the Egyptian Armed Forces have participated, co-planned and launch important tactical and operational tasks (Medusa-10) along with Greek Armed

Forces, thus enhancing the stability and security in the region. Truthfully, in the military-operational field, several common aeronautical, naval and military operations have taken place in the Aegean Sea, the island of Crete, Cyprus, Egypt, in mainland Greece and the coast and deserts of Israel. Recently, a big contract between Israel and Hellenic Air Forces signed for permanent joint air training courses for the new Greek pilots.

Even so, the energy geopolitical factor is the qualitative dynamic catalyst in this tripartite allied relationship and the energy security the desideratum out of this alignment. Unquestionably, the destiny that shapes this alliance has been greatly determined by geography, since their contiguous EEZs, contain large volumes of confirmed energy mixture, (Israel, Cyprus) that have been, or expected to be, (Greece), discovered.

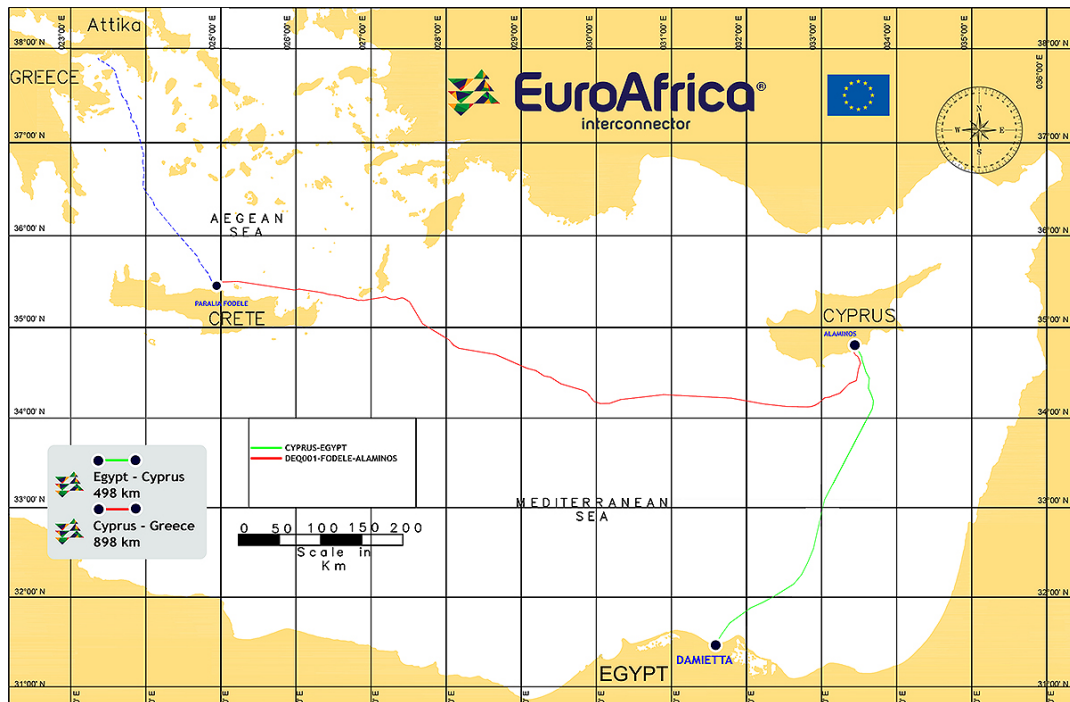
Energy developments in the Eastern Mediterranean are of course strengthening the trilateral partnership. Companies are the first to substantially benefit. In December 2017, Israel Chemicals (ICL Group) signed a contract with the Greek Energean company for the latter to supply up to 13 BCM of natural gas to the former at a \$1.9 billion over a period of 15 years. For this purpose, governments of Greece, Israel, and Cyprus are regularly convening trilateral summits for the purpose of finding areas of cooperation around earlier and future natural gas findings in the Eastern Mediterranean.

Another big project aftereffect of the alliance, is the EuroAsia Interconnector (Fig.4), a planned cable system to connect the electricity grids of Cyprus, Israel, and Greece to the European transmission network, destined to be the world's lengthiest undersea power cable. It is a key "Project of Common Interest of the European Union" and a priority Electricity Highway Interconnector Project, bridging Asia and Europe. Regulatory approval of electricity interconnection was completed on October 10, 2017. Being a historic decision for Cyprus, sets an ultimate term in electricity isolation of the last non-interconnected EU member state.



(Figure 4: The EuroAsia Interconnector, Source:EU)

EuroAfrica another electrification mega-project, will comprise an interconnector between the power systems of Egypt, Greece and Cyprus, built on the respect and aegis of their trilateral cooperation and aiming to boost the security of energy supply, not only of the aforementioned countries but also of Europe, as it will generate a thoroughfare for the transmission of momentous amounts of electricity generated from gas from the Eastern Mediterranean fields but also from RES.



(Figure 5: The EuroAfrica Interconnector, Source:EU)

It constitutes a vital element of the strategy to hasten the progress of the Eastern Mediterranean Energy Corridor as a new alternative source of energy supplies from the region to the European Continent and vice versa.

The concurrence of discovery, extraction and exploitation of Israeli and Egypt neo-reserves with those of Cyprus, followed by Greek efforts to technically measure and quantify its own, gets together, by definition, the four countries' interests for regional stability and growth. The considerable expenditure of resources required from Greece and Cyprus in order to safeguard their national sovereignty in a widespread zone and the lack of a unwavering regional ally for Israel, provide the held hook-up, features of Grand National Strategy.

### 1. The East Med Project: An Energy Stratagem



(Figure 6: The Eastern Mediterranean Pipeline, (East-Med). (Source: Ioannis Th. Mazis and Georgios Sgouros, Regional Science Inquiry Journal, Vol. II (2), 2010, pp. 133-150))

The backbone of the previous analysed long term alliance between Israel, Greece and Cyprus providing the anticipated added value is the construction of the East Mediterranean Pipeline. The pipeline is of the utmost strategic significance; aiming to transport and distribute the Israeli, Cypriot and Greek natural gas reserves. DEPA, the Greek Public Natural Gas Company, initially proposed feasibility of the EastMed, back in 2012. With a length of approximately 1,900 km, depths of 3km, and a capacity of around 10 billion cubic meters per year, the construction of the pipeline is

projected to finish around 2027 and the cost will reach €6 billion (US\$6.86 billion). IGI Poseidon S.A., a 50-50% joint venture between the Italian gas utility Edison and the Greek gas utility DEPA have commenced the pipeline development. Its capacity of 10bcm<sup>3</sup>-an estimation excluding the Greek neo-deposits inputs - fulfils European Union's Green Deal agenda of multiple suppliers so as to accomplish a grander degree of energy security.

Crossing exclusively European ground and sovereign space, connects Israel, Cyprus, Greece, and ends mounting to the Greek-Italian interconnector, (IGI), pipeline, that traverses the Adriatic Sea. In combination with the manufacture of the off-shore pipeline, a terminal station is premeditated in Vasiliko/Cyprus (where a FSRU terminal is being constructed), empowered to liquefy natural gas preceding its transfer to the European markets.

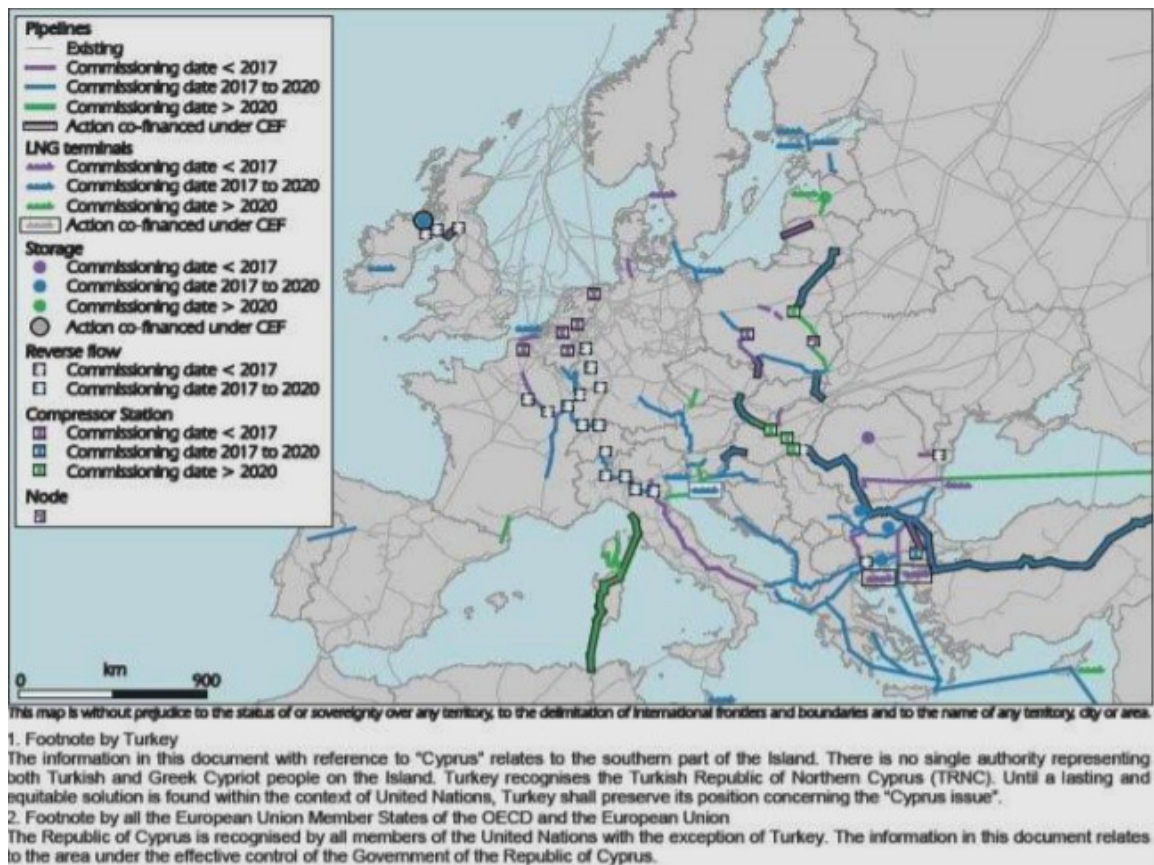
In January 2019, seven peripheral energy ministers confined a deal to found the East Mediterranean Gas Forum. Significant exploration and production agreements have been signed among Exxon, Total S.A., Eni and Novatek and the relevant governments.

Turkey is referred to as being the exception to regional serenity. The state members of the group are: Egypt, Cyprus, Israel, and Greece. Delegates from Palestine and Jordan have joined the meetings of the East Mediterranean Gas Forum. In January 2020, France and the United States joined the Forum, as a member and permanent observer respectively. EastMed, pigeonholed as a Project of Common Interest (Fig.7) by European Commission the April of the same year, whereas EU commission bankrolled the pipeline, with €34.5 million (US\$38.9 million) to aid progress and completion of technical studies for the venture.

East-Med is a monumental energy project of colossal geopolitical value. In fact, with the necessary backing from the EU policy framework and oriented supervision in the energy sector, Greece-Cyprus-Israel will be in a position to format an enduring long-lasting alliance, to substitute in time the majority of EU's, virtually monopolistic, suppliers of energy mixture. For each co-partner independently, this formation embodies specific political meaning. Israel might possibly try to directly capitalize on the power outcome of exporting energy to the E.U., targeting towards the repositioning of assured European institutions, lobbies and powers, in support of Israeli rhetoric, in respect to the Arab-Israeli differences.

Undeniably, Greece and Cyprus will excruciatingly participate in the rallying to exploit the doles out of their energy sector in order to exit permanently the economic uncertainty they are experiencing. Sooner or later, the systemic geopolitical outcome of the tripartite alliance, which is geometrically heightened by the geopolitical factor of energy, is the direct promotion of the geopolitical status of the allies on a regional level, in the sub system of the southeast Mediterranean, under the aegis of both USA and EU (Mazis, 18).

EastMed will proliferate EU's energy security, with its more than 3,5 trillion m<sup>3</sup> of natural gas, and 1,7 billion barrels of oil approximations pumped directly from the Levantine Basin. The size of the new discoveries, if any, will also encourage the EU to try and participate with a bigger role in future developments of the region.



(Figure 7: The Projects of Common Interest, (PCIs) in Europe)

US also support the project and the prospects for deeper cooperation and a larger expansion of the participants list is in store, considering the instability transmissions from Ankara. Broader discoveries of natural gas in the region will help the maturing of the plans for accelerating the preparation and starting construction of the pipe and vice versa. It is definitely an ambitious project and expensive one, but it materializes the determination of Eastern Mediterranean countries to step forward and unite against anachronistic hostile revisionism while opening gates to friendlier, more progressive and more democratic energy markets and societies.

## E. ANTAGONISTIC CHALLENGES AND THE AEGEAN DISPUTE

Tensions have been rising lately in the waters of the Eastern Mediterranean, where Turkey is intensifying antagonism over energy reserves by following a hostile gas exploration dynamics. Granting control over the islands in the Aegean Sea and the Mediterranean Sea has always been a point of contention between Greece and Turkey for almost half a century. Further to the argument regarding Turkey's cast doubts on sovereignty over some of the Greek islands, there is also major divergence vis-à-vis the demarcation of their maritime borders. Ankara denies signing of the United Nations Convention on the Law of the Sea (UNCLOS), claiming that an unbiased demarcation of the maritime borders in the Mediterranean Sea should provide more weight to



Turkey's long shoreline (Turkey has 7,200 km of shoreline while Greece has almost the double 13,700km) than to the dotted Greek islands, and that it is sometimes essential to disdain their existence.

This issue has become ever more electric in recent years, after signing of the November 2019 agreement with the Government of National Accord (GNA) in Libya. This covenant arranges maritime border between the two countries according to the Turkish extrapolated position (in expense of any sensible, rational and legal grounded notion of sovereignty), in contradiction of the self-evident Greek argument that Libya and Turkey share no border in the Mediterranean Sea.

In addition to the above, accumulative strains over the last few months between the two countries have amplified the peril of vehement eruptions in the region. The monstrous conception of "Blue Homeland" doctrine has become overriding in Turkish officials airing. This doctrine widens defence conceptualization counting Turkey's maritime borders as of same importance as (as defined in Turkish – not Greek – eyes) its land borders. On top of that, in February 2019, the Turkish fleet conducted the largest naval exercise in its history, identified as "Blue Homeland". Exercise time was chosen deliberately as a retort to the establishment of the Eastern Mediterranean Gas Forum (EMGF) one month prior, an organization in which Turkey is not a member.

### **1. *UNCLOS Provisions and Relative Definitions***

The United Nations (U.N.) Convention on the Law of the Sea(UNCLOS) is an international agreement that stemmed from the third United Nations Conference on the Law of the Sea in Montego Bay, Cuba in 1982. The UNCLOS (UNCLOS III), defines and determines the rights and responsibilities of states vis-à-vis the use of the world's oceans, setting rules for the management of the seas, the environment, and the exploitation of the living and non-living natural resources. The convention is a comprehensive agreement "intended to establish a new regime for the seas and oceans which will contribute to the realization of a just and equitable international economic order through making provision for the peaceful use of ocean space, the equitable and efficient management and utilization of its resources, and the study, protection and preservation of the marine environment" (UNCLOS, ANNEX VI, p207). Terms such as internal waters, territorial waters, contiguous zone, exclusive economic zone, continental shelf, and international waters which basically are zones which extend from the coast to the open seas as well as set the nations' rights on these zones are introduced. With the exception of Turkey and Israel which have not yet ratified the convention the littoral states bordering the Aegean Sea and Eastern Mediterranean are under the provisions of the UNCLOS and are subsequently affected by these zones delimitations (JOYNER, 2009).

The coastal state relishes full control over air navigation in the above airspace, while partial control over shipping (civil and military foreign ships) is provided, all by the influence and over the presence of territorial waters. Innocent passage by foreign ships is also, normally permitted. In the course of the 20th century, the typical width of territorial waters that countries are regularly eligible to, has been gradually expanded: from 3 nautical miles (5.6 km), to 6 nautical miles (11 km), and at a later time to 12 nautical miles (22 km). Current limit has been introduced in treaty law by the United Nations Convention on the Law of the Sea of 1982, where it clearly outlines that "every

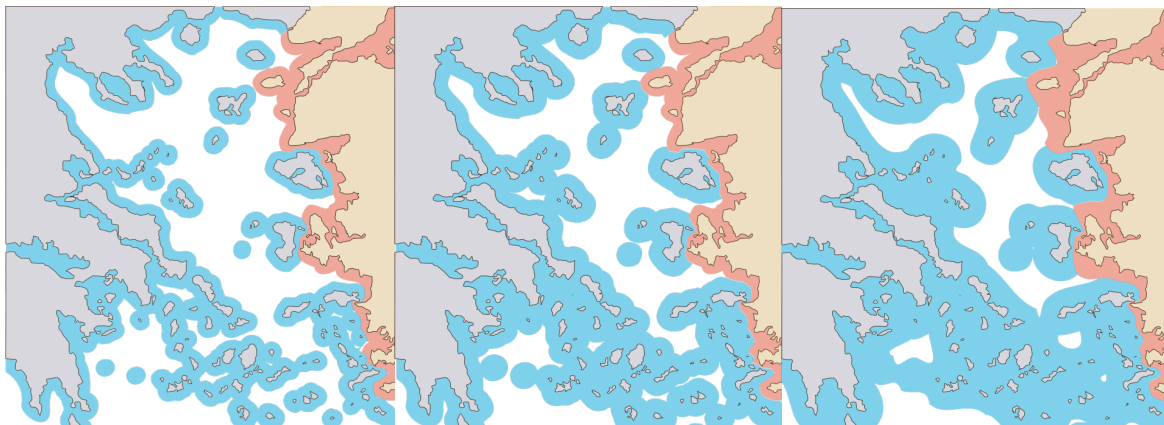
state has the right to establish its territorial sea up to a limit not exceeding twelve nautical miles, measured, from baselines” (Art.3).

In the territorial sea, the sovereignty of the coastal state is absolute, including the water column, the seabed, the subsoil (Art.2), and all living and non-living resources. Vessels from foreign states have the right to sail through this zone only when the passage is innocent and it is not detrimental to the peace, good order or security of the coastal state (Art.19). Activities that cannot be considered innocent such as fishing, military exercises, espionage or bad willing actions are explicitly prohibited.

## 2. Points of Friction I: Maritime and Aerial Zones of Influence

More than a few of the many points of friction in the Aegean Sea deal with the delimitation of two countries' zones of influence on the sea and in the air around their corresponding territories. These issues owe their virulence to a geographical oddity of the Aegean Sea and its territories. Although mainland coasts of Greece and Turkey bordering the Aegean Sea on both sides embody coarsely equivalent segments of its total coastline, the vast number of the scattered Aegean islands belongs to Greece. Specifically, there is an array of Greek islands lined up like queued stones in juxtaposition with the Turkish west coast (Lesbos, Chios, Samos, and the Dodecanese islands). Their proximity left Turkey bereft of any noteworthy extension of its zones of influence beyond a few nautical miles off its shoreline.

Zones of influence (territorial waters and national airspace) relish the right of extensiveness which is typically measured from the contiguous territory of the state in question, including state's islands, any potential extension of such zones would unavoidably advantage Greece way more than Turkey comparably (Fig.8).



(Figure 8: From left to the right, (a) 6 nautical miles (nmi): Current territorial waters recognized by Greece and Turkey, and airspace as recognized by Turkey, (b) 10 nmi: Current national airspace claimed by Greece, (c) 12 nmi: Upper limit of territorial waters and national airspace defined as a legal right by UNCLOS, possible future claims by Greece and Turkey Source:w: en: Χρήστης: Future Perfect at Sunrise ([https://commons.wikimedia.org/wiki/File:Aegean\\_6\\_nm.svg](https://commons.wikimedia.org/wiki/File:Aegean_6_nm.svg)), "Aegean 6 nm", <https://creativecommons.org/licenses/by-sa/3.0/> / νομικός κώδικας)

Rendering view for those issues between two countries is that Turkey's concern is that extension of Greece' zones of influence would turn Aegean Archipelagos commendably to a "Greek Lake". Conversely, Greece's alleged concern is that Turkey may be attempting to "subjugate half of the Aegean", i.e. establish Turkish zones of influence towards the middle of the Aegean, beyond the chain of outlying Greek islands, turning these into a kind of exclave surrounded by Turkish waters, and thus detaching them off from their continental part of the country.

In contrast with the UNCLOS provisions that described above, in the case of Greece and Turkey the bilaterally claimed territorial waters are still at 6 miles. The likelihood of an extension to 12 miles has fired Turkish apprehensions over a potential unbalanced upturn in controlled space by Greece. Turkey is not a signatory of the convention and therefore considers itself as not being bound by it. Turkey's stance on the convention is as *res inter alios acta*, i.e. as non-member/not being bound by as well. On the other side Greece, as a founding signatory to the convention, has repeatedly stated that it reserves the right to apply the relevant rule and extend its waters to 12 miles in a future point of its choice, even though there has never been such an attempt so far.

In the early 1990s tensions over the 12-mile dispute reached a limit between the two countries, when UNCLOS was about to come into effect. On June 8, 1995, the Turkish parliament authoritatively avowed that in case Greece unilaterally extended its territorial waters to 12 miles that would automatically constitute a *casus belli* to Turkey, i.e. reason to go to war. This declaration has been judged by Greece as an abuse of the Charter of the United Nations, which forbids "the threat or use of force against the territorial integrity or political independence of any state".

### **3. Points of Friction II: National Airspace**

The airspace shrouding a state's territory and its adjacent territorial waters is typically defined as the national airspace. It provides the sovereign state a great degree of control over foreign air traffic.

Unlike civil aviation's unrestricted overflying foreign airspaces, military tail-numbered aircrafts of all types are not allowed to cross other countries' airspaces (dissimilar to military vessels through territorial waters). Notably in the case of Greece and Turkey there's another unique situation as Greek delimitation of airspace does not coincide with the boundary of its territorial waters. While airspace claim is 10nm (= 19km), territorial waters paradoxically are limited to 6nm (11,4km).

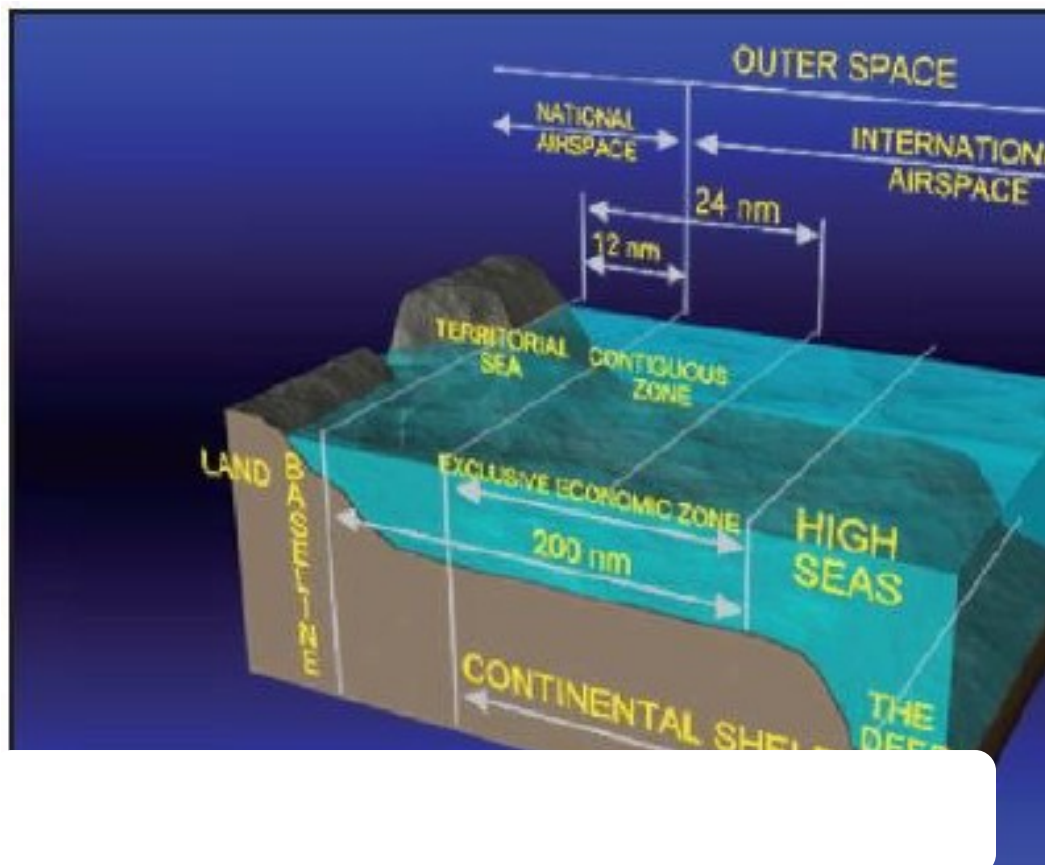
Turkey since 1974, has questioned the legitimacy of the outer 4-mile belt of airspace that ranges beyond the Greek territorial waters. Turkey makes use of International Civil Aviation Organization's (ICAO) of 1948 acts, and a reference on binding definition that "*...both zones must coincide*". Greece, however supports, that airspace claim of 10nm predates ICAO, as having been fixed in 1931 and was recognized by all neighbouring states (Turkey included), well before and after 1948, hence constitutes an established right. The 10-mile claim is alternatively a construal for the reserved Greek position deriving from the UNCLOS, to partly (or wholly)-ad libitum (at will)-extend its territorial waters to 10nm (and up to 12nm) and according to ICAO, its airspace accordingly.

#### 4. *Points of Friction III: Continental shelf and Exclusive Economic Zone (EEZ)*

In 1982 UNCLOS the term and concept of Exclusive Economic Zone (EEZ) was firstly incorporated. As a belt where coastal state has sovereign rights to explore and exploit, to conserve and manage the natural resources, (either living or non-living), of the waters above to the seabed, the seabed itself and its subsoil, EEZ provides also sovereign rights for the economic exploitation and exploration for the littoral state.

What are especially important are the stemming rights to production of energy from the water (waves), currents and winds, as well as the rights to establish artificial islands and installations, to establish and use of marine scientific research and rights for the protection and preservation of the marine environment, all attributed to the sovereign coastal state (Art.33).

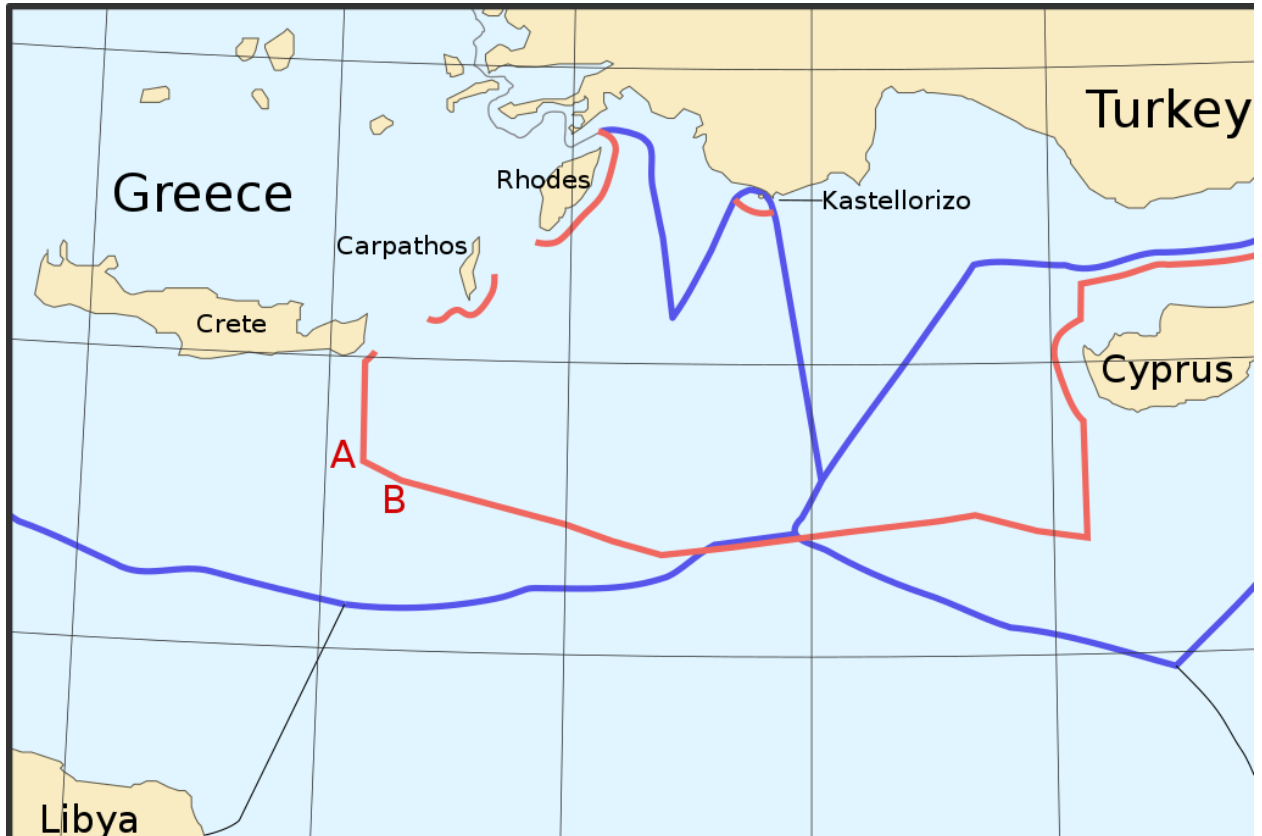
The baselines which define, by measurement the territorial sea, also delineate the limit of EEZ, by extending until 200 miles where applicable. Inside the EEZ, foreign states have the rights of navigation and over flight, subject to regulation of the coastal states; they also have rights to lay submarine cables and pipelines, as well as other internationally legal activities at sea (Art.57).



(Figure 8: The UNCLOS Maritime Zones, Source: <http://www.2b1stconsulting.com/eez/>)

An additional important zone established by UNCLOS convention is the Continental Shelf (Fig.8). This seabed zone “is the natural prolongation of the landmass territory to the continental margin’s outer edge, or 200 nautical miles from the coastal state’s baseline, whichever is greater”. The littoral states have the right to claim the

outer continental shelf beyond 200 nautical miles but not beyond 350 nautical miles from the baselines as long, as the shelf is geologically (not quite the case though also legal perception governs this definition) considered formatted on a prolongation by nature's process of the state's continental shelf. Moreover it may never exceed 100 nautical miles beyond the 2.500 m isobaths (A virtual line which connects all points having the same depth below a water surface).



(Figure 9: Conflicting claims to the continental shelf and EEZ areas in the eastern Mediterranean. Blue: areas claimed by Greece and Cyprus in line with the UNCLOS; red: areas claimed by Turkey.)

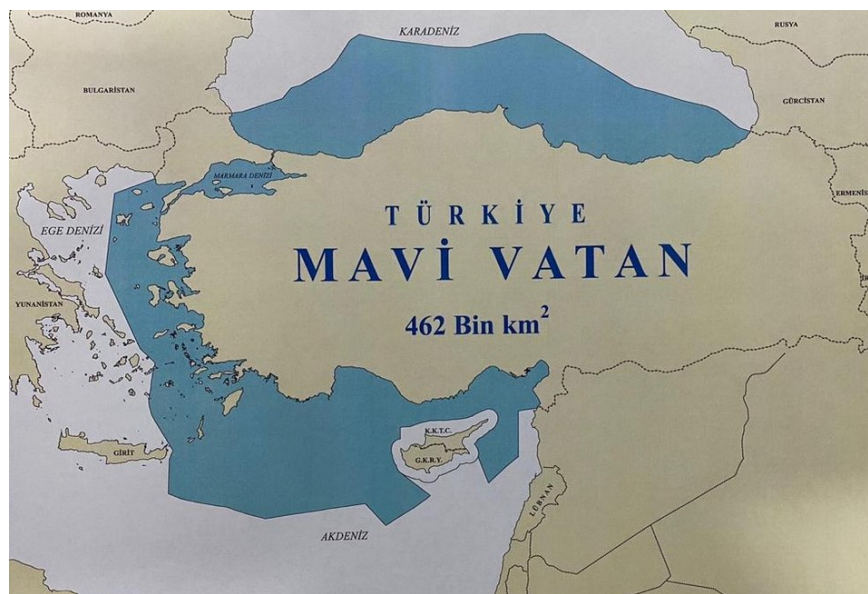
Quantitative determination of the degree that off the Turkish coast Greek islands should be taken into account for defining the Greek and Turkish economic zones has historically been a point of friction between Turkey and Greece (Fig.9). Turkey tries to redefine the clearly circumscribed UNCLOS delineation by arguing that the conception of "continental shelf", by its substantial definition, infers that distances measurements refer to the continental mainland, claiming that the sea-bed of the Aegean geologically forms a natural protraction of the Anatolian land mass. Thus meaning, that Turkey would then be entitled to economic zones, almost up to the median line of the Aegean Sea. That would cost Greece the loss of half its territorial waters and the unavoidable deprivation of the encompassed eastern Aegean Greek islands which would remain as Greek exclaves. Oppositely Greece, states that all islands retain full influence on an equal basis as the mainland does.

The accurate delimitation of the economic zones is the only solemn and lawful unique issue against of all the Aegean disputes that systematically and unlawfully Turkey has risen, where Greece has legitimately acknowledged that Turkey has valid

interests that might entail some international process of arbitration or compromise between the two states.

##### 5. **Points of Friction IV: The “Mavi Vatan” Phantom**

Turkey’s narrative of “Blue Homeland” (“Mavi Vatan”) attracts its roots from the Ottoman Empire Era. Neo-ottoman illusionist Turkish officials, Admiral Cihat Yaycı (Chief of Staff of the Turkish Navy Commander) and Admiral Cem Gurdeniz were either ordered or initiated (the two notions are very close and almost coincide in modern Turkey’s regime) to create and develop an irredentist and expansionist concept and doctrine -one out of many of this conquering type that Turkey has recently and tactically shed light upon - back in 2006.



(Figure 10: “Mavi Vatan” stands for “Blue Homeland”, another late Turkish revisionist neo-confection).

“Blue Homeland” presented in the public map-photograph by Turkey’s President Recep Tayyip Erdoğan, depicting half of the Aegean Sea belonging to Turkey, while Greek islands in the eastern part, as long as eastern Crete showed literally with no maritime zone at all, even their sovereignty status was unclear.

Greek state responded immediately with demarche, however references to the so called “Blue Homeland” became persistent and frequent even by Turkey diplomacy representatives in the most official manner.

On 13 November 2019, Turkey lodged officially claims in the United Nations (UN) to Exclusive Economic Zones in the Eastern Mediterranean that are in conflict with UNCLOS based Greek entitlements to the same areas – containing a sea zone spreading west of the Aegean island of Rhodes and south of Crete. The aforementioned assertions reveal Ankara's perception of a "Blue Homeland" (Mavi Vatan). Greece condemned and rejected these claims as legally ungrounded, misplaced and illogical, and an outright violation of Greece's sovereignty.

Turkey holds the view, unlike majority of other states, that no islands can have a full Exclusive Economic Zone (EEZ) and should only be eligible to a 12 nautical mile reduced EEZ or no EEZ at all rather than the usual 200 miles that Turkey and every

other country are entitled to. In that vein, Turkey, on December 2019, claimed outrageously for the first time that the Greek island of Kastellorizo shouldn't have any EEZ at all, because, from the Principle of Equity constructed Turkish standpoint, it is a minor island straightway across the Turkish mainland [which, according to Turkey, has the longest coastline(half of the Greek coastline officially as indicated above)], and therefore is not eligible to engender a maritime jurisdiction area four thousand times larger than its own land acreage. A month later, Turkish President Erdogan threw down the gauntlet even for the rights of Crete, Greece's largest island and 5th largest in the Mediterranean, saying that "*They talk about a continental shelf around Crete. There is no continental shelf around the islands, there is no such thing, there, it is only sovereign waters.*"

## **6. The blundering assertions of "Special Circumstances"**

Back in the end of 1986, Turkey proceeded unilaterally to a two hundred mile EEZ proclamation in the Black Sea. This act was compliant with the provisions of UNCLOS, which Turkey has incongruously never signed or ratified. Concomitantly, Turkey came to an agreement on EEZ delimitation with the USSR, former Soviet Union. This pact used the equidistance method. There were no provisions of "special circumstances" or any reference to enclosed or semi-enclosed seas, anywhere within the document.

By acting in that manner, Turkey has committed a historical, legally-binding blunder. Hence, by accepting the conception of the EEZ as pronounced through UNCLOS, has weakened its stance apropos Greece and offered an unexpected "Achilles heel" in its dispute with Greece as this was a fatal mistake for Turkey. Turkey's constructionist attempts to uphold a double standard position vis-à-vis the treatment of two semi-enclosed seas (Black and Aegean) is problematic to defend. It is simply an attempt to make a clear differentiation between delimitation of its maritime boundaries in the Black Sea and the Aegean Sea, by adopting a double standards legal datum. A country simply cannot make a convincing argument by selectively picking the parts of the convention it prefers and serve its current interests.

One of the most common practises that Turkey has implemented the recent years is to contrive and add or create through security escalations, new issues for negotiation to the table, such as "grey zones", demilitarization of islands and span of territorial waters as analysed above.

Appealing to International Court of Justice, means by default, acceptance in advance of its jurisdiction and its decisions, an issue that Turkey knows well and does its best to avoid by manoeuvring through arbitrary legitimization practices.

## **7. The Greek EEZ Agreements and the Illegitimate GNA Covenant**

Controversial opinions arise between experts of UNCLOS and geopolitics on the issue of whether bringing the dispute in front of International Court of Justice (which is the only jurisdictional body empowered to decide for such a matter), serves Greece's vested interest.

Different standpoints cite dissimilar previous decisions of the Court in order to justify which stance fits the best for the case of Greece. Rarely, discourse leads to the very common and comparable case study of the delimitation of EEZ between USA and USSR in the Alaska-Siberia region.

Delimitation between the United States and Russia was first settled between the United States and the USSR on the 1st of June, 1990 (Fig.11). In a nutshell, someone has only to look at the map (Fig.11) and will evidently ratiocinate that the agreement granted all American islands in the region with full effect and this is one of the reasons the United States has the second largest EEZ in the world.



(Figure 11: EEZ Delimitation between United States and Russia).

UNCLOS inheritance and provisions implementation would just let Greece to secure the economic integrity and prosperity and exploit continental and archipelagic space, reaching region's highest potential. Comparably, Turkey retains only three islands in the Aegean Sea. A common purpose for coastal states to unilaterally adopt the 200 mile EEZ is mostly to deal with other states overfishing and overexploitation of their coastal fish stocks.

Accordingly, a sizable portion of the Greek fishing fleet has traditionally been seeking fisheries in international or ex-international water, mainly in the Mediterranean Sea and the Atlantic Ocean. Now that many states have demarcated EEZs with neighbours or declared their own, Greek fishermen have limited access to traditional fishing grounds. To this effect, Greek EEZ, would be advantageous to the fishing sector of the country, which, despite its small contribution (approximately 1 percent) to gross domestic product (GDP), has a substantial role in the nutrition of the Greek population by supplying protein of high nutritional value at a moderately low cost. States in quest of delimiting their maritime boundaries ought to cogitate certain facts and options as they evolve their positions and resolve them through negotiations or third-party processes. As Jonathan Charney and Lewis M. Alexander state in their Law rulebook, "*International Maritime Boundaries*":



*“1. It is clear that primary attention will be placed upon the geography of the coastline.*

*2. The equidistant line will be considered in most circumstances as a basis for analysing the boundary situation. It may very well be used in some form or variant to generate the boundary itself.*

*3. A precise definition of the boundary line may be necessary at some point in the future. The boundary states would be well advised to memorialize their settlement in a technically precise form that would be unchallengeable in the future. The association of technical experts at the appropriate stages is strongly advised.*

*4. The investment of substantial resources to study geological and geomorphological facts may be useful in either international litigation or negotiation. Knowledge of ongoing exploitation of living and non-living resources by the boundary states in the boundary area is likely to be useful.*

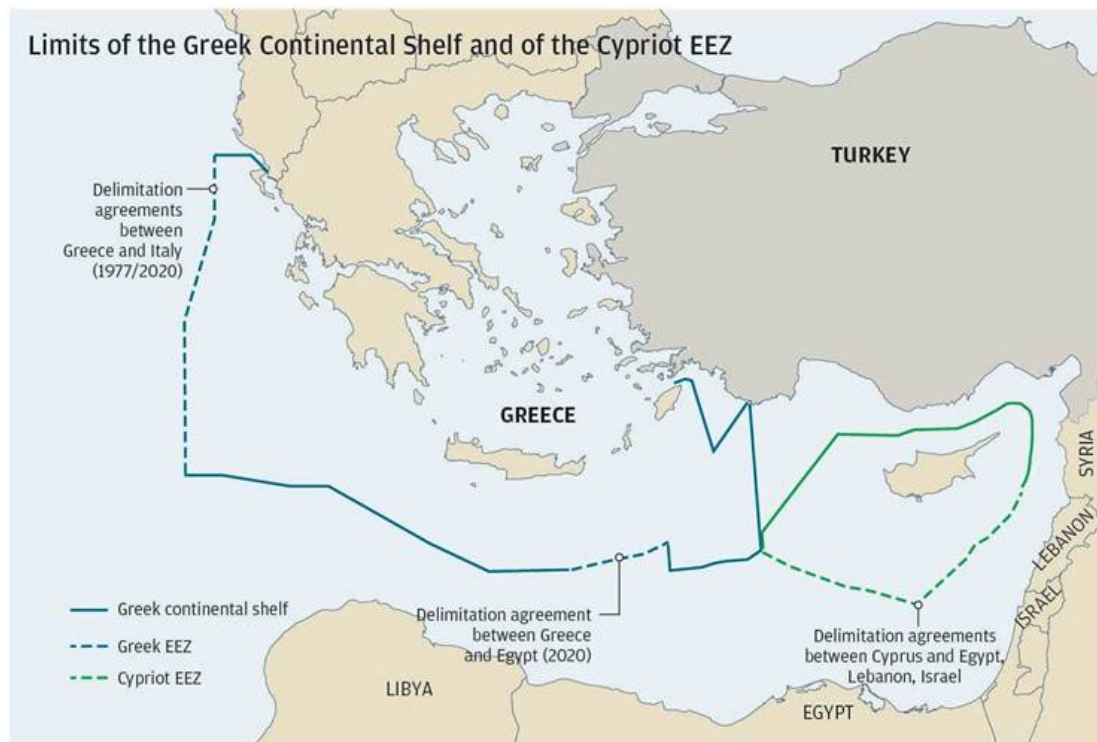
*5. Maritime boundary delimitations cannot be divorced from the status of the general relations between the boundary states. Actively hostile relations will doom boundary settlement negotiations and will make cooperative arrangements impossible to negotiate and implement.*

*6. Joint development or management zones that-cross boundaries, revenue sharing and management cooperation are all possible options.”*

Although, Greece upholds maritime borders with Albania, Italy, Libya, Egypt, Cyprus, and Turkey, it has unfortunately, demarcated its EEZ and continental shelf boundaries with only two of them and yet no fully, so far. Followed the existing delimitation of the continental shelf agreed in 1977, Italy and Greece on June 8, 2020, came up with signed agreement of their EEZ boundaries. The delimitation was grounded on the median line and it's significant to remark that all the islands on the Ionian Sea have been taken into account with this delimitation.

Later the same year, on August 6, 2020 Greece and Egypt have agreed to a partial delimitation and of 104 n.m. not following the median line standard. Greece in that case received 45% of the area and Egypt received 55%. In addition to this, the easternmost part of the region is not included, leaving outside of the bilateral agreement the eastern Mediterranean boundaries and the affected acreage generated by the influence of Kastelorizo island. It starts south of the island of Crete and extends up to the island of Rhodes (Fig.12).

Having left, even temporarily Kastellorizo out of the delimitation process is presumed a considerable and historical geostrategic infelicity. Provided that the agreement would apply to total maritime area between the two countries, Greece' boundaries could be extended 86 n.m. more (total of 190 n.m.).



(Figure 12: Map of the EEZ delimitation with Italy and Egypt (Source: Angelos Syrigos, Atlas of the Greek Turkish Relations, Newspaper Kathimerini, December 12, 2021).

It is also apparent that Egypt persevered on this fractional delimitation because it wanted to show Turkey that another partial delimitation may be feasible within two Muslim nations on the leftover part. Furthermore, Greece has a long way to safeguard its maritime primacy as there are four more delimitations in line to accomplish (Albania, Libya, Cyprus, and Turkey). However, the repudiation of Cyprus as a prioritised state for EEZ demarcation and the nerveless stance over the delayed issue of EEZ delimitations/demarcations have a name for this static approach and quiescence attitude: The "phobic syndrome".

Turkey's president Erdoğan signed on 28 November 2019 in Istanbul, a Memorandum of Understanding (MoU) with the Tripoli-based Prime Minister of the Government of National Accord of Libya (GNA), Fayez al-Sarraj. According to the above document maritime zones in the Eastern Mediterranean were demarcated between Turkey and Libya on an area, as Keith Johnson is Foreign Policy's global geoeconomics correspondent purposefully described "to write Crete, the 5<sup>th</sup> largest island of Mediterranean off the map entirely".

This agreement was provocative and drew denunciation by Greece and the international community, including the opposing Tobruk-based government led by the Libyan House of Representatives, Khalifa Haftar. Furthermore a series of countries from all over the globe condemned this action-Cyprus, Israel, Serbia, Sweden, United States, , Egypt, Russia, Malta, France, Italy, Germany, Bahrein, Saudi Arabia, Syria, the United Arab Emirates and Arab League as a whole- as direct violation of UNCLOS as well as art.8 the Skhirat Agreement. The latter forbids the Libyan Prime Minister from exclusively settling international deals without prior acquiring consensus of all the cabinet members.

## **8. Benefits and Repercussions from EEZ settlements, for Gas Plans**

Concerning the first EEZ agreement with Italy, signing of an EEZ from the Greek perspective, has immense ramifications for Turkey's campaigns to covet oil and gas resources from Greece's maritime zone – thus deterring its efforts for complete East Mediterranean dominance.

Italy is now established as an energy player, particularly by participating to the mega-project of the EastMed pipeline, which is planned to reach Italy with a secondary pipeline project, linked to the northern bracket of the EastMed taking thus active position and revealing its strong will to become part of the strengthening of the cooperation of the trilateral partnerships. The timing was also suitable, as till recently, Italy was struggling to serve its own interests unilaterally. This however would mean that Rome would risk to stay completely outside of any serious, energy business in the region and to manage all the impacts of geopolitical-geo-economical developments from collaborations instead of being a part and a developer of them. Business-oriented Italian diplomacy and policy makers foresaw this contingency and decided to act. And so they did.

Another case Italy had reasons to stay close was the Libyan conflict. Though it did not gain as much influence as they wanted over the war in Libya, Italy a European democratic nation with peaceful leaders and west oriented state of mind couldn't just follow the example of totalitarian, authoritarian Erdogan's regime and become hostile towards everyone in the neighborhood, hence it run the risk of being completely left on the fringes of East Mediterranean issues. On the other hand, Italy needed to adopt an alliance model having the Adriatic power to assert strong influence over events in the region, by making deals and improving multilateral relations with energy related rising powers such as Greece, Cyprus, Israel and Egypt.

As done with Italy, Greece follows faithfully the diplomatic pathway to resolve issues peacefully, as several times has called to do with Turkey, however if its maritime space is violated would not hesitate a military confrontation with a fellow NATO member. In light of the Greek-Italian EEZ deal it is unlikely that Turkey will provoke a war as Italy, one of the major powers in the European Union, despite Ankara's objections has long-established that islands do indeed have an EEZ.

The next maritime border demarcation pact between Egypt and Greece represents a straight counteract to the maritime border demarcation agreement between Turkey and the Government of National Accord in Libya. The Greece-Egypt agreement was pronounced as "*a new stage in their bilateral relations*" by leaders of both states. Likewise, it marks a significant step in hardening an anti-Turkish axis in the Middle East, which is led by Greece, Cyprus, Egypt, and Israel, and supported by France and the United Arab Emirates. The scuffle in the Eastern Mediterranean is over development and energy use rights and the vying yearnings of Egypt and Turkey for serving as regional energy hubs. This struggle also touches on the antagonism for political leadership in the Middle East and the tension between the realistic Arab states and the political Islam supportive ones, driven mainly by Turkey and Qatar. Israel stands alongside Greece and Egypt, but maintains its interest in reducing overall strains and preserving stability in the Eastern Mediterranean, in order to achieve economic cooperation with its neighbours and avert the hastening of arms races in the peripheral.

Over the last two decades Cyprus has reached demarcation agreements with several states (Egypt, Lebanon, Israel), Greece however was inactive and diffident to

do so. Greece eluded signing an analogous settlement with Nicosia due to concerns of worsening of the conflict in Cyprus. Due to Turkey's assertive policy and the need to counteract the Libyan-Turkish illicit covenant, Greece's position shifted and now Greece and Cyprus are reassessing ground to sign a mutual agreement.

Egypt on the other side perceives the demarcation of its maritime boundary with Greece as a supplementary enhancement to the thriving strategic ties between the two states. It pursues to delineate a red line for Turkish activity in the Eastern Mediterranean, after having set a red line in Libya. The settlement also seeks to assist the two states to discover and develop energy resources in their economic waters and endorse the tripartite agreement for interconnecting power grids of Egypt, Greece, and Cyprus, as a reaction to the Turkish-Libyan efforts to draw a maritime border that erects a barrier between them. Moreover, from Cairo's perspective an extra benefit of the agreement is that any Turkish attempt to challenge it will now put Ankara in direct conflict with the European Union. The agreement with Greece ends up for Egypt having more limited sea space than it would have had in case it had recognized the Turkish-Libyan covenant. But Egypt in turn, takes credit by showing its loyalty to the anti-Turkish axis and thus demonstrates Turkey's miscarriage to put a wedge between Cairo and Athens symbolizing at the same time its commitment to international legality.

The EEZ agreement between Egypt and Greece, functions as an additional layer in the consolidation of the EMGF, that led alliance to become an international organization factoring in France as a standard member and US as currently an observer. This agreement will also heighten the prospects for the EastMed pipeline project to trade natural gas from Israel via Cyprus and Greece to Europe, which was trilaterally approved over the past few months despite the downfall of energy prices that raised reservations on the economic viability of the project. Furthermore, the normalization agreement between Israel and the UAE fosters solidifying the anti-Turkish arc, which is evolving from an economic axis focused mainly on gas into a regional alliance that combines economic, political, and security interests.

Greece and Egypt are not fond of a military opposition with Turkey, which on the other hand, being a NATO Member State, has considerable reservations about confronting another member state. In addition, Egypt is currently facing intense economic challenges, with the Ethiopian Renaissance Dam crisis and always has to manage the Sinai Peninsula originating terror threats. Hence, getting involved in direct military conflict with Turkey – which would undermine domestic development endeavors that are currently its highest priority – is for Egypt an unattractive last resort. Consecutively, Cairo and Athens do not have great expectations for a political resolution that would ease relations with Ankara, particularly while Turkish President Recep Tayyip Erdogan holds the reigns of power tightly and promotes a political strategy that conveys neo-Ottomanism.

After the gas deal, in their trilateral partnership framework with Cyprus, between Egypt and Israel was signed in 2018, President el-Sisi stated that Egypt "scored a big goal," implying the Turks as the epicenter. Additionally, when the Greek-Egyptian EEZ agreement was signed, Egyptian newspapers reveled in "a second goal." The demarcation of the maritime border is conceived in Egypt and Greece as a vital move in the diplomatic campaign against Turkey.

Last but not least, along with delineating their economic zone – and threatening to use force if this is encroached– Egyptian-Greek campaign has in store

incoming pressure both from NATO and the EU, for Turkey. Another goal that was finely served was the exposure of the bonds between Turkey and Islamist and Salafi-jihadist terror elements. Not to forget, the achievement of institutionalizing the gas forum, with the surrounding anti-Turkish axis around it. The overall objective of these moves is to contain and repress Turkish influence in the region.

Unceasingly, increasing energy needs, especially in natural gas (approx. 52 b.c.m. per year), lead Turkey planning of extending its activities in the Eastern Mediterranean. At the moment, Ankara is heavily dependent on Russia and Iran, importing 55%-60% of its natural gas from the former and 20% from the latter. In effect, Mr. Erdogan has maneuvered Turkey into a strategic prison of its own making. In Turkey, Russia and Iran have acquired a new energy dependent client.

In its effort to secure alternative energy sources, not only for its industry or continuous growing population demands, but also for achieving its geostrategic regional pretensions, of being a peripheral superpower, Turkey needs to subvert the existing status in the region, by taking risky actions and launching statements, if not threats. Acting in that manner it seeks for making claims to South East Mediterranean energy reserves, as a part of its long-term strategy. Cyprus' EEZ is not the only maritime area targeted by Turkish Petroleum Corporation (TPAO)'s extensive and long-term planning, but also Greek continental shelf and influenced potential EEZ areas.

## **F. THE SCENARIOS OF EXPLOITING**

The last decade discoveries of gas reserves in the Ionian Sea and south of Crete along with those of the Eastern Mediterranean (of the coasts of Cyprus, Lebanon and Israel) have gotten the region to the public's attention. Eastern Mediterranean is fated to become an important gas domain and without question it remains home to large gas resources, albeit countries in the region, apart from Egypt, have been quite procrastinators to reach them. Greece has the sole opportunity to be sited in an area that covers three times its geographical area and in the meantime comprises, along with Cyprus, a main Eastern energy postern to European Union.

The solid regional benefits emanate from those findings are expected to lead to further geopolitical clashes over territory or natural resources, in comparison to what has already supervened. In case these impending disputes remain unattended, they could drive to tensions and even armed encounters. Greece has clearly one choice when it comes to defending its sovereignty over its Territorial Waters, Continental Shelf and Exclusive Economic Zone (EEZ), declare, explore and use it. If Greece wants to exploit these potential reserves, it has to improve a comprehensive strategy for the region that both promotes its sovereignty and augments its capabilities in the area, while maintaining a stance "between alliance and entente" with its neighbours and the international community.

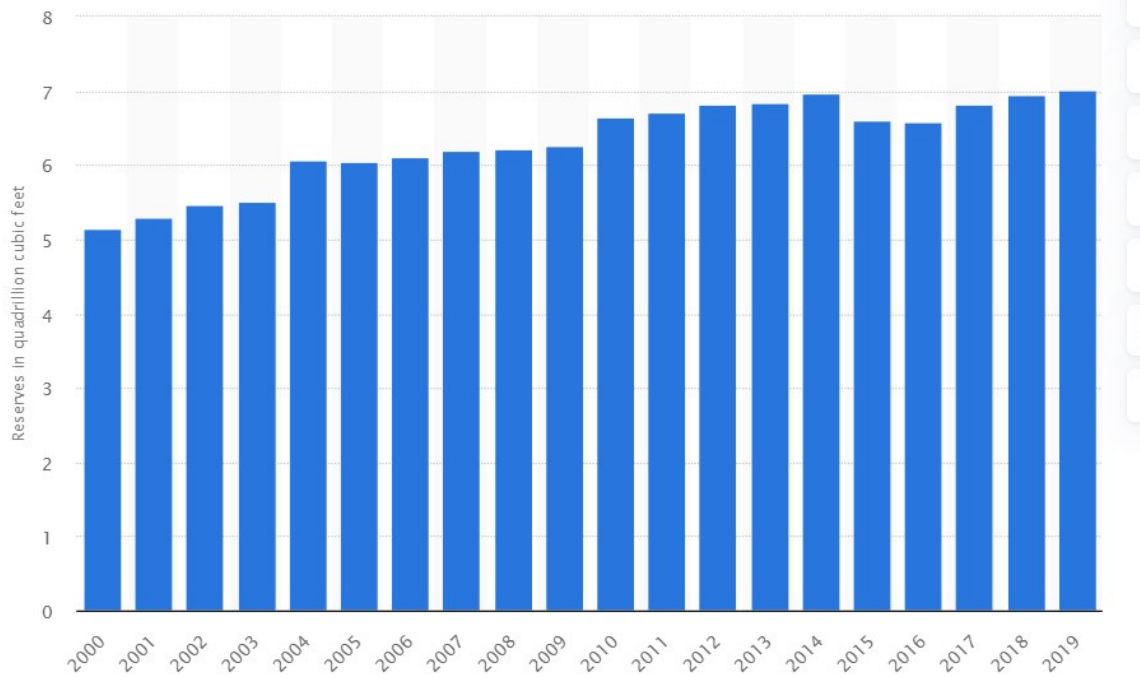
It is a duty, to present and future generations, to scrutinize ways to peacefully explore and exploit these resources and shape a vigorous development plan in order to create a more prosperous and promising future a milestone that can be realized so long as the exploitation of natural resources will occur within secure and safe environs.

### **1. *The potentiality of exploitation and the prerequisites***

The general East Mediterranean energy reserves status, encompassing an exploration neophyte Greece, has created potential new gas exporters dealing with various challenges. After making a series of momentous gas discoveries, both Israel and Cyprus are now trying to find solutions on how to utilize them. One direct and simple utilization policy is to satisfy internal energy demand, supplant oil in the domestic energy mix, produce more electricity from gas and thus lessen reliance on imported oil. Hence, within a decade, the above states will gain the option of exporting excess gas to markets where they can fetch favourable prices and become exporters. Therefore they will also be able to contribute to European gas supply security by offering a diversified source and route energy components.

However, the question of whether the discovered reserves can be channelled to the domestic and international markets in a timely manner entails thorough considerations. First, satisfaction of domestic demand and generating surplus for overseas trade dictates the express development of the discovered fields, i.e., transforming reserves into production capacity. The probability of companies to perform costly exploration and field development endeavours, passes through their capability to commercialize their discoveries with a favourable rate of return. From this perspective, much will depend on the gas price the governments will be asking for on the domestic market, the stability of the countries' regulatory, fiscal and gas policies, and the political atmosphere.

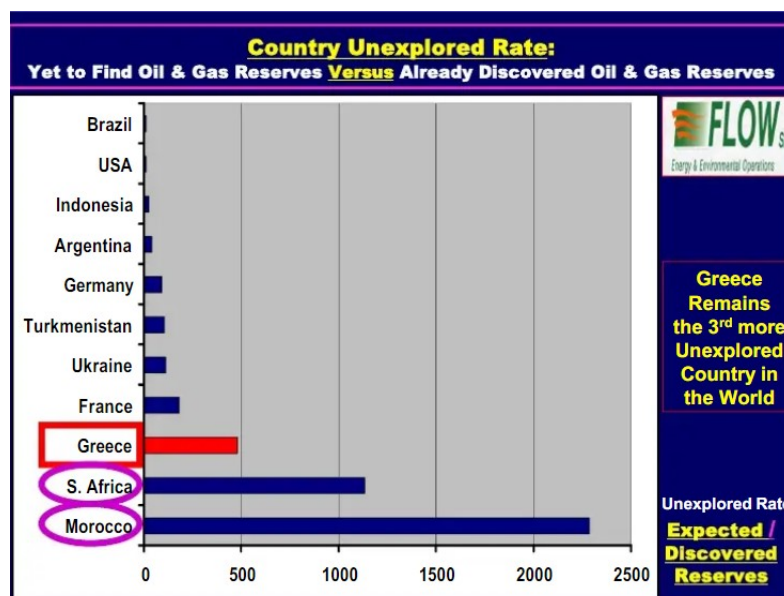
Regrettably, the states in the peripheral haven't yet established an effective and successful energy policy that takes into account the above-mentioned challenges along with the region's geopolitical changes. Lacking the export option within an operative policy scheme, not only will they be compelled to draw companies for upstream business, but also the development of the resources may be seriously hindered. This inevitably brings us to the future export potential of the countries in the region. Actually, the future of complete East Mediterranean Region depends on the projected evolution in the international market. According to BP-represents the most conservative research-estimates, the global proved reserves of natural gas (those that can be recovered with reasonable certainty in the future from known reservoirs under existing economic and operating conditions) are 7,000 Tcf, (Table 17) including Russia's reserves of 1,160 Tcf, Qatar's reserves of 880 Tcf, and Turkmenistan's reserves of 620 Tcf. Moreover, there is a significant prospective for shale gas with a recent estimate of 7,200 Tcf of technically recoverable resources (EIA, 2013).



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(Table 17: Global proved natural gas reserves from 2000 to 2019, Source: Statista 2021)

As stated by FLOW Energy studies the most uncharted energy areas in the East Mediterranean basin belongs to Greece. Considering the already discovered reserves to those still undiscovered Greece comes as the third more unexplored country worldwide after Morocco and South Africa (see Table 18).



(Table 18: Country Unexplored Gas Reserves Rate)

### 1. Energy Alliances: Promote Peace or Prepare Conflict?

In contrast with the anticipated hopes and expectations initially, the neo-reserves of gas in the Eastern Mediterranean have not-yet-brought peace in the region. Historically there's a degree of causality in that fact. Countries with natural

wealth and especially energy resources are destined to be the apple of discord for –not only-its neighbors, depended of the value of their affluence. Especially when in complex geopolitical environments are more prone to conflicts with its potential rivals.

In the previous chapters it was argued that energy catalyzed the formation of the trilateral and multilateral partnerships but obviously has not yet catalyzed peace in the region. The positive effects and the prospects of the entrance and evolution of gas in the subsystem of the Southeastern Mediterranean are not shared equally, though they have contributed to the shifting power balances in the region, but among certain actors.

Through the systematic analysis of the preceding chapters, we have now reached a point to say that, so far, the result of those formations and emerged alliances is not peace but reconfiguration and reshuffling of the state-actors in the peripheral. A new “bipolar-tension” model (Kontos and Bitsis 2018) emerged in the region, with Turkey being one power pole along with its forcible strategies vis-à-vis the energy developments, while the other power pole involves the multifarious partnerships (trilateral mostly) between Egypt, Israel, Greece, Cyprus and France, Italy, USA, Qatar, UAE as observers.

There is no doubt that the two above poles are antagonistic, regardless of the fact that all participants claim that trilaterals mean no harm of anyone interests (Turkey included) in East Mediterranean but to promote peace and partnership, if not at least to even share benefits of collaboration with the member states. Even Turkey as long as pending issues as the Cyprus Problem-it’s a Fallacy and not a “Problem” as I.Kouskouvelis rightfully (Kouskouvelis, 2017) states-are permanently resolved (Marathovouniotis 2018). Ironically, the resolution of the Cyprus Problem never was more complex before: energy neo-reserves not only have not provided motivations for peace and convergence but on the contrary, they have become a point of contention that aggravates inter-communal tensions.

And this is not the worst part: Energy discoveries may potentially generate a kind of resentment within the triangle of Cyprus-Egypt-Israel. Egypt’s equivocal stance on the EastMed project may witness this view, while disgruntlement of certain Israeli circles over Cyprus-Israeli monetization agreement delays on the Aphrodite gas-field (Block 12 of Cyprus’s EEZ) and Cyprus-Egypt agreement on Aphrodite to Egypt, do not refute that view either(Coren 2019; Ellinas 2018).

By distilling the above content one is sure to say: If we neglect the benefits that until now have been gained by all sides of the triangles, is the emerging security structure with the powerful energy components, enhanced by the neo-reserved dynamics, viable and instrumental for peace and development in the East Mediterranean?

In terms of warranting the Greece’s “next day” of its own discoveries, the trilateral partnerships have created flourishing anticipation for such a case, when and if that “next day” ever come. Smooth and tangible collaboration in low-politics reinforce these prospects. However, and despite any oratorical manifestos or a handful of projected expectations, major practical steps forward in the areas of joint defence and energy cooperation have not been made yet – or, are not yet visible. Partnerships in question are not as firm as they may appear inasmuch as partaking states need to retain their options open. Apparently, this rhetoric, the cultivation of expectations, and sometimes the overstatement of some political-diplomatic accomplishments, serve



well the agenda of the contributing governments' concerning their domestic audiences.

But every cloud has a silver lining, thus to say there is a dual effect that derives from the complexity of the above approach. First, attention of third parties - e.g. states, companies, and international organizations;- is attracted by the collective intense interstate momentum that has been gained within and around of those partnerships and that reflects on the heating of their interest. Second, the alliances networks become beneficial —provided that contributing states are open to it— for the agenda and objectives of these third parties, which in many cases are great powers. The US Secretary of State's participation in 6th trilateral Cyprus-Greece-Israel meeting reaffirms this viewing platform.

By no doubt the occurring conditions facilitate the exploration and exploitation of Greece's potential gas reserves. Such developments can provide the state early capitalization of its energy assets and function as a propulsive force towards further active cooperation, thus initiating an expansionary spiral.

It seems that Eastern Mediterranean progresses are not simply a regional affair but a subject of broader geopolitical activity and even antagonism between great powers.

## **2. *The Feasibility of EastMed in the post Covid-19 Era***

Eastern Mediterranean states were zealous to engage in building a common energy market and invest in infrastructure at the beginning of the previous year. The outbreak of Covid-19 however, has frozen their plans. The unimaginably severe economic corollaries of the pandemic on global energy prices have led to drastic re-evaluations by investors, governments and private, over cost-intensive mega infrastructure energy projects.

The groundswell of the pre-Covid-19 recent period energy integration provided a potential of boosting regional cooperation that now in the Covid-19 times is equally shrank. As the pandemic expands its developments around the world and of course Eastern Mediterranean are weakening the energy component of the region, making it less reliable and so the approaches of the states that constitute the energy alliances. They are focused mainly on security components and shifting the center of alliances interest to cooperation and how to deal with existing contest and challenges, a constructive approach towards securitization of the basin.

This introvert shifting is no strange to the countries of the area. From the geopolitical point of view they have always been among energy-rich and energy-hungry civilizations, the crossroad between Gulf hydrocarbon-paradise and Europe fuel-greedy states. Their transitional function didn't prevent them from being consumers themselves, however.

As analysed previously, Cyprus, Israel and Egypt have achieved via their 2000s and 2020s discoveries to become game changers in the region. Greece with the "heritage" of its recent bailout EU programmes acknowledged this necessity quite soon and therefore foresaw the incentives. All in all Greek administrations had to undertake the appropriate initiatives and so they did. The environment was the suitable for such a development and the triangular alignments were a reality.

Every single side of each triangle had an auspicious "oracle" for its energy prospects. Cyprus, a fully energy dependent country, electrically isolated was totally

reliant on sea transported costly energy imports. After the Aphrodite gas field was discovered (6.000km<sup>3</sup>), the energy insecurity state became in one night a potential energy provider.

Israel, another geopolitically isolated state-entity, believed to have zero resources in the past time and known only for its oppositions and wars with a “sea” of Arabs and the Palestinian Issue problematic, was graced with 800-1000km<sup>3</sup> of natural gas discoveries as well.

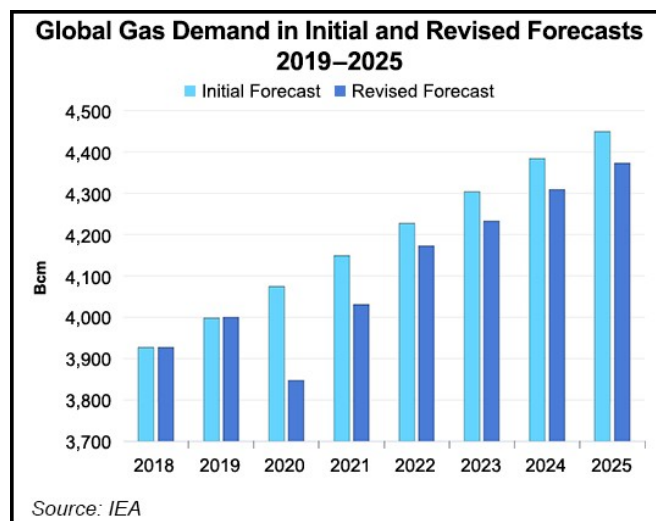
Finally, with an already on going exploitative energy sector, with its own oil and gas, Egypt has struggled to feed its unremittingly growing domestic demand. It was for Zohr-a giga gas discovery of 850km<sup>3</sup>-that Egypt managed to calm its emerging energy sufficiency, which along with its important liquefaction infrastructure can upgrade country’s role in the region as a prevailing energy hub.

During their diplomatically deployed pursuit for potential buyers and efforts for rerouting the above promising energy producers, primarily Greece-and secondary Jordan and Palestinian Authority (PA)-were met to channel their newly discovered energy riches to greater and broader markets and founded EMGF, the accord beneath East Med pipeline vision. With an aim to coordinate gas trade, align energy policies, set prices, merge infrastructures, organize and trace funds for mega projects, such as EastMed pipeline, the partners were seeking to strengthen their energy supply and security and the Forum was the best option. The above transregional device is pioneering in many aspects. It brings closer Israel and PA, Egypt and Jordan creating dialogue and conversation channels among them with a sole purpose of joining national interests towards energy cooperation.

As clearly stated in preceding chapters the existing security component within the triangles, was in embryonic stage before Covid-19 expansion, however it was still considered a step forward and in some cases (Israel, Egypt or the PA) facilitated collaboration in the energy field in an otherwise non-friendly diplomatic environment.

12 months before however, pandemic changed the setup dramatically. Though Greece along with Cyprus and Israel had just co-signed the EastMed pipeline realization, the emerged Covid-19 led to a global halt the economy and so the region followed the ever-growing China’s patterns of collapse. The East Mediterranean a transport and industry hub was severely affected in terms of economy of all aspects. With the emerging lockdown the global economy pace touched the idle and so did the energy market. With energy contracts and securities of negative nominal value a sense of despair was spread as quickly as the virus itself in all energy business and immobility grounded all energy activities, production, transportation, up-mid-downstreaming except of course storage and energy logistics where the excess of energy had to be managed promptly.

The drop in energy demand as per International Energy Association’s quantification is 25% per week for countries in full lockdown and 18% for countries in partial lockdown(Table 19).



(Table 19: Global Gas Demand Projected Forecasts)

As expected, the decline in demand led energy prices at a global minimum, which coincided with the Russian-Saudi oil price short-war of March 2020 and tailspined the prices even further. Ultimately it appears the corona-induced disappearance of global energy demand generated the gas glut which in turn, led to the historic first of a negative oil price for future May 2020 trades.

However, the East Med pipeline — which upon completion would be the longest undersea pipeline in the world — was always much more of a political venture than a solid marketable endeavor. The path of the projected pipeline runs through zones of Greece and Cyprus, disputed heavily by Turkey, and also active geological fault lines and deep trenches. These geopolitical and technical challenges could theoretically be surmounted, yet industry experts claim that the major hindrance to the East Med pipeline realization is its commercial feasibility. With a valued \$7 billion price tag, there are reservations that Israeli and Cypriot gas would remain competitive by the time it reached Europe. For quite a few years the European Commission has been reckoning the likelihood of committing to the pipeline, but at this stage is improbable to back it fiscally.

Rationally, these developments misspent the potential for the evolving energy market in the Eastern Mediterranean. Trust and reliability in the energy sector is harmed and notwithstanding that growth will someday, sooner or later resume, the future of the EastMed pipeline project is uncertain and the EMGF has lost its momentum. The latter is particularly important for Greece (if not only), since the EMGF does not only matter to energy, but it is also a counter balancing force against Turkey's influence and belligerence in the region.

In terms of energy, Anatolian neighbours consider themselves as a great regional power and an energy hub, among Iran, Russia, Azerbaijan and Europe. Burying its head in the sand, Ankara while it ignores its energy poverty and its deteriorating economy, at the same time it can't get rid its bellicose megalomania and behaves pugnaciously. With no doubt it feels endangered by the aspiring energy players in the EMGF and its insecurity flares up with the developments in the defense sector of the state actors of the region.

As argued above Turkey is semi-isolated has no important friends and runs out of cash and time. Covid-19 came about time to worsen things further for the taunter of the region.

Greece along with Cyprus have succeeded to marginalise the interests of Turkey not only in the sphere of East Mediterranean energy market but even broadly with their common energy-related plans and ambitions and doubtlessly they shutter Ankara's objectives and visions for supremacy, energy security and reduction of import dependence. Propelled by "Mavi Vatan"-type illusions, Turkey proceed to drill on the shores of the at least disputed TRNC (if legitimate at all) and also concluded a mock accord with GNA, violating almost all articles of UNCLOS as argued above, just to disrupt the EastMed pipeline project. As anticipated EU has warned for sanctions (though it yet hasn't imposed any) over Turkish drillings in Cyprus waters and Greece' continental shelf violations and rejected the aforesaid accord unanimously.

While Covid-19-related economic corollaries have rendered the coalescing, cooperation-fabricating element of a mutual energy market in the Eastern Mediterranean (temporarily) redundant, Turkey while cornered is still after the vision of regional hegemony. Consequently, the fundamental principle of cooperation, *Security* is resurfacing. EastMed in the post-Covid era although it is not considered by its inspirers to be a stranded asset, it demonstrates at the same time the need for securitization configuration of the triangles and simultaneously catalyzes Turkey's appetite for expansion. A typical example of this up growing pattern is that Egypt, the mostly considered initiator of EMG, declared the formation of an "anti-Turkey alliance" a movement that was embraced by Greece, Cyprus, UAE and France and targets to intercept the provocative fly-overs of Turkish airplanes as well as its excavations in the Mediterranean waters. By all means, Egypt is transmitting a message to Anatolian peninsula and this does not concern energy at all, but it's a signal of heightening bonds of security within the members of the EMGF.

In parallel, Israel's stance prone to securitization is more apparent as this was highlighted with the continuous convergence with the other powerful element of the EMGF, Greece. Their common military operations, are not secret and are legally backed by the trilateral provisions and accord. The outspoken defense joint cooperation is being enhanced lately, while Israel does not lack show of force operations. The offshore conducted due to "safety concerns" ballistic missile tests, on previous June, showcase that Israeli intentions are paired with their maritime capabilities reality, a reality of high precision missiles that Turkey cannot ignore.

Under these developments, Turkey is likely staying around only for energy pursuit and will skip the regional dominance pretensions for the moment. On the other hand, Greek plans for domestic gas exploration have to be postponed along with the concerted energy effort of the other Mediterranean states. Impeded by the pandemic, the feasibility of the EastMed project remains questionable; however despite energy cooperation loses its traction, at least temporarily, securitisation of the Eastern Mediterranean is poised to increase.

### **3. *1st Exploitation Scenario: Turkey to be Included***

Situation currently in the Eastern Mediterranean is disquieting. Although trilateral relations function as a pillar of stability, especially bilateral security junction between Israel and Greece, opposing interests among bigger regional players are triggering excessive uncertainty. Turkey in general considers it is being treated unfairly and begrudges what it perceives as its barring from discussions on energy discoveries.

However, Turkey was and is welcome to take part in the East Med Gas Forum (EMGF), nonetheless the terms of discourse are set by the majority, not the minority. Israel, Greece, Cyprus, Egypt, Italy, Jordan, and the Palestinian Authority are already members of this forum and they all consent to the forum's general principles. Turkey would have to comply with that principle too.

The question of inclusivity is intricate and complex. Changes do not happen overnight, particularly when problems like the Cyprus question have the dynamics to rapidly derail intercession energies. Other constraints, such as the problematic status of affairs between Egypt and Turkey, need to be taken into account similarly.

When it comes to the topical issue of gas exploration and exploitation within EMGF the participation of Turkey shall not be considered as lost case. The insertion of Palestinian Authority in the EMGF, indicates that difficulties can be overcome. Moreover, new efforts by Jerusalem and Ankara to normalize their ties advocate that collaboration on some concerns is possible without ignoring divergences on others.

However, ongoing tensions in the Eastern Mediterranean do not allow for much optimism that a shift towards development will ensue. An objective that would allow for further hopefulness would be the setting up of a cooperative platform on subjects that are not very fragile and sensitive. It is right where Israel and Greece would be worthwhile to start reconnoitring synergies with Turkey. Of course all interested countries of the Mediterranean would be eligible to partake, support and imitate such a convergence pattern.

Furthermore, in terms of geopolitics, Greece shall ensure the rule of law in the region and act exemplary in international legality terms, before it proceed in disrupting or limiting traditional energy trade routes and achieve resource exploitation, no matter if EU and the US currently express their moderate support.

In order to mitigate the above costs Greece should initiate within EMGF bodies bilateral maritime security cooperation with Turkey similar to the ones she has established with the member states, Cyprus, Israel and recently Egypt. An effective strategy that broadens cooperation among all states maintaining economic and other national interests in the area, Turkey included, may not be politically popular in the domestic audience, yet it would be the most tangible way of confirming that all governments are capable of reacting promptly to emergencies throughout the region and at the end will be able to exploit the regional natural resources to their advantage. It would take the growth of a completely new security approach, even a common doctrine in the region, grounded on mutual understanding, shared interests and the international law, which unquestionably can guarantee a peaceable cooperation through all neighbouring nations to the best interest of all.

There are many grounds of mutual interest where they can begin with.

Fundamentally and primarily, the fight against COVID-19 obliges neighbouring countries to enhanced coordination. While the global health crisis is still far from terminated, Israel and Greece have done well in containing the virus and the use of their "anti-Covid-19 campaigns" lessons-learnt, would certainly be beneficial for Turkey which yet suffers from its uncontrolled expansion. Also, cooperation on national economies re-launching mechanisms can be adopted by Ankara which has been less successful in its own battle.

Additionally, Greece, Israel and Turkey are undergoing a similar form of Chinese investments. A typical example is the ports of Haifa, Piraeus, and Ambarli experience bonds with Chinese contractors. Without bypassing basic geopolitical calculations and

ties with the west, they have the option to focus on trade connectivity and promote their states' welfare by capitalizing on much-needed benefits through the enactment of Beijing's Belt and Road Initiative.

Energy transition in the post-coronavirus period is an additional area of common concern. Israel and Turkey have already made remarkable progress towards production or usage of renewables, and Greece -given its fully deployed NECP-, would like to draw near. The descent of gas prices due to COVID-19 and the risks of global warming, as incorporated in the Greek NECP and EU Green Deal strategies, inflict common emphasis on greener energy and zero CO2 emissions as an evident priority for all three nations.

When looking closely and thoroughly it seems that there are quite many low-politics issues to start with and usually, as it is commonly said "intentions make the words", so all it takes for the two millennial neighbours is to digest the contingency of achieving a "win-win" approach and be apart from their ageing conflict. The exploitation of gas is not a narrow matter of property but a broad issue of energy commodity management. A marginal upstream profit can be sometimes counterbalanced by an average midstream activity. Instead of rallying around the flag, or diffidence the two sides can juxtapose, determination, positive will, trade spirit and most of all, good intentions.

The key as stated previously is the bilateral security junction between Israel and Greece. Thirty years after the institution of fully established diplomatic affairs, the two states can turn a new page in their companionship, develop their partnership and take the initiative of inviting Turkey for an opportunity to look beyond polarization, illusionism and provocative and illegal policies. As argued above, should there is adequate political will, dialogue will distribute positive outcomes multilaterally, serving peace and prosperity in East Mediterranean.

#### **4. 2nd Exploitation Scenario: Turkey Self- Excluded**

Today world is better interconnected than during the Cold War years. By using hard power to resolve their issues today, states are faced with extremely high economic costs, isolation and potential exclusion from the international community. Multidimensional approach is more modern and convenient to resolute differences that are subjected to sovereignty (a fundamental dimension) within today's globalized world of international security.

Legitimacy being also an important dimension needs to be respected as well. As it has been analysed extensively in the previous chapter, we can briefly define it as the concept that provides the state the right to enact laws and rules and to act peacefully so as to shield its national interests and warranty sovereignty in an environment in which *modus operandi* is defined by the international law.

Ideally the security issues that beset the region can be addressed by palpable collaboration among the countries bordering East Mediterranean sea. For Greece a long tradition and key strategy of foreign policy over time, is the compliance with international law as a resolving instrument to bilateral and international disputes.

In its effort to capitalize and exploit its natural resources, Greece must realize that UNCLOS provisions render country all the legal and legitimate advantage over its neighbours. Truthfully, International Law is the only instrument that in the long run

can assure the security and stability in the region and provide Athens with the necessary legitimacy to lead in a cooperation campaign. By enhancing its trilateral synergies within EMGF framework with all its neighbours Greece can ensure that the region is both secure and accessible to exploitation practises.

During the next 35 years the Greek state must attract enormous foreign investments in order to explore, discover and exploit its offshore gas fields mainly located in deep and ultra-deep sea water depths and in international waters. In compliance with international common practice, materialization of actions and decisions in that extent demand a geopolitical stable environment, a powerful deterrence capability and shall be secured with draconian means from terrorism, sabotage, piracy and other possible assaults. Usually the smaller share of the costs of the essential defensive infrastructure of the exploration and production operations is born from the oil companies (on the drilling or production facilities), while the lion's share of the costs is born from the state itself.

Greece, over the past 50 years has held the view that its national interests are served firmly by the adherence to international law and its strategy was intended based on a predictable and stable Turkey. This notion must be abandoned by Greek foreign policy and Athens may have to get used to the idea of dealing with an unpredictable, instable and aggressive Turkey with its leaders often having its vox pop rallying around the flag, so it needs to be prepared. Greece also must leave behind the austerity era (2009-2018) and as professor Litsas states : *“The Eastern Mediterranean is facing major existential dilemmas to which the primordial question “Guns or butter?” provides no answers. There are neither sufficient funds nor sufficient hard power capacities to pacify the region. That collective incapacity to resolve regional issues works to the benefit of Turkish strategy”*. It's not therefore about Guns or Butter. The monolithic view that everything is about economy that labels EU strategies and policies, shares no room in the classic geopolitical arena of East Mediterranean.

If Greece means about exploiting its natural resources should:

a. Build the essential exploration and production strategy related to security elements and transmit with its powerful presence its determination to protect the forthcoming gas offshore investments

b. Harmonise the aforementioned strategy under the standards of the other EMGF powerful co-participants with high security concerns, such as Israel and Egypt

c. Reverse negative momentum during the post Covid-19 era that we're passing through, take the initiative to develop the security component of the existing co-operations within the EMGF and then encompass it in its strategy, based on the respect of the international law.

d. Take into consideration that gas operation security costs in international waters are usually excessive; hence part of the future gas fields' exploitation revenues drawn from the Greek state must be re-invested to the improvement of the Hellenic Armed Forces (especially Navy, Air Force and Coast Guard) infrastructures and armaments.

Latest tensions with Turkey have impelled Athens to revise its priorities. In the beginning of 2021, Greek Parliament and MoD approved and signed for new weapons purchases, including 18 super advanced French Rafales with their hypo strategic arsenal, four frigates, and four anti-submarine helicopters. Greece is also expected to obtain 20 F-35 stealth fighters after 2025. Greek Mod plans to recruit 15,000 personnel

over the next five years to promote the professionalization of the Greek Armed Forces. To conclude, a new Joint Special Operations Command for Greece's elite units has been established by Greek MoD to operate mainly in the Aegean Sea.

Athens has decisively supported a non-violent settlement of Greek-Turkish disputes based on the principles and norms of international law. The Greek stance is obliged to dialogue and cooperation with Turkey because, it's a common belief throughout Greek policy makers it is a win-win deal for both sides. Indeed, Greece remains a steadfast supporter of Turkish membership in the EU. Nonetheless, new thinking currents prevail in Athens on how to deal with Turkey. This tendency is expressed perfectly by the Vegetius "*De Re Militari*" (4th or 5th century AD) tract that states: "*If you want to have peace, you must always be prepared for war*", a proverb recently expressed by Greece's president Katerina Sakellaropoulou (Karagiannis, 10/2020).



## CONCLUSIONS

Even though the activity in the fossil fuels sector in Greece is an old one, the country today is one of the most unexplored regions in the East Mediterranean.

A wave of real enthusiasm had crushed the country after the recent developments in the region, signalling that Greece would be the next “big thing”, a significant player following Cyprus, Egypt and Israel’s gas success stories emergence. Finally Greece, all of a sudden has an impressive comeback since the mid 90’s with alleged rich reserves, though country was absent from the product scene for almost 15 years.

The embodiment of a new legal and regulatory framework for hydrocarbons exploration, in the Greek Legislation in addition to the formation of the state-owned Hellenic Hydrocarbon Resources Management (HHRM) empowered to manage the rights of the State concerning to the exploration and exploitation, formatted the great “come back” of Greek official interest to the gas exploration.

Since 2012, successive Greek administrations have gradually granted an area of 78,000 sq km (2.5 times the size of Belgium) for onshore and offshore exploration and exploitation, with lease contracts incorporating both stages.

The first concessions that rapidly signed after two decades were relative to Western Greece sea sections. Later, in 2015 an international round and subsequent “Open Door” rounds followed, leading to the award of numerous concessions in Ionian Sea and Crete as well. Some oil major contractors such as Repsol, ExxonMobil and Total were involved in those concessions, and that was seen by the energy audiences and the public in Greece as a good omen for more activity.

Contemporaneously and mainly due to a convenient narrative for many politicians and influential parties that emanated from the austerity era of Greece, a belief that country was the “golden goose” of energy with endless untapped reserves of gas, that were promising generation of billions of exchange, enough to seal the debts, exit the crisis and fill the treasuries, had been entrenched to the public. Big expectations were bred and although many experts were warning about the risk of overestimations, the unrealistic momentum had a window of opportunity, a tangible positive impact, but at a lower scale and on a prolonged timeline.

The narrative of an “easy solution” to Greece’s economic anguishes may be enticing, especially in a country familiarized to discourses of simplistic silver bullet “solutions” to economic expansion. However, in the current universal milieu, this unanimity approach is astoundingly narrow-minded, by missing out totally the complex economics of gas. Critically, it ignores the elephant in the room, videlicet, climate change mitigation, the consequences of the Paris Agreement for energy markets and the destiny of fossil fuel infrastructure and economy over the coming decades.

Against all expectations and promises, since 2011 not a single drilling has been executed, not a well opened and Prinos, a 40-year old oilfield business, is still the only operating and producing oil-asset in Greece. In a world in the process of an energy transition that primes the pump to revolutionary developments, similar only to industrialization era, the crucial questions Greece’s policy makers and energy autonomy visionaries should ask themselves are the following:

a. How strategically wise is, in economic terms, to invest in an incumbent fossil fuel industry, as opposed to NECP plotting and escape from specialising Greece’s economic tissue in clean energy, efficiency and storage technologies?

b. What is the possibility for these investments to result in stranded assets while fastening Greece into energy sources whose lucrativeness may expectantly decay over the coming years?

c. Whether these investments end up stranding, are paybacks worth the considerable environmental and socio-economic risks they pose, particularly compared to clean energy alternatives?

According to IPCC's dominant scenario is that, worldwide, oil and gas use will need to decline by 54% and 37% respectively by 2050, relative to 2020 levels. This moderate extrapolation accepts a significant room for CCS (Carbon Capture and Storage). With less or no room for CCS technologies, the drop should be much steeper – a 93% and 88% decline in oil and gas consumption respectively- relative to 2020 levels.

From a financial side, the complete question is whether there is space for the advance of new oil and gas fields. The answer is dull: if we are to keep global temperatures from rising above 1.5°C – or even above the much more alarming threshold of 2°C - there is little space for the growth of new fields, even when accounting for the natural decline rate of existing ones.

In fact, according to academic research published in Nature website, the full exploitation of existing (proven) reserves would overreach the Paris agreement emissions targets. Thus meaning, to meet a target of 2 °C, “a third of oil reserves, half of gas reserves and over 80 per cent of current coal reserves should remain unused”. Investors have already started noticing and fly a kite to market's tendencies. The below events are likely to result quite soon:

a. A steep decline of consumption (through regulation policies, extensive carbon pricing, and competition from RES that are becoming gradually competitive) will probably generate lower prices, eating into the projected profitability of the oil and gas industry, and forcing the most expensive fields out of the market. In contrast with what some may assume, gas is no exception to this.

b. Even crucially, new projects that haven't sunk their upfront capital costs are at high risk of stranding, while higher cost sources – for example shale, deep and ultra-deep water come second.

Over the last few years, the oil and gas industry have undergone some vital changes which have dictated a gloomier view for the global upstream investment. Now, the question raised lately is whether Greece has missed the energy “train of gas”, and the opportunity to tap its natural resources was diminished. Especially in the current worse oil price milieu How and the continuing spread of oil majors, which are displacing global interest towards greener energy.

After a moderately stable and high oil price reality, with trading prices around \$100 per barrel between 2011 and 2014, fossil fuel sector entered turmoil and remains there since. Shale revolution that led to nose-diving of the oil prices in 2014 and force OPEC to historical coordinated production cuts, the desirable market-stabilization had a great impact on oil upstream industry giants' investment plants. Engaged in an exploration investments reduction-price dropping spiral, companies experienced inevitably a further recession and acceleration of swirling which led to halving the investments in the sector on early 2018.

Just a couple of years later, the final hit has been given by the outbreak of Covid-19. The pandemic has caused a momentous demolition of oil and gas demand, unavoidably forcing the oil majors to sizable cost-cutting measures. In their struggle to

control finances, the companies proceed to lowering exploration budgets, a fact that is likely to culminate in a harder competition for global upstream investment.

Covid-19 seems also to have hastened another interesting tendency. Giant oil companies are now branching out into new sectors more sophisticated with low carbon technologies and are heading to greener net-zero emissions by 2050. Even the fresh US administration re-joined the Paris Agreement showing the pathway that energy economy has to follow.

While the fossil fuel sector experiences a hostile environment, clean-energy investment plans seem to remain undamaged – at least for now – introducing a new opponent to the ongoing competition, the renewables.

In evaluating the fiscal prospects of gas in Greece, timing is essential. Undeniably, even if assuming that any significant reserves are discovered and are recoverable, no major field is expected to operate before the mid-2020s – while some may not start before the late 2020s. This noticeably surges the risk of these investments stranding as, by 2030, the severity of climate policies to oil and gas industry will be present; while novelty and the ongoing tumbling costs of clean energy, storage technologies and electric vehicles will eventually set hydrocarbons uncompetitive.

There is a high risk, even if Greece's fields are eventually developed, they will probably produce little value, for a limited time period, and will conceivably face the jeopardy of premature mothballing.

In our effort to provide answers to the topical debate about pros and cons of the gas drilling in the territorial waters and EEZ, it's time now for a handful of matters to be clarified and seriously discussed:

a. Timing was always a serious parameter and historically the paradigm of coal affirms this adage. Drilling for energy business in Greece in the mid 20's is not similar to drilling in Norway in the 70's of the previous century (a country which along with Denmark was always illustrated as "role model" in the energy sector by inland politicians and business influencers).

b. Second, Greece's operations will face the risk of stranding, provided their low deployment and the deep and ultra-deep nature of the majority of concessions in the Ionian Sea and Crete.

c. Third, as analyzed above and in previous chapters, parleys of ample economic benefits are enormously exaggerated. Current and near future oil prices along with extraction costs will be the basis upon which any gas royalties received by Greek State will be calculated. Declining demand, which will be among other factors the reason that prices will keep on dropping, shall foist rather fiscally insignificant tax revenues. Yet, this to happen, it assumes profitable production, which is far from evident, not to mention the strong likelihood that oil companies will require subventions to maintain profitability and keep the business alive.

d. Fourth, Greece does not contain a wide technological spectrum that enables specialization in a rather fading energy sector without mislaying capability in other sectors and technologies. Renovating its economic tissue in the expense of mobilizing resources (human, financial, material) might prove to end up in deadlock. High skilled human capital and skyrocketing public investment budgets are linked to hard opportunity costs for an endeavour of that range.

e. Last of all, if the above proves right, we are dealing with a high-risk–low-return venture. Gas drilling is a severely polluting business that might inexorably downgrade Greece's natural capital. Also it might bring economic deeds reliant on sturdy marine

and coastal ecosystems, such as fisheries and tourism, in jeopardy in regions where 50% to 75% of yearly incomes count on those. Any serious assessment requires questioning whether these are worth forfeiting for an economic activity whose future feasibility and profitability projections show doubtful.

Despite the gloomier outlook, not all investment is expected to desiccate for the global upstream industry. The oil and gas sector is used to work in a cyclical fashion and has experienced vivid cyclical fluctuations in the past. For operators, current market conditions dictate a worthy occasion to commit capital budgets as bills in the upstream supply chain are at a historic low. However, even under the setup of a rougher crisis this time, motivated by noteworthy efficiency gains, the net zero movement and the Covid-19 repercussions, that will see the role of oil dwindling, it is expected that oil remains the dominant fuel in the foreseeable future, while natural gas continues gaining a larger share in the global energy mix, playing an important role in the decarbonisation phase, specifically in the EU market.

On the latter, Greece has a comparative advantage, thanks to its closeness to Europe. Monetization of its gas reserves would simply mean an opening to an alternative gas supply route for EU, thus contributing not only to its energy security but also to its strategic goals for diversification and decarbonization.

Undoubtedly gas resources would also assist country to raise its ranking in the EU energy dependence map, where for now is standing at the low 70%, well below EU's 55% average

While Greece has efficaciously managed to draw the interest of big oil and gas players, in spite of the adversarial environment due to lower oil prices, it appears that renewables, for which the country has great potential, have in some way, demoted the attention to hydrocarbons as the state's priorities seem to turn to the wider development of green energy. That was stressed through the submission of the 10-year National Plan for Energy and Climate (NEPC) to the EU Commission in December 2019, which not only delineated the government's commitment to the bloc's wider pledge for transition to a greener economy, but more significantly, it highlighted the aspiring elevation of renewables in the country's energy mix to 35% of total energy consumption by 2030, up from about 13% currently.

Notwithstanding the potential to the gas exploration and the benefits from exploitation we must stand to a critical point: Such gas and energy projects in general, as we also demonstrated with EastMed presentation, require large scale investments and about 5 to 7 years at least to develop, which automatically marginalizes the beneficial and profitable period to about two decades, which for projects of that magnitude is considered narrow. Beyond endless intercourses in and out of the country's borders among policy makers and decision centers one is for sure. If Greece and its officials means its exploitation plans and has strong will to commercialize its national wealth and gain economic benefits by converting the country to an energy hub, they must act now.

The boundary delimitations (EEZ agreements) with Egypt and Italy, the Energy Ministry's approval of the strategic environmental impact study for south of Crete that will pave the way for tendering licenses and the revamp of the HHRM SA, are definitely signs and developments that reveal that Greece may skittishly shift towards this direction, however a much stronger and dynamic determination and action is what it takes for the country to meet its energy destiny.

Greece must remain attractive and competitive to reach the vision of exploitation of its energy resources. Focusing only on the best resource opportunities, it must show strong momentum and expedite exploration in order to step over other major gas projects across the globe. Any possible bureaucratic obstacles should be overcome and eliminated and terms on offer shall reflect the current market realities. Keeping pace both to the above scopes and the NECP as well, might be quite challenging for the current and forthcoming administrations, however its of uttermost importance and priority in order country to fulfill its commitments and not giving up its energy destiny at the same time

## **EPILOGUE**

A few months ago, during a “Circle of Ideas for National Reconstruction” think tank conference, was announced an estimate of gas field “Talos” south of Crete that might reach up to 10 trillion cubic feet (tcf). Tapping this quantity would allegedly solve country’s energy equation for up to 70 years. The statement almost immediately had been downplayed by Hellenic Petroleum officials and the anticipated handling from the press and policymakers was modest, bespeaking that HP view was totally realistic.

Most commonly, this diffident mindset was a constant over-time in Greek politics reality, a standpoint often and effortlessly passed to vox pop approval at no cost. When it comes to energy rights - and sometimes territorial ones – after the thunderstorm of willingness and the dithyrambic declarations of country’s capacity and determination on claiming and exploiting its property, comes the unwillingness and incapacity of consecutive Greek administrations to undertake their responsibilities and materialize the statements.

Even though Covid-19 has spread its opaqueness spectrum over the globe and frosted energy decisions and activities in all levels, this catholic state introversion serves Greek interests in an interesting and unique way; options are quite straightforward now for Greece. While numerous reconnaissance discussions have taken place during past times and even the time this course work is being written another round is being conducted, the low expectancy of this diplomatic line is far pre-determined. No matter if Turkey boycotts its own “effort” of convergence by launching threats and repeating illegitimate doctrines, while “discussing” by the aegis of International Justice, in Greece politicians and governmental officials breed no delusions.

However, in the actions course, Greece is still an observer, a quite passive watcher a “thinker” if not a dreamer, but definitely not a “doer”. By assuming that diplomacy will once again return no remarkable results, Greece has actually been left with a pair of options.

If the ongoing discussions, which are fully informal (no minutes-no decisions) lead to formatting a potential crypto-negotiation scheme, that will redirect the dispute to an International Court, this by no means shall be considered a securitized turn for the country’s interests. Strategically-wise this movement though it seems rational, it is not esteemed as worthwhile. Whether it’ll be the International Court of Justice in Hague or the International Tribunal for the Law of the Sea in Hamburg, there is simply no warranty that Greece will succeed in its anticipated targets with the legitimacy of the Courts. No matter if Athens will support its claims and positions with resounding substantiation, utilizing UNCLOS provisions can be a dynamic potential which in front of the Court’s jurisdiction may fade or upturn.

Even further, it may be proven that “Median Line” that Greece suggests for delineation methodology over “proportionality criteria” will not be adopted by Court, rendering Athens’ aspirations in vacuum. Moreover, such a procedure in an International Court’s timing rules would be exhaustingly long and may leave numerous sub-issues unsettled or “...to be clarified” bilaterally. Consequently, this will bring inevitably, further delay to the belated Greece’ initiatives for gas exploration in the region.

Even if the Court ended up to a crystal-clear and undoubtedly verdict with no ground left for appeals, no one could take Turkey’s approbation and compliance for granted. It’s not far from typical for Turkey’s stance, a behavior common to China’s at South China Sea; a violation of a Court’s decision if substantial interests of Ankara’s are at stake.

Greece must realize that postponing its course of actions, is not going to freeze a confrontation contingency to the future for ever. Even worse, it may be signaling to Turkey that it fears or has substantial and vital reasons to avoid such an opposition and therefore it is a false signaling towards a revisionist neighbor to be more oppressive and assertive. Hence, Athens must call the Turkey’s bluff. There may be second thoughts that the armament campaign that is now under development will upgrade its negotiating status, but the current situation in Turkey indicates it might not be extra time for this progress.

If hypothetically speaking, Athens, by acknowledging that EEZ demarcation with Egypt has unloaded its fully potential, proceeds now to bilateral delineation with Cyprus, under the observance and approval of Israel and current Egyptian “neutrality”, along with EMGF countries acceptance, then Turkey, given its social, fiscal, geopolitical and domestic security constraints will refrain from going to a “*full scale war*”, as Greek Gen. Floros stated, leaving no space for localized hostilities to the Turkish side and forsaking the doctrine of proximity war inexorably. Furthermore, it wouldn’t take the risk of jeopardizing its international standing and seek for military opposition against a NATO “ally” state. Keeping up with a low risk-high return strategy, such as “*casus belli*” at literally no cost, political or fiscal, is quite sensible and well minded for Ankara’s concerns, especially since Greece succumbs to that continuous threat and retreats.

On the contrary, Erdogan knowing its country’s too many loose ends would never proceed to an irrational military opposition, given the above circumstances.

Borrowing the Operational Planning Military Theory terminology we can say that the center of gravity for the future plans in geopolitical standpoint is a tiny Greek island in south Mediterranean, Kastellorizo. This European south-easternmost end is the Greek sovereignty cornerstone which, after the recent demarcation with Egypt, attracts the full interest of the opposed counterparts. Not ignoring Kastellorizo’s sovereignty influence to its EEZ formation, Greece must be determined and decisive and either proceed to bilateral agreement with Cyprus or alternatively establish a unilateral EEZ announcement, which will enshrine its rights on Eastern Mediterranean for future potential explorations and exploitation. This option should be the most appropriate in terms of smart and lithe diplomacy. On the contrary, by ignoring Kastellorizo’s full effect, Athens will be opening Pandora’s Box and suicidally legalize all Turkish claims on Eastern Mediterranean while quitclaiming a serious legal advantage to Turkey for any future use.

In relation to the recent geopolitical experience, Greece is unlikely to hold a robust attitude towards Turkey and act decisively. Most likely it will attempt to further delay the procedure of gas exploration, by claiming that environmental issues may arise, flaring up the local discourse of turning towards an eco-friendly RES, in exchange of drilling in the Aegean and East Mediterranean, thus ignoring the geostrategic

importance of claiming the country's vested rights. Red herring and public opinion manipulation techniques might be marshalled in order to distract and downplay the significance of defending country's energy rights in the expense of passively distancing from confrontations and emanating "risks". Even worse the possibility of joint exploration, invoked as a "win-win" agreement by decision makers, to bring prosperity and peace to both Aegean coasts, serves perfectly the Turkish expansionism. Nevertheless, this development can be projected to Greek people as a modest victory that would eventually lead a deserted and abandoned maritime area to produce wealth-even shared-conceding Turkey a considerable portion of gains from the Aegean and South Mediterranean Sea potentials, depriving them from the Greek energy sector permanently.

Latest developments have Ankara and Athens re-approaching, opening the so called "Investigative Contacts" and "Exploratory Talks" circles. With little or no faith at all, these talks are expected to go up in smoke. Both sides know this obvious inglorious end however they proceed to dialogue. Ankara is serving publicly and openly its outrageous agenda, full of irrational and insulting claims and assertions, while Athens might be buying time. However time, is a relative constraint and past geopolitical patterns might not be repeated this time.

A Greek proverb says: "You cannot hold two watermelons under the same armpit". Greece, by trying to follow its NECP objectives, being obedient to EU Green Deal policies and goals, serving the EMGF interests while propelling its way through the churning waters of East Mediterranean, goes far beyond this saying. This multitasking mission requires the intellectual leaders of this country to be ubiquitous and inspirational to envisage a timeless national vision for Greek people. It also demands individual and collective willingness and a 20-year strategic master plan, to be served by consensus. After two hundred years from its liberation Greek State can reprise a tour de force. Celebrating its bicentennial reawakening, its time Greece bore its historical onuses and took action towards a prosperous future for its people. Energy in the form of rich gas reserves, deposited well beneath under eastern Mediterranean seabed can ascertain this perspective.

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## **Appendix**

### ***List of Abbreviations***

**bcm Billion Cubic Meters**

**bcm/y Billion Cubic Meters per Year**

**bcma Billion Cubic Meters per Annum**

**BTE Baku – Tbilisi – Erzurum Pipeline**

**CEF Connecting Europe Facility Program**

**EGMF Eastern Mediterranean Gas Forum**

**EASTMED Eastern Mediterranean Pipeline**

**EEZ Exclusive Economic Zone**

**ENTSO European Network of Transmission System Operators of Gas**

**EU European Union**

**FLNG Floating Liquefied Natural Gas**

**FSRU Floating Storage and Regasification Unit**

**HHRM Hellenic Hydrocarbon Resources Management (S.A)**

**IEA International Energy Agency**

**IGA Intergovernmental Agreement**

**IGB Interconnector Greece – Bulgaria Pipeline**

**IGI Interconnector Greece – Italy Pipeline**

**ITG Interconnector Turkey – Greece Pipeline**

**km Kilometres**

**LNG Liquefied Natural Gas**

**Mod Ministry of Defence**

**MoU Memorandum Understanding**

**NATO North Atlantic Treaty Organization**

**NAVTEX(es) Navigational Telex(es)**

**NECP National Energy and Climate Plan**

**NG Natural Gas**

**nm nautical miles**

**PA Palestinian Authority**

**PCI Projects of Common Interest**

**PRE-FEED Pre – Front – End Engineering Design**

**SCP South Caucasus Pipeline**

**SGC Southern Gas Corridor**

**TANAP Trans Anatolian Natural Gas Pipeline**

**TAP Trans Adriatic Pipeline**

**tcf Tril**

**TRNC Turkish Republic of Northern Cyprus**

**UNCLOS United Nations Convention on the Law Of the Sea**