

The Interest of the European Union in the Exploration and Exploitation of the Blue Continent' Resources

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Abstract

The existence of unsuspected resources in the seas and oceans of the world and the real possibilities of covering an important part of the food and energy requirements of mankind in the context of the of terrestrial resources ' depletion, in a not too distant interval, have made to continuously increase the interest in the world ocean, the seas and oceans being engines of the world economy, including the economy of the European Union, having great potential for innovation and growth, the maritime sector, at the level of the EU², offering viable solutions for economic development, job creation and ensuring food resources for a population of over 500 million people. These developments have led to developments, especially in international investments (within or outside the EU). In this context, the present study wants to make a presentation, (using scientific methods such as: analytical, comparative, quantitative method etc.) of the interest of the European Union in terms of the exploration and exploitation of the resources of the blue continent in the light of the initiatives, regulations and measures implemented until present, by this international organization sui generis.

Keywords: *marine resources, European Union, international investments, raw materials, blue economy, polymetallic nodules.*

JEL Classification: F21, K33

1. General considerations

From the earliest times, humanity has shown a constant interest in maritime issues, the laws of nature proving that the great civilizations of the world were born and prospered thanks to the exploitation of both the fertile lands favored by the marine atmosphere, as well as the resources of the seas and oceans³. The existence of unsuspected resources in the seas and oceans of the world and the real possibilities of covering an important part of the food and energy requirements of humanity in the context of the depletion, in a not too distant interval, of terrestrial resources⁴ have made the interest in the world ocean continuously increase⁵, emphasizing the concerns of the states for the valorization of these riches, not only marine research has been developing, in the last decades, but also a real industry of extracting and processing

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² UE is the acronym used in the text of this article for the European Union.

³ Jean Pierre Beurier et others., *Droits maritimes*, Dalloz, Paris, 2007, pp. 16-18, 26-27; Laura Magdalena Trocan, *Regimul juridic al teritoriilor submarine*, C.H. Beck Publishing House, Bucharest, 2008, p. 1.

⁴ Some experts estimate that, for the amounts of fossil fuels exploited each year, nature has "worked" over a million years (Michael T. Snarr, Neil D. Snarr, *Introducing global issues*, Lynne Rienner Publishers, London, 2005, p. 293).

⁵ Dumitru Mazilu, *Dreptul mării - concepte si instituții consacrate de Convenția de la Montego-Bay*, Lumina Lex Publishing House, Bucharest, 2002, p. 13.

minerals from the depths of the seas and oceans, from the continental platforms of the states or from the areas located in outside the limits of their national jurisdiction⁶.

The studies carried out so far prove, without a doubt, that the seas and oceans are engines of the world economy, including the economy of the European Union, having great potential for innovation and growth, the maritime sector, at the level of the European Union, offering viable solutions for economic development, creating jobs and ensuring food resources for a population of over 500 million people⁷. These developments have led to particular developments, especially in international investments (within or outside the EU)⁸.

In the context of the global pandemic and contemporary international realities, the analysis of the initiatives and documents of the European Union, but especially the measures and the financial resources intended by the leaders of the European Union for the recovery process of Europe following the economic crisis caused by the Covid-19 pandemic⁹, as well as the priorities established in this regard, aimed at returning to a fully functional single market and increasing the competitiveness of European Union industries, at global level¹⁰, are sufficient arguments to understand that overcoming the major economic crisis that already exists or, as some specialists appreciate, that is foreshadowing, it will be possible to achieve taking into account, to a very large extent, the exploration and exploitation of the resources of the blue continent.

Also, the rich biodiversity of the maritime spaces with special valences for the pharmaceutical industry is an additional argument for increasing the European Union's interest in maritime issues.

In this context, the European Union adopted a series of documents that fully highlight the concerns of this international organization in the field of exploration and exploitation of maritime and oceanic resources, such as: Regulation (EC) no. 2371/2002 of the Council of December 20, 2002 on the conservation and sustainable exploitation of fish resources in accordance with the common policy in the field of

⁶ Laura Magdalena Trocan, op. cit., p. 2.

⁷ The document is available online at: *Ghid practic – Creștere albastră și politica maritimă integrată*, 2017 (http://smallscalefishing.eu/ro/wp-content/uploads/2017/08/Guide_8_ro-web-pass.pdf (accessed on November 16, 2022)).

⁸ Cristina Elena Popa Tache, *Individualization and development of international investment law as the third millennium law field*, "Juridical Tribune - Tribuna Juridică", Volume 9, Issue 3, December 2019, pp. 583-588. The article marks the observation that: "We must admit that economic integration is the moving force behind a considerable part of today's public international law, since the traditional concepts of this law were used to create legal structures that represent instruments of economic integration and market relation regulation, integration that happens both on a regional level (EU), as well as on a world level (WTO)."

⁹ On 27 May 2020, the Commission proposed the largest funding package from the European Union in support of Europe's post-pandemic recovery, in addition to the 4.2 trillion euros mobilized by the European Union and the Member States. At its meeting in July, the European Council unanimously agreed on a total funding of €1.8 trillion, which combines the new NextGenerationEU instrument, which has €750 billion, with an amended European budget for the period 2021-2027 of 1.074 thousand billion euros. On 10 November, the European Parliament, the Council and the Commission reached a political agreement on this package, which included a €15 billion increase in the budget of a number of key programmes, such as Horizon Europe, Erasmus+ and EU4Health. The document is available online at: *General report on the activities of the European Union* - <https://op.europa.eu/webpub/com/general-report-2020/ro/> - accessed on November 16, 2022.

¹⁰ The document is available online at: *The EU's response to the COVID-19 Pandemic* - <https://www.consilium.europa.eu/ro/policies/coronavirus/> (accessed on November 16, 2022).

fisheries, Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008¹¹, Regulation (EU) no. 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the common fisheries policy, amending Regulations (EC) no. 1954/2003 and (EC) no. 1224/2009 of the Council and repealing Regulations (EC) no. 2371/2002 and (EC) no. 639/2004 of the Council and Decision 2004/585/EC of the Council, Regulation (EU) no. 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Fund for Fisheries and Maritime Affairs, Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for the development of maritime space¹², Proposal of Council Decision on the position to be adopted, on behalf of the European Union, in the framework of the meetings of the Council and the Assembly of the International Seabed Authority of 5 January 2021, Communication from the Commission on a European strategy for marine and maritime research (COM(2008)0534), Communication from the Commission on offshore wind energy (COM(2008)0768), Communication from the Commission on strategic objectives and recommendations for European Union maritime transport policy promoting efficient, safe and secure transport (COM(2009)0008), Strategy for the Baltic Sea Region (COM(2009)0248), European Parliament Resolution of 20 January 2011 on a European Union Strategy for the Black Sea (2010/2087(INI)), Joint Communication on the European Union's Integrated Arctic Policy (JOIN(2016)0021), European Parliament Resolution of 16 January 2018 on international ocean governance: an agenda for the future of our oceans in the context of the 2030 SDGs (2017/2055(INI))¹³ etc.

2. The role of the blue economy in the process of sustainable development and competitiveness of the European Union

Starting from concrete data that attests to the fact that the blue economy of the European Union represents 5.4 million jobs and a gross added value of almost 500 billion euros per year¹⁴ and, in total, 75% of Europe's foreign trade and 37% of trade

¹¹ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 that establishes a framework for community action in the field of marine environmental policy. Footnote (the Marine Strategy Framework Directive [MSFD]), Official Journal of the European Union L 164 (25 June 2008), 19–40, available at eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:164:0019:0040:EN:PDF. The 2008 MSFD, proposed by the Commission, modified by the European Parliament and the Council, and adopted by the latter two bodies through the EU's co-decision process, establishes the framework for the operationalization of a broad, coordinated, coherent, and ecosystem-based approach to ocean use management for the marine areas of Europe. See for details Lawrence Juda, *The European Union and the Marine Strategy Framework Directive: Continuing the Development of European Ocean Use Management*, *Ocean Development & International Law*, 41:1, 2010, pp. 34-54.

¹² The document is available online at: Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for the development of maritime space - <https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:32014L0089&from=EN> (accessed on November 16, 2022).

¹³ The document is available online at: *The European Union's integrated maritime policy* - <https://www.europarl.europa.eu/factsheets/ro/sheet/121/politica-maritima-integrata-a-uniunii-europene> (accessed on November 16, 2022).

¹⁴ Based on data included in the Blue Growth study entitled "Scenarios and Incentives for Sustainable Growth of Oceans, Seas and Coastal Zones", ECORYS, 2012. (Document available online at: <https://webgate.ec.europa.eu/maritimeforum/content/2946>, accessed on November 16, 2022).

within the European Union is carried out by sea¹⁵, the European Union is fully aware that the sea and coastal areas are engines of the economy¹⁶ and is becoming increasingly interested in identifying viable extraction technologies on a commercial scale, of the marine resources located at great depths, both in the spaces located under national jurisdiction and in the international zone of the submarine territories and participation in the elaboration of pertinent regulations that take into account the requirements of the protection of the marine environment.

At the same time, the high dependence of the European Union on imports of raw materials, essential for the sustainable functioning of modern society, generates major challenges in terms of the security of supply of such resources, as a basis for the sustainable growth and competitiveness of the European Union¹⁷, which is why the search of new deposits for long-term supply becomes a *sine qua non* condition.

In this context, technological advances in the activity carried out regarding the activity carried out in deeper waters are encouraging the European mining companies to analyze what the blue continent can offer, with it being predicted that, by 2030, a percentage of 10% of the world's ore production, including cobalt, copper and zinc, could only come from oceanic shelves¹⁸.

At the same time, estimates according to which the global annual turnover of the marine mineral extraction sector will increase from almost zero to 10 billion euros by 2030 have contributed to the emergence of the European Union initiative - *Blue Growth* - aimed at harnessing the unexploited potential of the oceans, seas and coastal areas of Europe for growth and jobs, but also to the accession of the European Union to the United Nations Convention on the Law of the Sea from 1982¹⁹, thus becoming a member of the International Seabed Authority (the only international organization through which the states parties organizes and controls the activities carried out in the international seabed area - declared the common heritage of mankind, in order to administer and manage its resources) recognizing, in this way, once again, the importance of the seas and oceans for the European economy, as well as their potential for innovation and development²⁰.

¹⁵ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions "Blue Growth": opportunities for sustainable growth in the marine and maritime sector. (The document is available online at: <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX%3A52012DC0494>, accessed on November 16, 2022).

¹⁶ Ibid.

¹⁷ The document is available online at: Deep Sea mining as part of the European Union's supply chain - <https://blue-nodules.eu/deep-sea-mining-part-european-unions-supply-chain/> (accessed on November 16, 2022).

¹⁸ Robotics, video surveillance, and submersible technology are now routinely integrated into equipment that performs operations that were impossible ten years ago. (Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions "Blue growth": opportunities for sustainable growth in the marine and maritime sector. (The document is available online at: <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX%3A52012DC0494>, accessed on November 16, 2022).

¹⁹ The European Union acceded to the United Nations Convention on the Law of the Sea and the Agreement amending Part XI of the United Nations Convention on the Law of the Sea on 1 April 1998. (The document is available online at: <https://www.isa.org.jm/member-states>, accessed on November 16, 2022).

²⁰ The document is available online at: https://ec.europa.eu/maritimeaffairs/policy/blue_growth_ro, accessed on November 16, 2022.

European Union initiative – *Blue Growth* – represents the maritime dimension of the Europe 2020 Strategy and can contribute to increasing the competitiveness of the European Union at the international level, to the efficient use of resources, to the creation of jobs and to new sources of growth, while ensuring the preservation of biodiversity and the protection of the marine environment²¹.

At the same time, in the conditions in which the research carried out so far estimates that around 15% of the bottom of the seas and oceans is covered by polymetallic nodules²², which are found, mainly, in the Pacific, Atlantic, Arctic and Indian Oceans, in whose composition includes more than 42 elements²³, in particular, manganese, iron, nickel, cobalt and copper²⁴, gallium and rare earths, essential raw materials for the innovative technologies of all states, implicitly for those of the European Union, for the manufacture of crucial alloys and for new and innovative products such as batteries for electric cars, photovoltaic systems and devices for wind turbines²⁵, the interest of the European Union in the exploration and exploitation of maritime spaces becomes more than obvious.

Also, in the context of global warming, the arctic area could become extremely attractive from an economic point of view, but also with an increasingly strategic importance, the fight for its control bringing together juridical issues, geology and geopolitics, the stake being very high, because the winner will have control over a quarter of the world's oil and natural gas reserves²⁶.

The European Union, an important destination of resources (hydrocarbons and raw materials) and goods (such as fish) coming from the Arctic region²⁷, as well as a major player in world maritime trade, has fully demonstrated its interest in this *El Dorado* of the Arctic area, allocating, since 2008, over 1.14 billion euros for the development of the economic, social and environmental potential of the arctic regions of the European Union (Denmark, Finland and Sweden) and the structural funds of the European Union have invested substantially in the development of the arctic region²⁸. Also, the European Union has allocated approximately 200 million euros for international research in the Arctic, being the main financier within the Support Fund of the Northern Dimension Environmental Partnership (NDEP), which supports

²¹ See Roadmap to a resource-efficient Europe, COM (2011) 571.

²² Laura Magdalena Trocan, *op. cit.*, p. 80.

²³ Nodules are primarily composed of iron and manganese, but their composition also includes copper, aluminum, silver, nickel, gold, molybdenum, cobalt, platinum, radium, titanium, vanadium etc. (Claudiu Giurcăneanu, *Terra-izvor de viață și bogății*, Didactic and Pedagogical Publishing House, Bucharest, 1982, p. 72).

²⁴ The document is available online at: *Polymetallic nodules contractors* - <https://www.isa.org.jm/exploration-contracts/polymetallic-nodules>, accessed on November 16, 2022.

²⁵ The document is available online at: *E.U. Deepsea Mining Project Launched* - <https://www.maritime-executive.com/article/eu-deepsea-mining-project-launched>, accessed on November 16, 2022.

²⁶ The document is available online at: V. Naumescu, *Războiul Nordului? Puterile arctice se pregătesc pentru marea miză a deceniilor viitoare* - <https://www.contributors.ro/razboiul-nordului-puterile-arctice-se-pregatesc-pentru-marea-miza-a-deceniilor-viitoare/>, accessed on November 16, 2022.

²⁷ The document is available online at: EU's Arctic Policy: Questions and Answers - https://ec.europa.eu/commission/presscorner/detail/en/MEMO_12_517, accessed on November 16, 2022.

²⁸ The document is available online at: <https://infocons.ro/infocons-cunoastere-responsabilita-angajament-ue-isi-defineste-politica-pentru-regiunea-arctica/>, accessed on November 16, 2022.

projects in the Arctic region²⁹.

In this way, the European Union joins the other international actors, both Arctic powers (the United States, Russia, Canada, Norway, Iceland, Denmark, Sweden, Finland), and China, India or Japan, as non-Arctic powers, which profile more and more important and in various ways the presence, the interests and the strategy of action beyond the Arctic Circle, and the tensions resulting from the clash of these competing interests and strategies grow as the immense opportunities that appear in the region are confirmed³⁰. Currently, scientific studies show that the Arctic holds about 13% of the oil reserves and 30% of the gas resources at the planetary level, a fact of nature to determine substantial change, in the conditions of their profitable exploitation, of the global picture of interests and influences in the field of energy³¹. Other mineral resources are also prospected (coal, iron), not to mention the expansion of ocean fishing areas.

The analysis of the international realities of the last years seems to highlight that the dispute for hydrocarbon resources from the North Pole grows and threatens to turn into what the British newspaper the Times called "a new war, not cold, but literally frozen", not only legal and economic issues, but also military and geostrategic issues being discussed³².

Although the greatest interest is in polymetallic nodule, the extraction of dissolved minerals such as boron or lithium from seawater could also become economically feasible and the most promising deposits are found in sulphides metals resulting from hydrothermal ore deposits³³. If this expansion of the extraction of minerals from the seabed materializes, European companies can make a special contribution considering their long experience in the field of specialized vessels, underwater handling, oil and natural gas exploitation. The potential is significant, provided the appropriate investments and research activities are carried out³⁴. In this

²⁹ The document is available online at: EU's Arctic Policy: Questions and Answers - https://ec.europa.eu/commission/presscorner/detail/en/MEMO_12_517, accessed on November 16, 2022.

³⁰ The document is available online at: V. Naumescu, *Războiul Nordului? Puterile arctice se pregătesc pentru marea miză a deceniilor viitoare* - <https://cursdeguvernare.ro/valentin-naumescu-razboiul-nordului-puterile-arctice-se-pregatesc-pentru-marea-miza-a-deceniilor-viitoare.html>, accessed on 16 November 2022.

³¹ The document is available online at: EU's Arctic Policy: Questions and Answers - https://ec.europa.eu/commission/presscorner/detail/en/MEMO_12_517, accessed on November 16, 2022.

³² The document is available online at: *Canada contraataca in lupta pentru Polul Nord* - <https://www.9am.ro/stiri-revista-presei/International/69454/Canada-contraataca-in-lupta-pentru-Polul-Nord.html>, accessed on November 16, 2022.

³³ It must be said, however, that the temperatures and pressures in these regions are extreme, and the impact of disturbances on these marine biodiversity hotspots, which should be protected under the 1982 United Nations Convention on the Law of the Sea, is largely unknown. Currently, most of these operations are located within areas under national jurisdiction (exclusive economic zones and the continental shelf), where it is easier to transport ores to land. However, there are major opportunities for their exploitation in the international zone of submarine territories. (Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions "Blue growth": opportunities for sustainable growth in the marine and maritime sector (Document available online at: <https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX%3A52012DC0494>, accessed on November 16, 2022).

³⁴ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions "Blue Growth": opportunities for sustainable growth in the marine and maritime sector. An example of the direction of this issue towards international

context, it must be said that numerous entities from the European Union are involved in exploration and exploitation of the seas and oceans, both as suppliers of marine technology, academic and industrial consortia that develop scientific research projects, and as mining operators³⁵.

3. Scientific research projects developed by the European Union in the field of exploration and exploitation of marine resources and other measures adopted, at the level of the European Union, in maritime issues

In the context of concerns regarding the maritime issue, in order to solve the technological challenges related to the sustainable extraction of deep-sea minerals, the European Commission has shown interest in promoting scientific research projects, which would emphasize exploration activities, extraction and treatment of raw materials³⁶ and to provide answers to the questions related to the benefits, disadvantages and knowledge deficiencies associated with this type of mining³⁷, the European Union financing, in whole or in part, various research projects, through the H2020 and PC7 programs, such as:

- *MIDAS* (Management of the impact of exploitation of deep-sea resources) brought together 32 academic and industrial partners for 3 years (2013-2016), with a total budget of 12 million euros, of which 9 million euros represented funding from the Union European. The purpose of this study was to analyze the degradations that a deep mine could generate under the conditions of the exploitation of resources such as: polymetallic sulphides, manganese nodules, ferromanganese crusts rich in cobalt, methane hydrates and rare metals³⁸.

- *JPI-OCEANS* (Joint Programming Initiative - Oceans) was a project with a budget of 22 million Euros (starting in February 2013), which brought together 32 partners from 10 European countries different, to study the risks to marine ecosystems of a deep-sea mining operation³⁹.

- *BLUE MINING* was a project partially financed by European funds (10 million euros from a total budget of 15 million euros) for a period of 4 years (2014-2017) as part of a consortium between 19 industrial and academic partners from 6 different European countries. The main objective of this project was to assess the

investment is in 2014, Norwegian vessels harvested 4,000 tons of crabs worth over NOK 100 million (approximately EUR 12 million), and this new industry has started to attract attention. increased international investment. See for details Andreas Østhagen & Andreas Raspotnik, *Why Is the European Union Challenging Norway Over Snow Crab? Svalbard, Special Interests, and Arctic Governance*, „Ocean Development & International Law”, 50:2-3, 2019, pp. 190-208.

³⁵ The document is available online at: https://ec.europa.eu/maritimeaffairs/policy/seabed_mining_ro, accessed on November 16, 2022.

³⁶ Communication from the Commission to the European Parliament and the Council - The Raw Materials Initiative: meeting our essential needs for growth and jobs in Europe {SEC(2008)2741}/*COM/2008/06 99final. (The document is available online at: <https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:52008DC0699&from=EN>, accessed on November 16, 2022).

³⁷ The document is available online at: https://ec.europa.eu/maritimeaffairs/policy/seabed_mining_ro, accessed on November 16, 2022.

³⁸ The document is available online at: Welcome to MIDAS - <http://www.eu-midas.net/>, accessed on November 16, 2022.

³⁹ The document is available online at: Ecological Aspects of Deep-Sea Mining - <https://jpi-oceans.eu/en/ecological-aspects-deep-sea-mining>, accessed on November 16, 2022.

feasibility of a deep mining project (5,000 m)⁴⁰.

- *BLUE NODULES* was a European cooperation project financed entirely by the European Union with the amount of 8 million euros for a period of 4 years (2016-2020) between 14 actors from the academic and industrial fields from 9 European countries. The objective of the project was to develop an automatic system for the extraction of 2 million tons of polymetallic nodules, located at approximately 4,000 and 6,000 m depth⁴¹.

Other scientific research projects carried out with substantial financial contribution from the European Union are: *BONUS* (European Union contribution: 50 million euros), *PERSEUS* (European Union contribution: 13 million euros), *URBANWAVES* (European Union contribution: 1.9 million euros), *DUST TRAFFIC* (European Union contribution: 2 million euros)⁴².

The results and general conclusions of these studies are intended to guide national authorities, the European Union and the International Submarine Territories Authority in making future decisions regarding the creation or improvement of existing legislative measures and/or the allocation of new research budgets, all aimed at the development of activities aimed at the economic growth of the European Union⁴³.

At the same time, the European Union stood out, in the last 10 years, by adopting a set of measures, in the maritime issue, such as:

- adopting a global approach regarding all marine and maritime aspects - Integrated Maritime Policy a European Union⁴⁴;

- the establishment of a solid set of mandatory environmental norms to ensure the sustainable use of marine resources⁴⁵;

- the allocation of approximately 350 million euros per year for research in the marine field, to facilitate cooperation, information exchange and public access to maritime data⁴⁶;

- the adoption of the maritime security strategy of the European Union, a common global tool to identify, prevent and respond to security-related challenges⁴⁷,

⁴⁰ The document is available online at: <https://bluemining.eu/facts-and-figures/>, accessed on November 16, 2022.

⁴¹ The document is available online at: <https://blue-nodules.eu/facts-and-figures/>, accessed on November 16, 2022.

⁴² The document is available online at: *Blue Economy Innovation: examples of EU marine research* - https://ec.europa.eu/commission/presscorner/detail/en/MEMO_14_337, accessed on November 16, 2022.

⁴³ The document is available online at: *Conférence internationale sur l'exploitation minière des grands fonds marins à Berlin* - <https://www.diplomatie.gouv.fr/fr/politique-etrangere-de-la-france/diplomatie-scientifique-et-universitaire/veille-scientifique-et-technologique/allemande/article/conference-internationale-sur-l-exploitation-miniere-des-grands-fonds-marins-a-berlin>, accessed on November 16, 2022.

⁴⁴ The document is available online at: *The European Union's integrated maritime policy* - <https://www.europarl.europa.eu/factsheets/ro/sheet/121/politica-maritima-integrata-a-uniunii-europene>, accessed on November 16, 2022.

⁴⁵ The document is available online at: *Communication from the European Commission - Technical guidelines on the application of the principle of "do not significantly harm" under the Regulation on the Recovery and Resilience Mechanism (2021/C 58/01)* - [https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:52021XC0218\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:52021XC0218(01)&from=EN), accessed on November 16, 2022.

⁴⁶ The document is available online at: *Blue Economy Innovation: examples of EU marine research* - https://ec.europa.eu/commission/presscorner/detail/en/MEMO_14_337, accessed on November 16, 2022.

⁴⁷ The document is available online at: *European Union Maritime Security Strategy* - <https://data.consilium.europa.eu/doc/document/ST%2011205%202014%20INIT/EN/pdf>, accessed on November 16, 2022.

which highlighted the increased interest of this international organization in the maritime and oceanic space, given that 90 % of the European Union's external trade and 40% of its internal trade is carried out by sea transport⁴⁸.

4. Conclusions

Natural resources are vital for the global economy and for a good quality of life, and minerals and metals are indispensable for the development of a modern society. At the same time, given the estimates that the global human population will reach over 9 billion by 2050, urbanization, access to energy, infrastructure development and poverty reduction measures are causing unprecedented pressure on natural resources⁴⁹.

In the European Union, the need for resources is increasing. Ensuring a viable and constant access to raw materials is an increasingly important factor for the competitiveness of the European Union and, therefore, an essential element for economic growth. Sectors such as construction, the metallurgical industry, the chemical industry, the automotive industry, the aerospace industry, the electronics industry and energy production are completely dependent on access to certain raw materials⁵⁰.

In the current economic context, the European Union will have to show a special interest in the exploration and exploitation of marine resources considering that, according to official data, the economy of the European Union generated by the economic activities that depend on the blue continent represents 5.4 million jobs and a gross added value of almost 500 billion euros per year. Also, fishing and aquaculture will be essential to ensure food needs, and by-products from seafood processing will be able to provide useful raw materials for biotechnology. At the same time, according to studies, in conditions where the world, in 2050, will need about 50% more energy than at present, waves from the sea and wind energy will offer sustainable alternatives to deal with this increased energy demand. At the same time, the discovery in the depths of the seas and oceans and other resources such as *polymetallic sulphides*⁵¹, *cobalt crusts*⁵², *methane hydrates*, *phosphates* necessary for the manufacture of agricultural fertilizers, *precious metals*⁵³, *hydrothermal springs*, *hadal fauna and various bacteria*,

⁴⁸ The document is available online at: *Maritime security: EU reviews its action plan* - <https://www.consilium.europa.eu/ro/press/press-releases/2018/06/26/maritime-security-eu-revises-its-action-plan/>, accessed on November 16, 2022.

⁴⁹ The document is available online at: *Deep Sea mining as part of the European Union's supply chain* - <https://blue-nodules.eu/deep-sea-mining-part-european-unions-supply-chain/>, accessed on November 16, 2022.

⁵⁰ The document is available online at: *Strategia minieră a României 2017 – 2035* - <http://economie.gov.ro/images/resurse-minerale/STRATEGIE.pdf>, accessed on November 16, 2022.

⁵¹ Polymetallic sulfides contain copper, zinc, lead, silver and gold. They were discovered, for the first time, in the Pacific Ocean in 1984 at depths of 1800 m. (Nii Allotey Odunton, *The role of deep sea mining in regional and global economics*, IOI-Pacem in Maribus XXVII Conference, Suava, Fiji, *Oceans in the new millennium: Challenges and opportunities for the islands*, GR South, G. Cleave, PA Skelton (Eds), Proceedings, Publishing House DaDa, Printed in Romania, Constanta, 2001, p. 185).

⁵² The document is available online at: International Seabed Authority to continue work on exploring for polymetallic sulphides, cobalt-rich crusts - <https://press.un.org/en/2002/sea1748.doc.htm>, accessed on November 16, 2022.

⁵³ *Deep seabed resources* in *International Debates*, vol. 3, Issue 4, Apr. 2005, p. 106.

equally arouses the interest of the institutions of research and mining extraction companies⁵⁴ from all over the world, including from the European Union, reasons why the policies of the European Union must strengthen the efforts of the member states and provide the common bases that ensure the prosperity of the blue economy⁵⁵.

All this will also generate multiple legal challenges, because the analysis of international normative provisions, currently in force, highlights the non-existence of specific legal regulations regarding the exploration and exploitation of the new resources identified, in particular, for those discovered outside national jurisdictions. But, how the European Union will succeed, individually or in cooperation with other international organizations, to identify and implement the best technical, legal and economic solutions, in the matter of exploiting and exploring the resources of the blue continent, it remains for future generations to ascertain!

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⁵⁴ UN: *Seabed Authority to resume study of hydrothermal sulphides and cobalt crusts*, M2 Presswire, Coventry, joulé 25, 2003, p. 3.

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