THE CONCEPT OF SUSTAINABLE DEVELOPMENT AND FINANCIAL MECHANISMS: GREEN HYDROGEN AND BLUE BONDS

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Abstract

The UN concept of "sustainable development" is increasingly penetrating various spheres of life, subordinating not only political interests, but also forcing economics and science to work closely together to preserve a favorable environment, biodiversity and reduce climate emissions. On the one hand, in the current global paradigm, this attitude is mainly positive, as it aims to achieve the goals of the Paris Climate Agreement, prevent negative environmental impacts and other high goals, including the protection of the interests of future generations. However, the "green fever" that is sweeping the world, namely the race of states and various international organizations, carries significant risks. The goals and economic targets set by Governments are sometimes not just overly ambitious, but simply unrealistic and utopian, as in the case of the transition to blue hydrogen in the next five years. In addition, another problem associated with the implementation of the principles of sustainable development is the problem of abuse of rights in the financial market, as well as increasing the competitiveness and attractiveness of investments in this area through the issuance of specialized securities, the so-called "green bonds" or their specialized variety of "blue bonds". However, it should be noted that with all the marketing activities that accompany the issuance of each financial instrument of this type, it is currently impossible to ensure their liquidity solely for supposed good purposes. Thus, without a clearly formulated economic plan confirming the real financial attractiveness of both projects on the introduction of blue water and projects on the issue of blue bonds, both are doomed to very low performance.

Keywords: sustainable development, green hydrogen, low carbon hydrogen, green taxonomy, European green deal, ESG principles, financial instruments, green bonds, blue bonds

I. Introduction

The main trends of the regional policy of sustainable development at the present time can be traced most clearly within the framework of the ongoing activities of the European Union (EU), since it is the institutions of this integrating organization that make it possible to cover all the diversity of social relations that are currently being built within the concept of ESG (economic, social, and corporate governance).

Several key factors can be identified in the trends of recent years. First of all, the strengthening of legal regulation, which is manifested firstly in the preferred form of adopted legislative acts, namely regulations that do not require an additional period for implementation, which in turn should encourage Member States to ensure their compliance as soon as possible.

Second, as exemplified by the so-called Green Taxonomy (Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment), the trend towards the adoption of framework legislation is

expected to continue. This will come into force in 2020 and will create the necessary basis for the adoption of technical and other requirements on its basis, under the delegated powers of the European Commission, allowing for faster decision-making. The chosen mechanism will continue to be applied in the future, which is confirmed when more specific reference is made to the legal regulation of non-financial reporting or the establishment of a CBAM (Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism).

In particular, Regulation (EU) 2019/2088 on the disclosure of sustainability-related information in the financial services sector ("SFDR") and the technical standards adopted by the European Commission on April 6, 2022, in addition to the above regulation, are to be used by financial market participants for the disclosure of sustainability-related information (e.g. Commission Delegated Regulation (EU) 2022/1288 of 6 April 2022).

They contain pre-contractual templates detailing the disclosures in prospectuses required under the SFDR, including information on the taxonomy required for products under Articles 8 (environmental and social investments) and 9 (investments with a partially sustainable purpose), as well as templates for the disclosure of periodic reporting for such products in the relevant annexes.

Third, it should be noted that work on EU-wide adoption issues will continue in the future. The Green Taxonomy is a similar proposal in the area of social projects.

The EU Social Taxonomy, together with the previously adopted Green Taxonomy, is a set of measures developed within the European Union and aimed at promoting the implementation of the UN SDGs on "sustainable development".

As stated in the draft, the lack of a clear definition of the essential characteristics of social investments hampers their development and potential contribution to solving social problems. In particular, the lack of agreed standards and the large number of projects with the prefix "social" do not allow for a reasonable choice, including on the part of investors.

A social taxonomy can address these issues and harmonize the way social issues are measured, making it easier for investors to make informed and consistent decisions and helping to direct resources to socially responsible activities and companies. However, the mechanisms used to verify environmental and sustainable activities are not equally applicable to social development.

In its quest for regulatory uniformity in this area, the EU may be deviating from its own motto of "unity in diversity" in order to ensure formal equality where it is sometimes not only not economically advantageous but also not achievable due to the specificities of the socio-cultural environment.

Fourthly, it is important, in our view, to note the growing interest in alternative energy sources. This refers both to general requirements for the revision of the Renewable Energy Directive and more specific legislative proposals that are part of the Fit-for-55 program, such as the Directive on common rules for the internal markets for renewable gas, natural gas and hydrogen. The production of so-called “blue” hydrogen is now taking on an increasingly important role, including being seen as a substitute for other natural fossil fuels: coal and natural gas, and will therefore require a coordinated regulatory mechanism within the EU.

II. Green taxonomy as a legal framework for the realization of the concept

The term “taxonomy” is of Greek origin (“taxos” - structure, order, “nomos” - law) and was originally used exclusively in biology, to define the doctrine of the principles and practice of classification and systematization of plants [1].

Nowadays, the term developed and used in natural sciences has been borrowed and used by

researchers as a definition of other classification systems, for example, "economic taxonomy" [2], "taxonomy of the educational system" [3], 'military taxonomy' [4] and 'taxonomy of sustainable (including) green development projects', which will be discussed below.

One cannot but agree that "the existence of various international bodies and organizations at both the universal, interregional, regional and subregional levels complicate the task of creating an effective system of economic development. There is therefore a need to strengthen coordination among them to avoid fragmentation and duplication of their functions and to ensure sustainable coherent development" [5].

Despite the fact that the experience of the European Union in the field of sustainable development and the creation of a complex structured system of verification of green projects is one of the best, it should also be emphasized that when developing its own taxonomy, the European legislator was guided by already existing acts in this field, such as the Taxonomy of Climate Bonds [6], as well as the Taxonomy of Green Projects [7].

The Green Project Taxonomy is a guide to climate-related assets and projects. It is a tool for issuers, investors, governments, and municipalities to help them understand which key investments will deliver a low-carbon economy. The taxonomy uses a traffic light system to identify suitable assets and projects (the ASEAN Taxonomy, among others, is built on the same principle) and includes sectoral criteria that provide details on which assets can be financed with climate-certified bonds and loans.

Regarding the Climate Bonds Taxonomy, this document, like the above-mentioned ones, creates a certain system of criteria for green (sustainable) development areas, with an indication of prioritization.

In any case, all previously developed acts are of a recommendatory nature and, existing since 2013, have not had such a noticeable impact on states or international organizations as the EU draft taxonomy.

The prerequisites for the creation of a special system of systematization and classification of "green" projects or "sustainable development projects" in the EU were the successive adoption of several fundamental acts.

The initial contributions to the taxonomy were the UN General Assembly Resolution establishing a new global framework for sustainable development: "Transforming our World: The 2030 Agenda for Sustainable Development" ("2030 Agenda"), which includes the Sustainable Development Goals (SDGs) and three dimensions of sustainability: economic, social and environmental, and the previously adopted Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa).

The Addis Ababa Action Agenda has identified several global, cross-cutting areas in which there is a need for greater cooperation, both at the international level and State control at the national level. The areas of cooperation referred to in the programme are as broadly defined as possible (e.g., domestic public resources; private business and finance at the national and international levels; international development cooperation; international trade as an engine for development; debt and debt sustainability; addressing systemic issues; science, technology, innovation and capacity-building) and have a wide range of focus, including, at the same time, health issues, support for environmental projects, and support for the development of the environment.

Although the Sendai Framework is narrower in scope and focuses mainly, as the name suggests, on disaster risk reduction, the priority area of the Framework is "understanding disaster risk" through "collecting, analyzing, systematizing and using relevant data and practical information and ensuring its dissemination, taking into account the needs of different categories of users, as appropriate" (para. 24 (a) of the Framework).

As the researchers emphasize, it was "the Sendai Conference, which endorsed the UN

Framework for Disaster Risk Reduction 2015-2030, that gave impetus to international congresses and other activities at the national level" [8].

The second equally important factor was the adoption of the 2015 Paris Climate Agreement, endorsed by the European Union in 2016.

Thus, the provisions of the Paris Agreement stipulate strengthening the response to climate change "by aligning financial flows with greenhouse gas emission reduction and sustainable development" (Article 2 (1) (c)).

The adoption of the above-mentioned acts has, in turn, triggered an EU response. First, the European Commission in the Communication "Next steps for a sustainable European future. European Action for Sustainable Development" reaffirms its commitment to the principles of sustainable development in general and specific SDGs in particular, dividing the EU's future activities until 2030 into two areas: firstly, the full integration of the SDGs into the European policy framework and the current priorities of the European Commission, assessing the situation of the EU and identifying the most pressing sustainable development challenges, and secondly, analyzing the further development of the long-term vision and direction of sectoral policies after 2020, preparing for the long-term progress.

The subsequent Joint Statement of the Council of the EU and the representatives of the governments of the Member States meeting within the Council, the European Parliament and the Commission "A New European Consensus on Development. "Our World, Our Dignity, Our Future" 2017 (better known as the 'New European Consensus on Development') is essentially declaratory in nature and does not contain specific regulatory measures, unlike the subsequent European Commission's Action Plan "Financing for Sustainable Growth".

One of the objectives set out in the above-mentioned Financing for Sustainable Growth Action Plan is to "reorient capital flows towards sustainable investments to achieve sustainable and inclusive growth".

The creation of a single classification system for sustainable activities is the most important and urgent action envisioned by the Plan. Thus, it is explicitly stated that "the shift of capital flows towards more sustainable activities must be underpinned by a common holistic understanding of the environmental sustainability of activities and investments." And the first step in this journey should be the creation of clear guidance on environmental activities that will help inform investors about capital investments that finance environmentally sustainable economic activities. Further guidance on activities that contribute to other sustainable development goals, including social goals, can be developed at a later stage.

The Financing for Sustainable Growth action plan, together with the 2019 European Green Deal, has laid the groundwork for the European Parliament and Council to adopt a taxonomy to categorize environmentally sustainable activities.

Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment (better known as the "Taxonomy Regulation", hereinafter also "Regulation (EU) 2020/852") does not in fact contain such a term as "taxonomy", operating with the phrase "classification system for environmentally sustainable economic activities", which translates the EU climate and environmental objectives into criteria for specific economic activities for investment purposes.

It recognizes as "green" or "environmentally sustainable" economic activities that make a significant contribution to at least one of the EU's climate and environmental objectives, but at the same time do not significantly undermine the remaining five and minimum social safeguards.

The delegated acts on the taxonomy adopted under Regulation (EU) 2020/852 establish and maintain clear criteria for activities in order to define what is meant by 'significant contribution' and 'harm', and introduce mandatory disclosure obligations for certain companies and investors, requiring them to disclose their share of activities aligned with the taxonomy.

However, the EU taxonomy is not a mandatory list of economic activities in which investors must invest. Nor does it set mandatory environmental performance requirements for companies or financial products. Investors are allowed to freely choose their investment targets. However, over time, the EU taxonomy is expected to promote change and drive the transition to sustainable development.

It should be noted that economic activities that are not recognized by the delegated acts of the EU taxonomy as making a significant contribution to one of the EU's climate and environmental objectives are not necessarily environmentally harmful or unsustainable. Moreover, the delegated acts should be "living instruments" that will be supplemented and updated over time as necessary, as it is obviously not possible to define a complete list of possible environmentally beneficial activities overnight.

Considering the Taxonomy Regulation, we will conditionally distinguish two main directions of legal regulation: firstly, defining the criteria of sustainable development, and secondly, ensuring the functioning of the information disclosure system.

Characterizing the first direction of legal regulation, let us turn to the term "environmentally sustainable investments", defined as "investments in one or more types of economic activities that qualify as environmentally sustainable in accordance with the Taxonomy Regulation".

Thus, such activities must make a "significant contribution" to one of the six environmental objectives listed below:

-climate change mitigation;

-adaptation to climate change;

-sustainable use and protection of water and marine resources;

-transition to a circular economy;

-pollution prevention and control;

-protection and restoration of biodiversity and ecosystems.

It also defines four conditions that an economic activity must meet to be recognized as compliant with the EU taxonomy:

-making a significant contribution to at least one environmental objective;

-no significant harm to any other environmental objective;

-compliance with minimum social safeguards;

-compliance with the technical selection criteria.

The previously mentioned technical selection criteria are developed in delegated acts, in particular Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives. For each economic activity under consideration, the technical selection criteria define requirements for environmental performance that ensure that it makes a significant contribution to the environmental objective under consideration and, at the same time, does not cause significant harm to other environmental objectives.

In addition, the delegated legislation distinguishes between "enabling" and "transitional" economic activities.

Enabling economic activities "do not contribute significantly to climate change mitigation through their own activities".

Such activities play a crucial role in decarbonizing the economy by directly enabling other activities with low carbon and environmental performance. Therefore, technical selection criteria should be established for those economic activities that play an important role in ensuring that the targeted activities become low-carbon or reduce greenhouse gas emissions.

Transitional economic activities are "activities that cannot be replaced by technologically and economically feasible low-carbon alternatives but support the transition to a climate-neutral economy".

These activities can play a crucial role in mitigating climate change by significantly reducing their current high carbon footprint, including by helping to phase out fossil fuels. Consequently, technical selection criteria should be established for those economic activities where near-zero carbon solutions are not yet viable, or where near-zero carbon activities are not yet feasible but not yet feasible at the scale that has the highest potential to significantly reduce greenhouse gas emissions.

It is worth noting that current practice shows that both above economic activities are currently speculative political instruments and subject to substantial lobbying, particularly where the gas and nuclear sectors of the economy are concerned.

The Delegated Regulation on Technical Criteria provides for two main Annexes - the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives (Annex I) and the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives (Annex II).

The Annexes include the following areas for green activities:

-forestry (e.g. afforestation);

-environmental protection and restoration (e.g., wetland restoration);

-manufacturing (e.g., production of energy-efficient building equipment);

-energy (e.g., electricity generation using solar photovoltaic technology);

-water, sewerage, waste management and remediation (e.g., construction, expansion and operation of a wastewater collection and treatment system);

-Transportation (e.g., conversion of inland waterborne passenger and freight transport);

-building and real estate (e.g., installation, maintenance, and repair of electric vehicle charging stations in buildings (and parking lots adjacent to buildings));

-information and communication (e.g., data-driven solutions to reduce greenhouse gas emissions);

-professional scientific and technical activities (e.g., research, development, and innovation in the direct capture of CO2 from the air).

The technical selection criteria for "significant contribution" to the environmental objective favors that the economic activity either has a significant positive environmental impact or significantly reduces a negative environmental impact, such as a significant reduction in greenhouse gas emissions.

The "no significant harm" technical selection criteria contribute to ensuring that the economic activity does not interfere with the achievement of other environmental objectives, i.e. does not have a significant negative impact on them.

The two sets of criteria together ensure consistency between the objectives of the EU taxonomy and ensure that progress towards one objective is not achieved at the expense of another.

The European Parliament and Council have prioritized the economic activities that can make the greatest relevant contribution to the two environmental objectives under consideration.

The first Delegated Act focuses on climate objectives (climate change mitigation and adaptation to climate change) and therefore includes activities that are most relevant for reducing greenhouse gas emissions and building resilience to climate change. This includes the sectors with

the highest contribution to CO2 emissions (energy, manufacturing, transportation, construction) and activities that contribute to their transformation, as transforming activities in these sectors is necessary to achieve the EU's climate objectives.

In addition, so far, the Delegated Regulation on technical criteria reflects a fragile compromise on whether nuclear energy and natural gas should be included among the activities covered by the act.

On January 1, 2022, the European Commission launched a consultation with the Member States' Expert Group on Sustainable Finance and the Sustainable Finance Platform on the draft text of a Supplementary Delegated Regulation covering certain gas and nuclear activities.

The European Commission's Delegated Regulation would label investments in nuclear power plants as "green" if the project has a plan, means and site for the safe disposal of radioactive waste. In addition, to be considered green, new nuclear power plants must receive a construction permit by 2045.

Investments in natural gas-fired power plants will also be considered green if they produce emissions of less than 270 grams of CO2 equivalent per kilowatt-hour (kWh), replace more polluting fossil fuel-fired power plants, receive a construction permit by December 31, 2030, and plan to transition to low-carbon by the end of 2035.

Gas and nuclear power generation will be granted green status on the basis that they are "transitional" activities, defined as those that are not fully sustainable but have emissions below the industry average and do not fix polluting assets.

This draft has already generated several highly significant disputes. For example, EU member states such as France and Poland are actively pushing for the inclusion of nuclear energy in the taxonomy list, arguing that it is a critical low-carbon technology needed to ensure energy security while the EU transitions to renewable energy in the coming decades.

Along with Germany, other countries such as Austria or Luxembourg vehemently oppose such a move amid concerns about nuclear accidents and waste. They would like to see nuclear power disappear from the EU instead of encouraging the construction of new power plants through "green labeling" [9].

Supporters of natural gas argue that it is cleaner than coal and should be used as a transition fuel, while opponents believe it undermines the EU's environmental goals.

Regarding the second area - ensuring the functioning of the information disclosure system, we consider it necessary to note the following.

The Taxonomy Regulation, in conjunction with the other two acts, is intended to provide a single harmonized framework.

The Regulation defines certain mandatory disclosure rules. Alongside these, companies can also use the EU taxonomy on a voluntary basis.

Large financial and non-financial companies subject to the Non-Financial Reporting Directive (discussed in more detail below) will be required to disclose their environmental performance. Similarly, financial market participants (e.g. asset managers) will be required to disclose the extent to which the activities that their investment products finance meet the criteria of the EU taxonomy.

Separately, in our view, it is worth noting that there are many possible options for voluntary use of the EU taxonomy by market participants that are not defined in the documents. For example, companies can use the EU taxonomy criteria as a baseline for their environmental and sustainability strategies and transition plans. Companies and project organizers can also choose to meet the EU taxonomy criteria to attract investors interested in making green investments.

III. Blue hydrogen: pros and cons

Let us consider in more detail the problem of legal regulation of processes related to the

creation, storage, circulation of such a renewable energy source as "sustainable" ("renewable" hydrogen).

Speaking about the peculiarities of the technological process, simplified, the procedure of its production is based on electrolysis, splitting water into oxygen and hydrogen, by using for this purpose other energy from other renewable sources (solar energy, wind energy, etc.).

Of its competitive advantages in the market of energy resources are:

-decarbonization of industry due to the abandonment of sources such as natural gas, oil and their derivatives, and nuclear power;

-significantly higher energy intensity compared to existing alternatives;

The possibility of long-term, large-scale storage of renewable hydrogen, including utilizing existing storage capacity for natural gas and liquefied natural gas;

-reduction of greenhouse gas emissions by at least 70%, which in turn is coordinated with the requirements of the Paris Climate Agreement and internal acts of the EU itself.

The legal basis for the system operation is laid down by several acts of the European Union. Thus, the definition of "low-carbon hydrogen" is given in the Renewable Energy Directive, and it is understood as "hydrogen the energy content of which is derived from non-renewable sources, which meets the greenhouse gas emission reduction threshold of 70 % compared to the fossil fuel comparator for renewable fuels of non-biological origin set out in the methodology for assessing greenhouse gas emissions savings from renewable fuels of non-biological origin and from recycled carbon fuels, adopted pursuant to Article 29a(3) of Directive (EU) 2018/2001".

At the same time with the above notion there are the following definitions: "renewable fuels of non-biological origin / renewable hydrogen" (Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen (Art. 2, para. 11)) and "low carbon gas". In the former case, the term covers liquid and gaseous fuels whose energy content is derived from renewable sources other than biomass, while in the latter case it covers other fuels, i.e. much broader than just "low-carbon hydrogen", although it does cover it (Gas and Hydrogen Markets Directive (Art. 2 para. 12)).

At the same time, it is worth noting that, based on the literal interpretation of the Directive, none of the above-mentioned energy sources can be fully classified as "sustainable" according to the EU Green Taxonomy, as the latter, in turn, assumes a minimum of 73.4%.

It is difficult to assess what is the reason for such discrepancy and multiplicity of terminology of the European legislator. For example, the concept of creating "low-carbon fuels" represents the need to achieve ESG principles. At the same time, for such a complex in all senses technological process of production, achieving higher indicators may not lead to the development of technological processes, but on the contrary become an additional obstacle, including for investment.

However, despite the existing differences in terminology, the EU continues to pursue a coordinated policy of creating a legal framework and adopts several strategically important documents in addition to the above-mentioned ones: The Delegated Act on a methodology for renewable fuels on non-biological origin and the Delegated Act establishing a minimum threshold for greenhouse gas (GHG) emissions savings of recycled carbon fuels.

The first document establishes criteria under which hydrogen and other fuels based on it can be considered renewable fuels of non-biological origin (RFNBOs), while the other aims to set thresholds and considers such existing greenhouse gas emissions over the entire technological cycle, including the direct extraction process, subsequent refining and eventually transportation to consumers.

It considers greenhouse gas emissions throughout the entire life cycle of the fuel, including emissions during the extraction phase, emissions associated with obtaining electricity from the

grid, emissions during refining, and emissions associated with the transportation of that fuel to the final consumer.

These criteria include, firstly, the additionality requirement that increased hydrogen production must be done in conjunction with new renewable electricity generation capacity, and secondly, the temporal and geographical correlation criterion. The latter is aimed at creating production facilities directly in those regions of the EU where renewable energy production is available. The very idea of the European legislator in this case is aimed at creating and encouraging the creation of specialized enterprises in the most suitable regions, including to reduce the use of fossil energy resources.

The main problem associated with the production of this kind of "renewable energy source" is the following factors. In order to achieve the necessary production of "blue hydrogen" on such a scale by currently known methods, a huge amount of energy resources is required, but the currently available alternative energy sources cannot provide such capacities. Therefore, the only possible source of energy in this case is fossil fuels, which is confirmed by the available data of the International Energy Agency [10].

The second negative factor in the production of blue hydrogen is the fact that the total emissions of negative substances into the atmosphere during its production are much higher than in the case of other energy sources, including natural gas [11].

Thus, at the moment we are talking about the fact that it is possible to question the initially existing idea justifying the necessity of its production exactly as an environmentally friendly energy source.

IV. Green and blue bonds

In addition to the delegated legislation on the EU taxonomy discussed earlier, a major achievement of European legislation has been the Regulation on European Green Bonds, the so-called "green bonds".

"Green bonds" are securities issued by the issuing company to finance specific projects aimed at minimizing the negative impact on the environment. If we omit the specific purpose, which is evident from the name itself, in essence, these bonds are still the same debt securities evidencing fixed-income financial obligations.

Despite the fact that this type of bonds is currently quite common all over the world and is widely used, for example, in Japan [12], it was the European Investment Bank in 2007 that first issued green bonds called "Climate Awareness Bonds" for the purpose of financial assistance to projects in the field of alternative energy sources. In turn, these assets received their current name thanks to the bonds of the same name issued by the International Bank for Reconstruction and Development [13].

Until recently, in order to acquire the status of "green", the issue of bonds must comply with special principles formulated by the international capital markets association, or meet the requirements of the organization "Climate Bonds Initiative", followed by a special confirmation.

The new EU Regulation is intended to replace the various existing standards and establish uniform criteria for issuing such bonds, preventing divergence of national requirements that may arise as a result of the adoption of a directive or adherence to other standards, not only for public but also for private entities, including those outside the EU.

Issuers that voluntarily use the designation "European Green Bonds" or "EuGB" should follow the same rules across the EU in order to increase market efficiency by reducing divergence and thus also reducing the cost of valuation of these bonds for investors.

The provisions of the draft Regulation imply, among others, the following:

-compliance with "transparency" requirements (in order to allocate bond proceeds through

detailed reporting requirements);

-“external verification” (hiring an external expert to conduct the compliance procedure);

-“supervision by the European Securities Markets Authority (ESMA) of external experts” (the latter must be registered with and supervised by ESMA).

While the EU is "treading water" and considering additional measures to integrate the financial sector into the "sustainable agenda," much more promising projects are emerging in other regions.

In particular, with the support of the Asian Development Bank, countries in the region have revised the classic structure of the European Green Bond and created a new investment product based on it - Blue Bonds [14, 15]. Belize, Barbados, the Seychelles and Gabon are following suit [16].

Developing a sustainable blue economy, including reversing the decline of marine fisheries, expanding low-carbon aquaculture, scaling up marine renewable energy, and decarbonizing maritime transport, is an integral part of addressing the triple planetary crisis of a rapidly changing climate loss and pollution of nature. The ocean is a vital sink for heat and carbon.

V. Conclusion

When we talk about sustainable development, we are not just talking about the need to protect the environment at a particular point in time, but also to make a contribution to the future. Thus, it is not so much about the need to incentivize investment in high-risk projects, but rather about investing for future generations.

Nevertheless, the existing initiatives analyzed in this paper are currently more populist in nature and have little current feasibility.

However, despite all the negative arguments against “blue hydrogen” as a “renewable energy source”, as well as with regard to the little promising and practically nowhere used in practice “blue bonds”, both of these projects carry significant value in terms of possible development directions, which should be improved, strengthened and supported in many ways, both economic and legal, and therefore cannot be canceled completely.

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