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GEOPOLITICS OF ENERGY VERSUS GEOENERGY OF POLITICS

This study focuses on the significance of energy resources, supply networks and security, recognizing their key role in the analysis and interpretation of national and international politics and economics. Furthermore, the pursuit of ensuring guaranteed availability of oil and natural gas in the desirable quantities is gradually expected to play a pivotal role in the foreign policies and priorities of all the countries on the planet, especially those of the *Great Powers* having increased dependence on hydrocarbons. Due to the consequent high stakes of energy security, governments and businesses are strategically required to focus on and cope with rivalries as well as partnerships on a national, multinational and global scale. This development has led authors to revise the assessments of *Geopolitics* and *Geoconomics* and look for a successful substitute approach. In the paper authors continue to discuss about own proposed new term and concept of *Geoenergy* (*Geoenergeia*), justifying the added value of a respective approach. *Geoenergy* acknowledges the existence of international approaches, like *Geopolitics* and *Geoconomics* do, and even more, it may essentially be a tool searching for the main causes behind political and economic decisions, which are usually triggered by long lasting conflicts around the control of scarce energy resources. Additionally, the approach *Geoenergy* emphasizes the energy power as a factor that contributes considerably to establishing the dominant countries and utilising their capacities over long historical periods in the world power system. The new approach *Geoenergy* applies mainly when a *Great Power* has a deficit in energy resources and is energy-dependent.

Keywords: energy resources, Geopolitics, Geoconomics, Geoenergy (*Geoenergeia*), energy policy, energy security, Middle East.

Enerģijas ģeopolitika salĢdzinĢjum, ar ģeoenerģijas politiku

PĀtĢjums koncentrĀ uzmanĢbu uz energoresursu, sagdes tĢklu un droģbas noģmi, izvĀrtĀjot to atslĀgas lomu nacionĀlas un starptautiskas politikas un ekonomikas analģzĀ un interpretĀcijĀ. TurklĀt, aktivitĀtes, kuras ir vĀrstas uz garantĀtas pieģuves nodģo inģ, anu naftai un gzei vĀlamos apģjomos, drģzum, spĀlĀs noģmģgu lomu starptautiskaj, politik, un visu pasaules valstu prioritĀs, ĢpĀ ģielvar, s, kuras ir palielinĢjuģas savu atkarģbu no ogģdeģra ģem. "emot vĀr, enerģĀtiskas droģbas jautĢjumus, valdģbas un uzģamģjdarģbas pĢrstĢjiem no stratģģiska skatu punkta ģkoncentrģjas uz sadarbģbu ģ, nacionĀlĢ, t, arģ starptautiskaj, ģomenģ. MinĀtas tendencies veicinĢja autoru interesi pĢrskatģti ģeopolitikas ģ ģeoekonomikas ģ pieģas, k, arģ meklĀt un piedĢvģt jaunu pieģju. Rakst, autori turpina diskusĢju par viģu piedĢvģto jaunu terminu un jaunu pieģju ģeoenerģijai (*Geoenergeia*), uzsverot ģģ pieģas savlaicģgumu. Jaun, pieģja ģeoenerģijai atģst starptautisku pieģju ģeopolitikai un ģeoekonomikai eksistenci. TomĀr, pĀc autoru domģm, ģeoenerģijai var bģt vairĢk veiksģmģgs instruments ģemeslu meklĀģjumiem par noteiktiem politiskiem un ekonomiskiem ģģmumiem, kurus pieģem ilgģģo konfliktu ģespaids, par kontroli par ģerobe, otiem energoresursiem. ģeoenerģijas ģ pieģja uzsver,

ka enerģātika ir faktors, kas liel, mĀr, nosaka valstu dominājošo st, vokli pasaules varas sadales sistĀm, ilgstĀ, vĀstures laika posm., Jaun, pieeja iĀeoenerģijai var tikt piemĀrota situ, cijas analĀzei, kad Lielvarai ir energoresursu deficĪts un t, ir energoatkarĪga.

AtslĀgas v, rdi: enerģĀtiskie resursi, Āeopolitika, Āeoekonomika, Āeoenerģija (*Geoenergeia*), enerģĀtikas politika, enerģĀtikasdro Ūba, Tuvie Austrumi.

Геополитика энергии в сравнении с геоэнергией политики

Данное исследование концентрирует внимание на важности энергоресурсов, сетей снабжения и безопасности, рассматривая их ключевую роль в анализе и интерпретации национальной и международной политики и экономики. Более того, деятельность, направленная на обеспечение гарантированного доступа к нефти и газу в желаемых объемах, в скором времени будет играть важную роль в международной политике и приоритетах всех стран мира, особенно Великих Держав, которые увеличили свою зависимость от углеводородов. Учитывая актуальность вопросов энергетической безопасности, правительства и представители бизнеса со стратегической точки зрения должны концентрироваться на сотрудничестве на национальном и международном уровне. Данные тенденции побудили авторов пересмотреть подходы «Геополитики» и «Геоэкономики» и искать новый подход. В статье авторы продолжают дискуссию о предложенном ими новом термине и новом подходе «Геоэнергия» (*Geoenergeia*), подчёркивая своевременность данного подхода. Новый подход «Геоэнергия» признает существование международных подходов, таких как «Геополитика» и «Геоэкономика», но, по мнению авторов, «Геоэнергия» может быть более успешным инструментом поиска основных причин политических и экономических решений, которые обычно вызваны длительными конфликтами из-за контроля над дефицитными энергетическими ресурсами. Подход «Геоэнергия» подчёркивает, что энергетика является фактором, который в значительной степени обуславливает доминирующее положение стран на протяжении длительного исторического периода в мировой системе разделения власти. Новый подход «Геоэнергия» может применяться к анализу ситуации, когда Великая Держава имеет дефицит энергоресурсов и является энергозависимой.

Ключевые слова: энергоресурсы, Геополитика, Геоэкономика, Геоэнергия (*Geoenergeia*), энергетическая политика, энергетическая безопасность, Ближний Восток.

Introduction

Security in general is the mainstay upon which man's creativity lies and flourishes through the times. However, it is almost impossible to accept secure societies where the energy is scarce. Every form of life involves continuous processes, changes, transformations which consume, convert and release energy. This continuous flow ensures the survival of both individual organisms and societies. Therefore, energy and man's achievement to initially tame and then exploit it, in an increasing number of forms and applications, has freed the world from many physical limitations.

Besides, progress in societies results in the increase of energy requirements in order to support new production processes. Thus, all modern and developed economies are dependent on the abundant supply of energy. Over the last decades, shortages in the global oil market, the recent price decreases, and the threats of terrorist attacks against crucial oil infrastructures have once more brought to the limelight the energy security as an issue of strategic importance. Trade and transportation lines, among others, are

extremely vulnerable. Almost half of the oil and natural gas produced per year is transported by ocean-going tankers. In addition, just a few countries play a huge role in the supply of hydrocarbons in the global market, which means that their policies and domestic developments also exert high impact on the global economy. For instance, 60% of the global natural gas resources are found in two countries, Russia and Iran (Index Mundi 2017).

Very few commodities have ever been of such vital importance as petroleum. This is so because it has many uses, both as an energy source and as the raw material for the production of many industrial products (Vidakis, Baltos, Chomata 2012). Thus, petroleum (and petroleum-derived products) is the most widely traded commodity on the planet, being undoubtedly the epitome of the globalisation. The dependence on imported hydrocarbons remains the Achilles heel of the economy of most developed countries. Oil still accounts for 40% of the global energy mix due to its supreme fuelling performance in the transportation sector (World Energy Council 2017).

In addition, as far as supply is concerned, there is increasing evidence that it is not an easy task to increase production or find new energy resources (cost-effectively exploitable) in order to meet the increasing demand, especially from China and India. Unlike many other sectors of economy, the greatest part of the global oil drilling is under government control. 80% of all the oil drilling facilities are state-owned (Central Intelligence Agency 2017), while the countries that profit from the high prices of oil have actually no incentives to increase production levels. This is the reason why high prices and shortages in the oil market, with very small margins in back-up auxiliary drilling, combined with even small declines in production, shall have in future a significant impact both on North America and Europe. However, the recent developments in Iraq, Libya, Egypt and Syria have marked the gradual comeback of multinational oil companies to the Middle East, and the re-distribution of the respective shares between state-owned and private companies. On the other hand, switching to energy-secure and environmentally friendly energy sources is perhaps the best alternative road-map to the survival and safe development of humanity. Producing energy in economical, safe and renewable ways is the new ecological challenge, as it has been highlighted by V. Nelson and K. Starcher (Nelson, Starcher 2015). In other words, to fulfill essential human needs, energy management and use will be the focus of our attention over the next decades.

This paper aims to consolidate and capitalize on the research opportunities that are being developed in the field of energy policies and management over the last years. The authors have already introduced a new scientific approach that identifies and examines the motives of national and international decision making in relation to the energy needs and resources equilibrium (Vidakis, Baltos 2015). The analysis is being now continued since, as it is presented in the following lines, the relevant hypotheses find year after year sound support, stemming out of several main axes of global politics evolution like the energy security concerns. Therefore, the structure of this study includes a qualitative analysis of the energy security concept, assessing the increase of incidents that jeopardize the current energy security systems along with the broader public opinion perception that respective breaches exert major impact on the achievement of peace and progress all over the world.

Then, another pivotal point discussed is the scarcity of resources, the marginal characteristics of a contemporary industrial era that will be soon obliged to completely redesign its energy production and logistics patterns. It is being approached through a historical review aiming to an alternative energy-centered interpretation of political motivation and action, benchmarking and challenging the interpretation models monopolised for decades mainly by geopolitics. In this context it was also considered useful to track down plethora of latest bibliographic references reflecting a shift in the academia approach towards the increased use of the energy-related terms and notions in the geostrategic studies.

1. Energy Security

Energy security is a relatively new issue on the international agenda, but of increasing significance. Due to the rise in the global energy demand, any decline in supply levels may lead to an international crisis. Another characteristic of energy security is that most countries depend on supplies which are transferred over long distances (Weissenbacher 2009). In order to meet the rising demand, more and more complex and increasingly vulnerable infrastructures are constructed (e.g. projects for new pipelines and construction of new liquefied natural gas stations). This is one aspect of internationalisation, since it highlights the interdependence of consumers and hydrocarbon producers in a complex manner which makes security a must both on land and at sea.

The Middle East will continue to be of vital importance insofar as energy security is concerned – 2/3 of the globally known oil deposits as well as high natural gas deposits are found in this region (Vidakis, Baltos 2013). In an international market which is highly dependent on oil and natural gas, threats on energy supply may come from a number of different sources: natural disasters, business and governments' interests, political – economic bullying and/or blackmailing, terrorist attacks and asymmetric threats etc. Therefore, a need emerges for a strategic prevention of disruptions as well as for arrangements in order to minimise the effects on the quantities of hydrocarbons available in the event of major international unrests (Vidakis, Baltos, Chomata 2012). Furthermore, the pursuit of ensuring guaranteed availability of oil and natural gas in the desirable quantities is gradually expected to play a pivotal role in the foreign policies and priorities of all the countries on the planet, especially those of the 'Great Powers' having increased dependence on hydrocarbons. This development has led us to revise the assessments of Geopolitics and Geoeconomics and look for a successful substitute approach.

More specifically, the developed countries around the globe are becoming increasingly dependent on imported energy. For instance, in 2016 the Organization of the Petroleum Exporting Countries (OPEC) supplied the United States with approximately 40% of the crude oil they needed (U.S. Energy Information Administration 2017). Europe imports approximately 60% of its natural gas, half of which comes from Russia (EUROSTAT Statistics Explained 2017). In fact, it is a relationship of reciprocal importance since Russia's main customer is the European Union (EU).

However, the EU is divided in relation to the politics of energy and its member-states have diverging strategies consistent with their national interests. The different, and often competitive, political and economic interests of the European countries have caused concerns even to NATO which acknowledges Russia's key role in the supply of energy sources to its neighbouring European states. However, the United States strongly react to a potential broader cooperation between the EU and Russia. However, what initially looked like a definitive energy management issue, several decades later was revealed to be a cause of many emerging security problems. A similar analysis could extend even to the latest, usually geopolitically approached, issues like the Libyan or even the current Syrian civil wars, involving international energy management interests in the local energy resources distribution (Karkazis, Vidakis, Baltos 2014).

Switching from oil to natural gas consumption shall increase the dependence of numerable countries. It is not surprising that market shortages shall lead to the search for alternative energy sources, such as bio-fuels or solar energy. Nevertheless, bio-fuels currently account for only 1% of the transportation fuels, while specialists do not believe that this percentage will rise by more than 5% in the next 20 years. Even today, coal is estimated to account for the 2/3 of the energy consumption in China and India, and fossil fuels account for 90% of the global demand for energy, despite its detrimental effects on the environment (OECD 2017). This brief review of global trends with respect to energy resources leads us to conclude that energy management itself is a major and complex security issue. In the next section the authors offer a new alternative model Geoenergy.

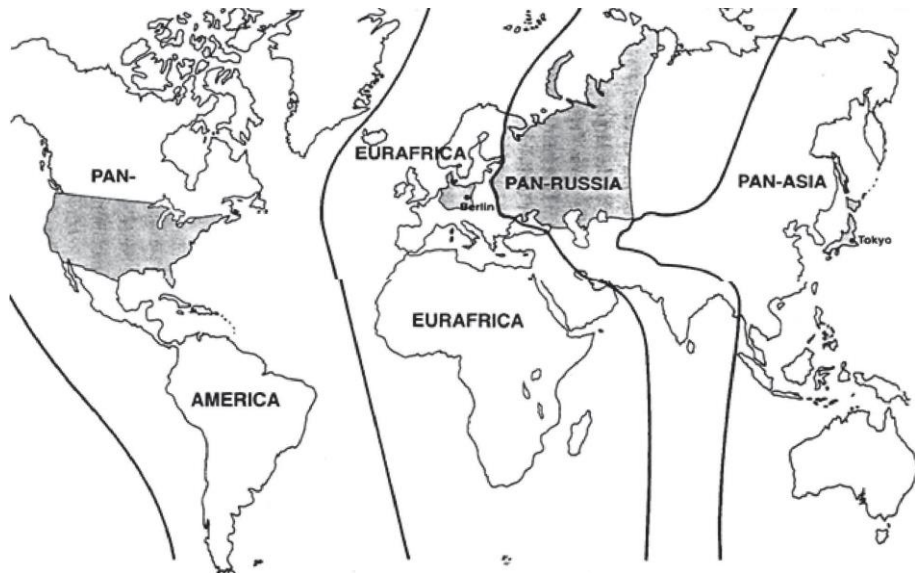
2. The proposition of a new alternative model Geoenergy

2.1. Geopolitics ñ historical overview

Geopolitics interconnect political theory, geography and history. In other words, they study the countries' domestic and foreign policies mainly in conjunction with their geographical location (Grygiel 2006). Geopolitics argue that the political, historical and social events in each country and region are more or less dependent on their geographical location on the planet and the related characteristics of any particular location (Siousiouras, Koutsoukás 2012). Geopolitics further examine and interpret the interaction between nature/geographical space (the environment) and human activities as well as mankind's cultural relationship with the physical environment towards an increase of power (economic and/or military) at present and mainly in the future time.

It was at the end of the 19th century that this distinct scientific methodology was formed by the Swedish political scientist Rudolf Kjellén who was inspired by Fr. Ratzel's book *The History of Mankind* (Ratzel 2012). After 1924, it was developed by Karl Haushofer (Smith 1986), mainly in Germany (a great power with lack of large metropolitan territory, colonies and access to natural resources). It contains the concept of *living space* (Lebensraum) and suggests the *meridian ñ vertical* division of the globe, mainly on the basis of cultural characteristics (see Figure 1).

Figure 1
Haushofer's Pan-regions of the World (Map 1)



Source: O'Laughlin, Van der Wusten 1990, p. 7.

Haushofer's work received a strong response from the Nazi leadership and his ideas were used to justify the German expansionary policy during the domination of the National Socialist Party and the redistribution of the international natural resources (Sioussiouras, Koutsoukás 2012). The focal point of Geopolitics is national power and control of a geographical territory. In every historical era in the world system, the dominant countries have been those which are proved most powerful in demonstrating their capacities over extended geographical areas. Therefore, Geopolitics acknowledge the existence of international interests and rivalries and suggest strategic planning in various sectors [e.g. military power (Geostrategy), economy (Goeconomics), demography, environment, etc.].

In Geopolitics, apart from Haushofer's German school, Halford MacKinder's (Knutsen 2014) Anglo-Saxon school of thought (empiricism) is also noted, which suggests a different Geographical division of the globe (see Figure 2). Thus, the 'Heartland' is the central and most significant region of Eurasia, in accordance with MacKinder's famous saying: 'Whoever held the Heartland would control the world' (Demarest 2014, p. 114). It concludes that containment of the power controlling the Heartland is necessary in order to prevent the Heartland's unhindered access to the sea. This theory was adopted in the British - Russian confrontation in Central Asia during the period 1813 - 1907 (the so-called 'Great Game'), in the Napoleonic wars during the period 1803 - 1815 (Britain vs France), in the Ottoman Empire region during the period 1814 - 1922 (Britain vs Russia and Germany), during the two World Wars (Britain vs Germany) and, in a more advanced form, during the cold war period

(containment of the Soviet Union), and it still bears validity nowadays to a certain extent (EnerGeoPolitics 2016).

Figure 2
The 1904 'Heartland' theory – PIVOT AREA (Map 2)



Source: MacKinder 1904, p. 435.

More specifically, MacKinder (1904) formulated his 'World Island' theory (Eurasia and Africa) and his 'Heartland' hypothesis, underlining its importance in ruling the world: if a land power, beginning from the (continental land) 'Heartland' succeed in acquiring maritime supremacy, then such power could act as the 'Geographical Pivot of History', and the historic supremacy of the maritime powers shall have ended. Prior to MacKinder, the American Alfred Thayer Mahan (Thayer Mahan 2012) had presented and advocated for the maritime supremacy. Later on, the American (of Dutch origin) professor Nicholas John Spykman (Wilkinson 2013) argued that the Eurasian Rimland is more important (hence specifying the main target of the American Geostrategy), heralding the North Atlantic Treaty.

According to K. Grivas (Grivas 2008), Washington's primary target has been to prevent the USSR/Russian cooperation with Europe, to keep Western Europe under American control and in order to surround Moscow. During the Cold War period the Geopolitical 'Heartland' coincided with the area then ruled by the Soviet Union. In the year of Spykman's death, MacKinder formulated a first Geopolitical perception of the 'Atlantic area' (Wilkinson 2013), when, in one of his articles, outlined the 'unified North Atlantic area' composed of three elements: an advanced airport in Britain, a bridgehead in France as well as a back-up of trained human resources and supplies in the U.S.A. and Canada.

2.2. Geoeconomics ñ historical overview

Unlike Geopolitics, Geoeconomics are considered the scientific methodology whose object is to study human economic activity in relation to the Geographic environment; however, not in a static, as is the case of Economic Geography, but in a dynamic sense. Another alternative definition (Vidakis, Baltos 2013) for Geoeconomics may be the study of economic conditions which are influenced by geographical factors. The term was initially used for the study of the underground resources from an economic aspect. It then extended to include land resources and ultimately maritime resources.

According to Murphy (Murphy 1977), it was German Geographer Arthur Dix who formulated the broader sense of Geoeconomics in 1925. Geoeconomics may be considered a type of bridge between Political Economy and Economic Geography. Among others, Geoeconomics study the role of economic interaction and the limitations of economy in resolving or preventing conflicts, the relationship between economic growth and the political and social conditions in different countries (such as corruption, the establishment of organised crime networks and/or terrorist groups interfacing with conventional forms of crime). Geoeconomics study the aspects of a geographical region on a local, regional and/or international scale, which are related to economic power (economic activities in relation to the geographical environment) (IISS Research and Analysis 2015).

According to other analyses, Geopolitics consists of two components: Geostrategy and Geoeconomics. It is directly linked with Geoeconomics and further correlates the geopolitical factors with military power and political goals. The main factors determining a country's geostrategic value are its location, its political-social standards, its military power and international status.

2.3. Interdependence between Geopolitics, Geoeconomics and Geoenergy

Following the above considerations, it can be established that there is a common chronological (mid 1920s) and geographical (Germany) starting point of the emergence and evolution of the two concepts cited above, namely Geopolitics and Geoeconomics. However, despite their apparent interdependence, a substantial controversy is discerned ñ when they are not oriented towards the same direction:

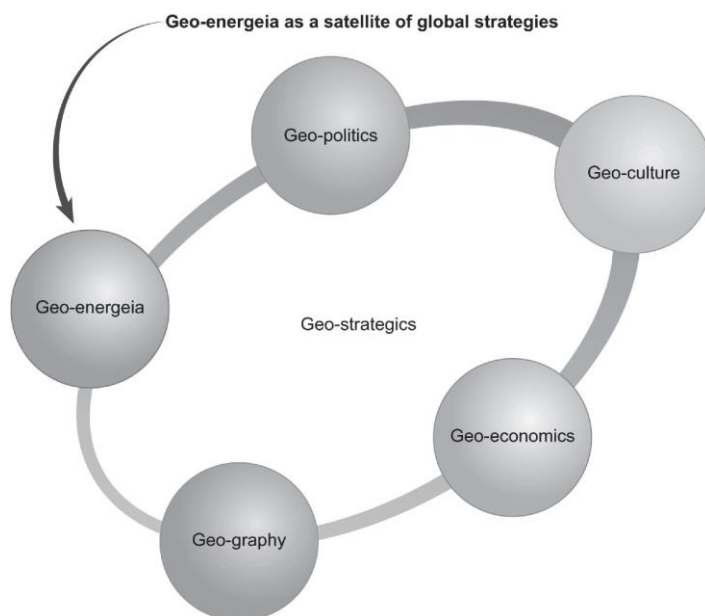
- *Do Geopolitics lead and Geoeconomics follows or vice versa?*
- *Are Geopolitics more or less determined by Geoeconomics or vice versa?*

In math terminology, we should seek to find which is the independent and which the dependent variable in the context of international power.

A first answer is that several possibilities may sometimes apply, depending on the circumstances, the countries and the historical periods, and sometimes the latter. These two considerations may also be partly overlapping or interchangeable (Economist's View 2006). However, the authors are of the opinion that when both concepts were formulated they had already been overridden by a third consideration-concept: iGeoenergyi, (see Figure 3). The equivalent term iGeoenergeiai is introduced as a less recognizable alternative, but depicting the original greek etymology: Geo + En + Ergeia, iearth-powered worki (Vidakis, Baltos 2015).

It should be made clear that Geopolitics and Geoeconomics may provide a valid analysis of certain events and interpret specific policies. In spite of the differing approaches and considerations, according to many specialists, Geopolitics and Geoeconomics are the tools that provide, among others, the explanations and the reasons for the policies mainly adopted by decision-making government agencies. This, however, was the case before hydrocarbons emerge as a resource of major significance with respect to the energy management and the efforts to control and exploit hydrocarbon deposits.

Figure 3
The satellites of global strategies



Source: Vidakis, Baltos 2015, p. 7.

All the above shown research fields claim objectivity and scientific accountability, but they are usually being manipulated by Geostrategics in favor of biased national, international and global policies.

2.4. Evidences on Geoenergy significance: Historical background

Nevertheless, in order to make a more analytical and substantiated approach to the proposed concept, the new term, Geoenergy, it is necessary to make a brief reference to the past. Historically, the evolution of societies, which developed both in terms of population density and complexity of their organisation, was accompanied by a parallel increase in their energy requirements. Thus, the initial use of wood as fuel, in Europe, resulted in considerable deforestation (and the gradual degradation of various ecosys-

tems). In the mid-16th century, England's forests were dwindling. Keeping fire and heat in the Geographical and meteorological environment of the island required large quantities of fuel which could no longer be yielded by its deforested hills. Its inhabitants then became conscious of the imperative necessity to substitute other energy sources for wood. During that period, humanity made its first steps in exploiting fossil fuels. Thus, they were forced to turn to a black rock which was easy to burn and could be found in abundant quantities by simply digging the ground (Shah 2004).

In the 18th century the near-surface coal deposits were exhausted and mining had to go to greater depths. However, it would be risky and possibly foolhardy to continue relying on such difficult, costly fuel source. The amount of energy needed to pump the water out of deep holes might be equal to, if not greater than, the quantity of energy gained from the coal mined from the ground (not a cost-effective system from a technical point of view). However, coal trade was a lucrative business (cost-effective system), one of the most significant and costly in Britain. Coal was the driving force in technological progress allowing the construction of machinery for the industry (Roberts 2005).

Therefore, through a process which started in England and expanded both in Europe and America, human labour was gradually replaced with steam engines, which operated with coal and converted thermal energy to kinetic energy. Steam engines were used on ships, trains, excavators and agricultural tractors as well as in the textile industry, in metallurgy and in other industry sectors. Coal was the main source of energy both in the households and in the industry. In 1912 Great Britain converted its warships from coal to oil. This gave a great advantage to its navy, in terms of speed and autonomy. That was the first decision which endorsed the strategic importance of the new fuel. In the World War I, placing their faith in the internal combustion engine and its fuel – the oil, the allied forces were able to vanquish the coal-powered, bulky, German vehicles. Ten days after Germany surrendered, in November 1919, the British politician George Nathaniel Curzon declared that the Allied cause had floated to victory upon a wave of oil (Roberts 2005, p. 65; Stone, Kuznick 2012).

1912 is viewed as the year when the new scientific field, Geoenergy, was born and began to take form. Naturally, this did not come about immediately, perhaps not even consciously, with respect to the parties concerned. However, the rapidly increasing perception of Geopolitics soon (though, it is believed, temporarily) prevailed. At the same time the concept of Geoeconomics took shape. It stands to reason that the evolution of Geopolitics and the attendant importance of Geostrategy drew the attention of militaries, diplomats and politicians who reinforced it, while the concept of Geoeconomics was advocated by political economy theorists and businessmen. However, both approaches have flaws in that they are rather unilateral, and in many cases contradictory, and do not appear to take into account technological progress and the attendant significance of the energy resources to societies. Nevertheless, it must be realised that, historically, the development of technology has had a multitude of different effects on those adopting new methods and techniques, such as increasing their capacities and eliminating difficulties and restrictions. Therefore, the transition from coal-burning to oil-burning, the replacement of the steam engine with the internal combustion engine and the shortage of the new energy resource have caused the partial

obsolescence of Geopolitics and Geoeconomics, highlighting Geoenergy as a new scientific discipline.

On the other hand, engineers, usually being more practical people, according to Z. Smith and K. Taylor (Smith, Taylor 2008), did not show any interest in dealing immediately with the implications of the energy resources in political and economic systems and their impact on international relations ("Tuathai, Dalby, Routledge 1998). They focused all their efforts in exploring and drilling new oil deposits, oil transportation and new process and exploitation techniques. However, those who did not grasp the meaning of this change and adhered to and applied the World War I Geopolitics concepts were defeated in the World War II. Thus, in 1941 Hitler invaded the Soviet Union, with aspirations of a rapid and victorious advance of his troops, instead of securing first and foremost his energy supplies; he could reinforce the North African front and manage, with greater certainty, to advance as far as Persia, committing 70% of the then known global oil reserves to his purposes (Vidakis, Baltos 2013).

Besides, it is a well-known and admitted fact that the development of technology and its exploitation by man influences and alters considerably situations and standards (see for instance the rural and industrial revolutions). According to P. Roberts (Roberts 2005), the energy explosion began at the end of the 19th century and was connected with the beginnings of mass consumption of oil (Sepehri 2012).

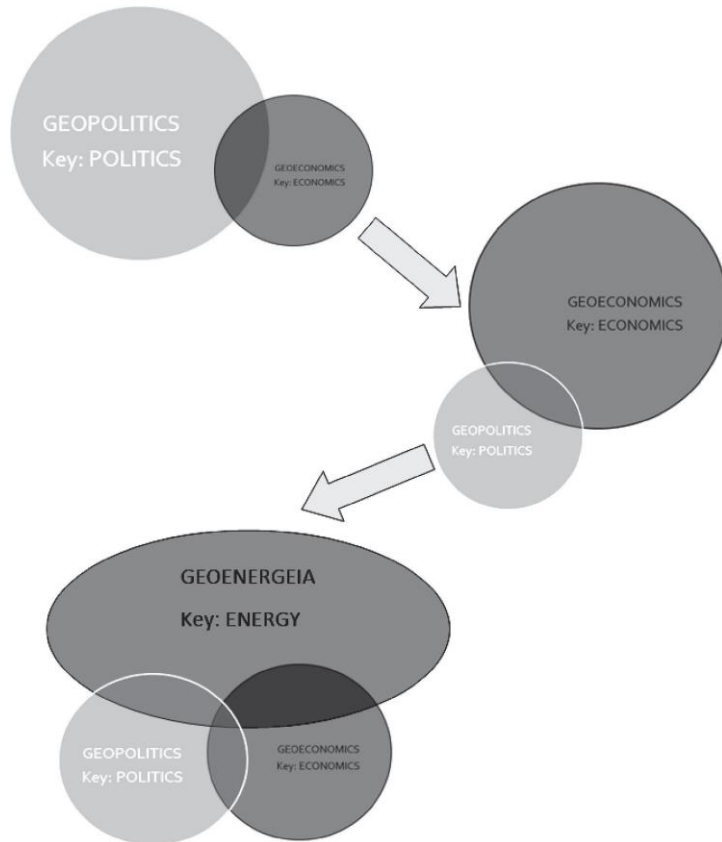
Geopolitics and Geoeconomics then turned into the tools and the means for energy management. However, this was not the case in all historical periods and not for all the Great Powers. Some of these Powers had, at least initially, achieved to increase their oil reserves. Geoenergy applies mainly when a Great Power has a deficit in energy resources and is energy-dependent.

3. Geoenergy as autonomous research methodology

An initial attempt to define Geoenergy would be that: *it studies, analyses, examines and interprets decisions made by transnational, public as well as private agencies at a political, strategic, economic and even social level in conjunction with the geographical areas but also with the energy resources, existing or considered existing, along with those that are traded, exploited as well as potentially processed in a certain geographical area* (Vidakis, Baltos 2015).

Geoenergy may offer clear and complete interpretations with respect to the connection of decisions and actions made primarily by collective organs at a national, private, public and multinational level (e.g. the foreign and domestic policies of governments and coalitions) in relation to the existence of any type of energy resources (Stone, Kuznick 2012), the possibility of exploiting such resources and energy security at present and in the future. It studies the realignment of the energy powers at an international level (global or regional) and interfaces such realignment with the political, military and economic (national and business) power (Vidakis, Baltos 2013, p. 20).

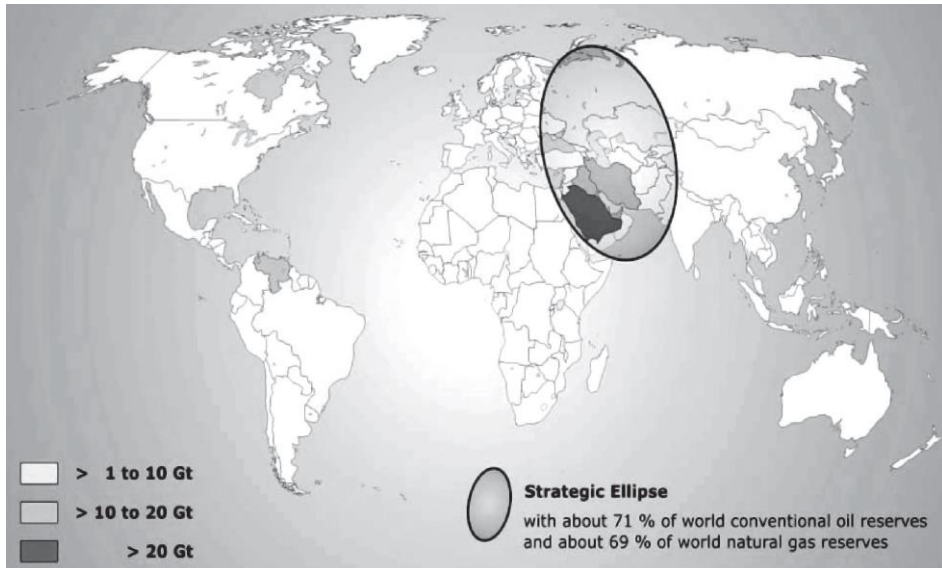
Figure 4
Geoenergy applies, where energy is the key factor ruling the political decision making



Source: elaborated by the authors using Vidakis, Baltos 2015.

Instead of the concept of *living space*, it contains the concept of *iGeoenergy* space (see Figure 5 below) and establishes a classification of the world regions based on their abundance/scarcity in energy resources. It utilises Strategy with focal point the national power and the effective control of a Geographical *ienergy* territory. It examines the Geoenergy elements and data of a Geographical regions and countries, the relationship of such elements and data with their economic growth and development, as well as the way political and social conditions are shaped. It maintains that all political, historical and social events in each country and region depend primarily on the possession, the transportation and utilisation of energy resources. Additionally, it suggests that the energy power is a factor that contributes considerably to establishing the dominant countries and utilising their capacities in every historical era in the world system. The existence of *iGeoenergy Systems and Sub-systems* may be observed as well as the operation of *iGeoenergy Complexes*.

Figure 5
The 'Heartland' of Hydrocarbons Global Geoenergy Space (Map 3)



Source: Rempel 2006, p. 3.

Geoenergy not only acknowledges the existence of international antagonisms, like Geopolitics and Goeconomics do, but it may essentially be a tool supporting them or the basic cause behind political and economic decisions. More specifically, it maintains that there is a marked rivalry for the depleted energy resources and the conflicts arising therefrom are severe and last for years (Grivas 2008). It is mainly concerned with regions, countries and factors which can affect energy security and/or the national interests of all the countries and the powerful transnational businesses. In addition, it can provide a satisfactory interpretation of the phenomenon of stagnation and underdevelopment of countries which are rich in energy resources. It is the independent variable of individual systems, agencies and decisions. In the normal course of events, Geoenergy will cease to play an important role when technology proceeds with mass development of cheap and suitable energy sources, like, for example, the renewable energy sources.

The new comprehensive concept of Geoenergy interprets the events with a high degree of reliability (Karkazis, Vidakis, Baltos 2010). Most analysts continue to use the terms: 'Geopolitics', 'Petroleum Geopolitics', 'Energy Geopolitics', 'Energy Security' and so on, persisting in approaches which disadvantaged to provide a valid and overall interpretation of choices, decisions and situations occurring in the world.

The following table shows indicatively the introduction of new meanings and terms to be used instead of 'Geopolitics'.

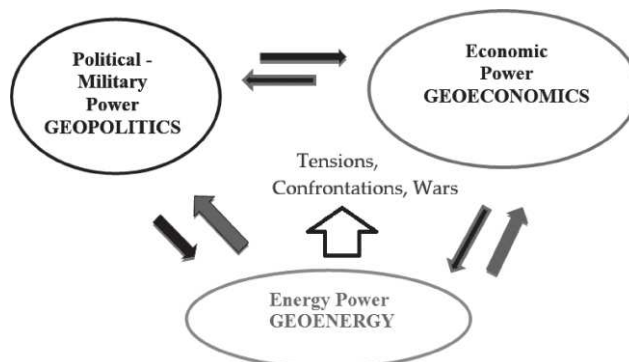
Table 1
Indicative list of new meanings and terms, instead of “Geopolitics»

The term	Examples of studies, where term was used
Geopolitics	Chandra (2009); Mityakov et al. (2011); Heinberg (2011)
Geopolitics of Oil	Arvanitopoulos (2002); Bustelo (2005); Patey (2006); Renner (2006); Rangel (2014)
Old Geopolitics	Gupta, Arora (2013)
New Geopolitics	Gere (2007)
New Energy Geopolitics	Coşkun, Carlson (2010)
Energeopolitics	Aribogan, Bilgin (2009)
Geography of Energy	Efstathiadis (2013)
Geoenergy	Mane-Estrada (2006); Karkazis, Vidakis, Baltos (2010); Vidakis, Baltos (2015)

Source: elaborated by the authors.

Corroborating, K. Grivas (Grivas 2008) suggests that the main goal is the uninterrupted and cheap supply of hydrocarbons. The means to this end is the Geostrategic control of the region. The parallel approach of Geoeconomics and Geopolitics may only interpret to a certain extent the historical course and developments in countries with strong Geoenergy interest such as Iran, Mexico and Venezuela. However, Geoenergy provides a comprehensive and substantiated interpretation of the course of events, with the energy sources being the centre of gravity both in corporate and government interests.

Figure 6
Pattern of Power forms interconnected – The Supremacy Triangle



Source: elaborated by the authors.

The political (military & diplomatic) power is intertwined with both the economic and energy power to form a triangle of power and supremacy (see Figure 6). However, due to its importance, energy usually plays a primary role in the global distribution of power (Parisis 2008).

Concluding remarks and future policy implications

The Middle East region is rich in oil with more than 2/3 of the global reserves. Due to this fact, the countries in this region can play a significant part in the energy security of both the United States and the global economy, in general. Discoveries of new deposits in Central Asia, the Caspian Sea and Russia are not sufficient to meet the needs of global economy and curtail its dependence on the Arab Gulf oil.

In September 2001, Britain's Cabinet Office on Energy Policy, headed by Colin J. Campbell (Campbell 1997), reached the conclusion that the global hydrocarbon reserves have depleted to an alarming degree. In order to support even a moderate global economic growth in the next decades, the increased global demand for oil would coincide with the dramatic decline in oil production in the North Sea, Alaska, Mexico, Russia and Nigeria. A few years later, Matthew Roy Simmons (Simmons 2011), who was a specialist in energy issues and consultant to the latest Bush administration, reached the same conclusions. More specifically, Simmons reports that the global oil production has already reached its peak. Any decline in the global supply would have detrimental consequences on global economy in the transportation, food and industry sectors. At the same time statistics with respect to finding new sources are quite alarming.

Both Campbell (1997) and Simmons specialists (2011) agree that the only region in the world which continues to have significant amounts of unexploited oil deposits, at a low cost, is the Middle East region. Their research resulted in a common triangular Geological formation which holds 65% of the global reserves and consists of five countries: Iraq, Iran, Saudi Arabia, Kuwait and the United Arab Emirates. The most interesting may be that Iraq is the greatest source of unexploited oil reserves in the Middle East.

There are signs that the strategic importance of Iraq and the wider Middle East region in a global environment where production in most sources has reached its peak is bound to augment in the coming years. It is also important and worth mentioning that, in the Gulf region, oil drilling and transportation costs are considerably low compared to such costs in other oil-producing regions, which makes it much easier to export. During the Cold War period, the U.S. strategy in the region was primarily targeted at securing control of the Gulf region and impeding all actions that would allow oil exploitation by the enemy camp, namely the former USSR.

Currently, more than ninety years after the first settlement, the authors witness a transitional phase of redistribution of the international power in the Middle East and a rearrangement of the map of the region (Vidakis, Baltos 2013). Once again, the primary cause is the region's energy resources, with the present energy players in the area aspiring to gain benefits, currently and in the future, by taking action against the other major powers.

There are multiple evidences, as it was discussed above, that the energy needs themselves, in reference with certain time and space circumstances, may compete, stimulate and even precede over the factors that are usually considered as the drivers for policy making, mostly the zeal for power, wealth and growth. There are obviously further research questions to be examined. A series of historical milestones, foreign affairs, conflicts, negotiations, agreements and wars could be re-visited and re-interpreted,

in accordance with the Geoenergy research model, under the light of unknown or inadequately analysed motives, plans and aspirations concerning access to utilization of energy resources. In the same context, current world-shaking events from the Arab Spring and the Syrian civil war to the new campaigns for Arctica exploration are worthy to be re-evaluated. The added value out of the Geoenergy application is not only related with the science imperatives for research accuracy and reliability, but significantly affects peace and prosperity worldwide. Therefore, and due to the eventual high stakes of energy security, governments and businesses are strategically required to focus on and cope with rivalries as well as partnerships on a national, multinational and global scale.

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