DOI: https://doi.org/10.31410/ERAZ.2022.117

Achieving Disclosure Efficiency Regarding the Climate-Related Issues: A Unique Challenge to the Present-Day Corporate Reporting

Hristina Oreshkova[1]

Received: July 25, 2022
Revised: October 21, 2022
Accepted: December 26, 2022
Published: December 30, 2022

Keywords:
Sustainability;
Sustainable development;
Climate change;
Disclosures on climate-related issues

Abstract: *Over the recent decades, climate change has been intensifying. The problems caused by climate change are unique. The process creates an existential threat to humans and other living beings interrelated with another risk arising from the crisis caused by biodiversity deterioration and environmental degradation. The coexisting impacts of both factors on people, biodiversity, economic sectors, and entities pose unprecedented challenges to humankind.*

The present-day unfavorable impacts of climate change require adequate governmental, and managerial strategies, policies, and activities as well as administrative actions for achieving sustainable, fair, and resilient growth. Phenomena and processes indicating climate change are developing on a global scale. That gives rise to discussions and highlights and justifies the need for meaningful, transparent, and complete climate-related disclosures.

The necessity of trustworthy disclosures on climate-related matters and inherent risks and opportunities related to adaptation to climate change and its mitigation is a problem of crucial importance to the article. The relevance of climate-related disclosures as a significant part of present-day corporate reporting proves to be of great significance for achieving disclosure efficiency. The author aims to highlight, discuss and justify the necessity of applying a responsible approach to carry out an adequate disclosure policy and provide meaningful, consistent, and comparable disclosures on climate-related matters, risks and opportunities considered a significant part of present-day corporate reporting, and substantiate why probable benefits for a sustainable future can be expected, not only for the company.

The terminology of the research is in the field of financial and non-financial reporting and their regulatory frameworks that are still not fully aligned. Heuristic methods of knowledge – analysis and synthesis, induction and deduction, descriptive approach, and techniques such as observation, analogy, comparison, and others are applied, for achieving the author's objective.

1. INTRODUCTION

> "It is time to recognize that human capital and natural capital are every bit as important as financial capital." – The United Nations Secretary-General, Ban Ki-moon

Over the recent decades, enormous scientific and empirical research efforts dedicated to sustainability, sustainable development, and climate change have been made. Ecologists and environmentalists devoted to research in different scientific fields maintain the thesis that greenhouse gas emissions pose considerable risk to many economic sectors and the global economy. Boards of companies should examine and look at matters related to climate change since there

[1] University of National and World Economy (UNWE), Sofia, Faculty of Finance and Accounting; Blvd. „8-mi Dekemvri", 1700 Studentski Kompleks, Sofia, Bulgaria

is a not insignificant risk that the scientists are correct, otherwise, it would be irresponsible, *Investor* wrote. The results of comprehensive surveys confirm our hypothesis that the conceptual idea of sustainability is not an innovative one. It is even argued that the idea dates back to Roman times. "It was part of the traditions and cultural norms of indigenous societies all over the world since their origin" (Sakalasooriya, N., 2021, p. 1).

At the Conference on Human Environment in 1972, the United Nations introduced the concept of sustainability. The conceptualization of the problem and the explanation and justification of the essential core values of the sustainable development concept has been central to many research and conceptual frameworks developed by global organizations and initiatives. After decades of thorough and intensive scientific debates and research, it is not surprising that there are currently over one hundred definitions of sustainable development and even over three hundred definitions regarding sustainability. The interpretations in particular studies differ – the authors' views, reflections, and descriptions are not identical but wide-ranging.

The paradigm of sustainable development is considered the most progressive overarching philosophy of the United Nations. Generally, the meaning of the phrase refers to achieving economic and social development in ways that do not exhaust countries' natural resources. The World Commission on Environment and Development's definition of 1987 is worldwide spread – "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It is true that among the most commonly accepted and endorsed definitions is the definition proposed by the Report of the Brundtland Commission. It is specified in the Brundtland Commission's Report that "Sustainable development is not a fixed state of harmony but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs." The environmental, economic, societal, and cultural dimensions of the humanistic ideas of sustainable development are not distinct or separate from one another but rather interwoven. In general, 'sustainability' is broadly regarded as a paradigm created for future-focused strategic thinking. Its overarching goal is for contemporary societies to develop toward enhancing the quality of life by striking a balance between factors and considerations of environmental, economic, societal, and cultural nature. A healthy environment and prosperous society, for instance, ensures that residents and people have access to resources, clean air, safe drinking water, and food. The question arises whether there is a difference between "sustainability" and "sustainable development". 'Sustainability' is commonly viewed as a goal of the long-term future. Sustainable agriculture and forestry, sustainable production and consumption, good governance, research, technology transfer, education, and training are some of the numerous procedures and pathways to attain the goal of a more sustainable world. The strategic goal of our not only century but also millennium is to globally achieve such a process of radical change, such a progressive movement worldwide to attain the well-being and existence of present and future generations, of humankind, and all living beings. For decades, scientists, environmentalists, and ecologists devoted to achieving the most humane and humanistic goals of our century have been sounding that the contemporary mode of production, which is being compelled by economic globalization and business combinations of business entities primarily aimed at monopolizing highly profitable economic activities, has a detrimental effect on the planet's ecosystems. Ecological constraints do exist, and if the model is not altered globally, there would be a significant increase in the probability (risk) of becoming such hazardous processes irreversible. "If governments fail to act or delay adopting the necessary policies, the likely consequences and costs of [caused by] this policy inaction

will be significant. Without further policies to combat climate change, the OECD projects that greenhouse gas emissions will grow by about 52% by 2050. This would raise the global temperature between 1.7° and 2.4 °C compared to pre-industrial levels – at least twice the temperature increase was seen between 1899 and 2005" (OECD, p. 1).

2. CLIMATE CHANGE AND THE PARADIGM OF SUSTAINABLE DEVELOPMENT

Back in November 2011, at the Durban Summit[2] in South Africa, a message was sent to people and governments across the world. Natural chains among living species are destructed because of climate change and the destruction of the planet's biological diversity. The chain of life and natural history alter by the extinction of animal or plant species that generates a threat to humankind's survival and an infringement on nature's right to exist freely.

In 2015, the United Nations provided a common plan for peace and prosperity for people and the environment by accepting the 2030 Agenda for Sustainable Development. The Sustainable Development Goals (SDGs) underlying most humanistic doctrines were adopted after decades of hard work on behalf of 193 countries and the United Nations as an urgent appeal for action by both developed and developing countries, governments, and governmental representatives. It is acknowledged in the SDGs' justification that to eradicate poverty and other forms of deprivation, the efforts must also be focused on strategies and policies targeted at combating climate change, protecting the planet's seas and forests, and enhancing health and education.

On December 12, 2015, the Paris Agreement, the legally binding international treaty on climate change, was signed up[3], charting a radically new course in the global efforts against climate change. The Paris Agreement adopted by 196 Parties at COP 21 in Paris entered into force on 4 November 2016. Its essential goal is to restrict the rising of global temperature to well below 2 degrees (2 °C) above pre-industrial levels, as well as pursue efforts to limit the increase to 1.5 degrees (1.5 °C), setting the innovative ambition to respond to climate change globally and to accelerate and intensify the actions and investments needed for a sustainable low carbon economy. It is of crucial importance to achieve Paris Agreement goals for the nature of the challenges posed by climate change to be thoroughly understood worldwide.

The UN Global Goals, the Paris Agreement, and the Special Report of the Intergovernmental Panel on Climate Change (IPCC) of October 2018 appeal for urgent actions to reduce greenhouse gas emissions and create a low-carbon and climate-resilient economy. The EU has accepted targets for 2030 regarding greenhouse gas emissions decreases, renewable energy, and energy efficiency, and has endorsed guidelines on greenhouse gas emissions from land use and targets for cars and vans. In 2018, the Commission published the strategic long-term vision for building up a prosperous, competitive, and climate-neutral economy by 2050.

In the IPCC's report of February 28, 2022, it was announced that despite efforts, climate change induced by human activities is harmfully disrupting nature, causing detriment to the lives of billions of people. The damaged populations and ecosystems are those that are least equipped

[2] A major development was achieved in 2011 at the United Nations Climate Change Conference in Durban, South Africa, for the implementation of the Convention and the Kyoto Protocol, the Bali Action Plan, and the Cancun Agreements.

[3] UN Climate Change. Key aspects of the Paris Agreement, 2022. Available at https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/key-aspects-of-the-paris-agreement, last accessed on June 15, 2022.

to adapt. Hoesung Lee (2022), IPCC Chair, emphasized that the report is a dire warning about the consequences of inaction and reveals "Climate change is a grave and mounting threat to our wellbeing and a healthy planet. Our actions today will shape how people adapt and nature responds to increasing climate risks" (2022). "The IPCC's Working Group I report showed – unequivocally – that human activities have warmed the climate at a rate not seen in at least the past 2000 years" – Hoesung Lee remarked presenting the Working Group II contribution to the Sixth Assessment Report. Within the next two decades, the world will have warmed by 1.5 degrees Celsius. Unless the world takes audacious action, the temperature will keep rising.

Nowadays, companies carry out various activities, not only of industrial nature, in different geographical regions; that way companies experience the influences of various climate and physical-geographical factors; for performing their activities, companies held, control, and manage resources (assets) of different types; therefore, different companies may experience aggressive or unfavorable impacts of different climate-related phenomena, processes, and factors in a different way. Many companies will incur increases in costs (expenses) or decreases in revenues and income, or both effects. For example, increasing the cost of water and energy will lead to an increase in electricity and energy costs, consumed in operational activities of some companies; assets, for example, stocks or other kinds of investments, loans, or infrastructure assets may be foiled in specific locations due to extraordinary circumstances or unforeseen phenomena. For some companies, climate-related issues are material even now, with impacts disrupting supply chains and changing consumer behavior. In other cases, issues related to climate are a matter of long-term decisions, targeted at strategic planning, while for other companies climate-related risks are highly probable and foreseeable. As the manifestation of such risks becomes clearer, more and more people are likely to adapt their behavior and investments, thus making the prevention against potential aggressive climate change influences a short-term mission, task, and high responsibility for many companies. Equally important is the problem of how companies' operational activities affected the environment and climate, and what damage, impacts, and consequences these activities cause or engender.

In June 2017, the Task Force on Climate-Related Financial Disclosures (TCFD)[4] released its final report and recommendations. The Task Force's objective was to develop and establish a supportive framework for businesses and companies to create considerably more meaningful and impactful disclosures on climate-related matters using contemporary financial reporting practices and procedures. The TCFD highlighted the significance, value, and probable positive effect of transparency in considering and evaluating risks, especially climate change-related risks that would better enable knowledgeable and effective decisions on the allocation of resources and capital respectively. The TCFD acknowledged that difficulties may occur in gathering and releasing data on concerns of hazards related to climate change and emphasized how incorporating the relevant issues into annual financial disclosures would enable practices and procedures to advance more rapidly. It can be expected that if practices and techniques were improved it would eventually promote a more accurate assessment of risks and allocation of capital in the global economy and lead to further improvement in the quality of financial disclosures related to climate change. The process of management of assets and the predominant part of investors regardless of their investing capacity are facing the prospect of significant losses presupposed because of anticipated climate change effects. Companies may incur losses – assets may

[4] To help investors, lenders, and insurance underwriters properly evaluate a particular set of risks, the Financial Stability Board (FSB) established the TCFD intended to provide recommendations on the kinds of information that businesses should disclose to support investors, lenders, and insurance underwriters regarding hazards associated with climate change.

be damaged by natural phenomena like storms, floods, droughts, etc. There is a probability for asset portfolios to be affected and impaired through weaker cost-effectiveness, weaker profitability and growth, and lower returns on assets. Climate change generates long-term and even short-term problems, highly unfavorable processes that may prove irreversible surrounded by significant uncertainty.

There exists the consideration that climate change does not only pose challenges, it also creates opportunities of not only financial character, and such considerations give rise to optimistic attitudes. For example, the International Energy Agency estimates that shortly investments of about $1 trillion per year will be necessary to achieve the intended transition to a lower-carbon economy that would be creating new investment opportunities (World Energy Outlook Special Briefing for COP21, 2015). The energy sector investments are anticipated to cost approximately $3.5 trillion annually, on average, for the foreseeable future to achieve the projected transition to a lower-carbon economy, creating new investment opportunities. Concurrently, the physical effects of climate change, climate policy, or new technology may all have a substantial impact on the risk-return profile of businesses that are exposed to issues related to the environment and climate-related risks. According to a study, between now and the end of the century, the estimated value of the whole world's stock of manageable assets that are in danger from climate change ranges from $4.2 trillion to $43 trillion. It is highlighted that weaker growth and lower asset returns across the board will have a significant impact on future assets. It proposes that considering the probable negative impact on a variety of asset classes, investors may not be able to avoid climate-related risks by leaving particular asset classes.

Executives of companies and investors alike must thoroughly think about their longer-term strategies and how best to allocate resources and capital. Companies that invest in industries and activities exposed to climate-related risks may prove to be less adaptable to the transition to a reduced-carbon economy, and the probability of incurring lower returns by investors exists. The likelihood that present valuations may not appropriately account for climate-related hazards and risks due to a lack of sufficient information has a compounding effect on longer-term returns. Companies that can provide long-term investors with sufficient information about how they are preparing for a lower-carbon economy may have a competitive advantage. By 2050, the United Kingdom's government hopes to have eliminated all greenhouse gas emissions. With investors starting to follow, other countries are realigning around such goals, as exposed, for instance, in the UN-convened Net-Zero Asset Owner Alliance. Both businesses and investors will set their sights on this target since it suggests a unique indication for the long future for 30 years. Considering the emerging tendency, more and more companies will provide information on what their business model would look like in the future and how it will get there.

Results of our comprehensive research on the subject indicate that over the last decade there have been noticed good trends and reporting practices in Bulgaria and abroad of progressively intensifying disclosure focusing on climate-related risk even by companies, for which such disclosure is not obligatory. Many companies disclose such information voluntarily. Nevertheless, it should be emphasized that further improvement is necessary regarding both the quantity and quality of the disclosed information to optimize the balance between them. As it is specified in the Communication from the Commission (EC) "Guidelines on non-financial reporting: Supplement on reporting climate-related information"[5], improving the disclosure of climate-re-

[5] Official Journal of the European Union C 209/1 of June 20 2019, "Communication from the Commission (EC) Guidelines on non-financial reporting: Supplement on reporting climate-related information (2019/C

lated information would bring benefits to the disclosing companies themselves. Probable benefits can be the following:

- improved awareness about climate-related risks and opportunities within the company focused on climate-change mitigation and adaptation;
- better strategic planning, better decision-making as well as risk management;
- more diverse base of investors and a potentially lower cost of capital due to inclusion in actively managed investment portfolios and sustainability-focused indices;
- improved credit ratings and creditworthiness assessment of bank lending practices;
- more productive dialogue with stakeholders, investors, shareholders, and others;
- improved corporate reputation and maintenance of social license to operate; and
- constructive public appraisal and benevolence.

Following the EU Directive 2014/95[6] certain large undertakings and groups are required to disclose information to the extent necessary to understand the development, performance, state of affairs, and impact of the companies' activities, relating to environmental, social, and employment matters, to human rights, anti-bribery and anti-corruption issues. Logically, climate-related information can be considered to refer to the category of environmental issues. It is set out in the Commission's Non-Mandatory Guidance on the Disclosure of Non-Financial Information of 2017 that the wording on the "impact of [the entity's] activities" introduces a new element, which should be taken into consideration when the materiality of non-financial information is assessed. In practice, the perspective on materiality in the EU Directive on non-financial reporting and disclosure is double-sided. The reference to phrase "development, performance [and] condition" of the company refers to financial materiality perceived in a broad sense as an influence (impact) on the company's worth (value). If necessary to comprehend the company's development, performance, and condition, climate-related information should be presented, and investors are typically most interested in this viewpoint. The reference to 'the impact of [the undertaking's] activities' points toward materiality regarding environmental and social matters. Information related to climate should be disclosed if it is necessary to understand the external impacts of the company's activities. Typically, the most interested in this perspective are citizens, consumers, employees, business partners, communities, and organizations of civil society. However, increasingly investors also will need to be informed of the climatic impacts of the companies, in which they have invested, to better understand and measure the climate impacts of their investment portfolios. The perspective concerning "the materiality" of the EU Non-Financial Reporting Directive touches upon it from a financial viewpoint and an environmental and social one as well, whereas the Task Force on Climate-related Financial Disclosures (TCFD) perspective covers materiality from a financial viewpoint only. When an undertaking is mandated to prepare a non-financial statement, that statement must include information on the existing and anticipated impacts (effects) of that undertaking's operations and activities on the environment, as well as, where appropriate, on health and safety, the use of renewable and/or non-renewable energy, greenhouse gas emissions, water use, and air pollution[7].

209/01)", p. 1–30

6 Directive 2014/95/EU of the European Parliament and of the Council of the EU of 22 October 2014 amending Directive 2013/34/EU, OJ L 330, 15.11.2014, pp. 1–9

7 Ibid.

3. EU DOUBLE MATERIALITY PERSPECTIVE[8] AND EU NON-FINANCIAL REPORTING DIRECTIVE[9]

Companies should consider a longer-term period than the one taken into consideration for financial statements traditionally when assessing the materiality of climate-related information. Companies are cautioned not to impulsively conclude that climate is not a material issue because some of its threats and risks are thought to be long-term in nature. As specified in the Communication from the Commission Guidelines on non-financial reporting[10], companies should take into account their whole value chain, including both upstream in the supply chain and downstream, when determining the materiality of climate-related information.

It can be observed recently that the impacts of climate change are systemic and pervasive. Considering that fact, most of the companies falling under the Directive's scope can be expected to conclude that climate is a material issue. In case the companies conclude that the climate is not a material issue from their point of view, companies are advised to consider making a statement to that effect, explaining how such a conclusion has been reached. Amongst the examples of risks, causing negative impacts on climate are the following[11]: release of greenhouse gases directly into the atmosphere due to an industrial facility held by a company; purchased energy by a company for its operations, produced by using fossil fuels; the product company produces requires fossil fuels consumption, for example, cars need to consume petrol or diesel; the production of materials used by the company can lead to emissions of greenhouse gases up its value chain; for example, some companies use cement or aluminum in production activities, a company that produces and processes agricultural products or timber, whether it be in the food, apparel, or lumber industries, may be directly or indirectly responsible for land-use changes such as deforestation, forest degradation, and subsequent greenhouse gas emissions.

Risks to the company's activities and financial performance arising from climate change can be categorized as either physical or transition-related risks. Physical risks to the company arise from the physical impacts of climate change. The exposure of a company to physical risks does not directly depend on the circumstances of whether the same company hurts the climate. Amongst those risks[12] are: risks of excessive physical damage arising from certain events, especially whether a company's exposure to physical risks does not depend directly on whether that company hurts the climate events such as storms, floods, fires, or heat waves that can damage production facilities and disrupt value chains; risks of chronic, long-lasting physical damage that arise from longer-term changes in temperature, a rise of sea level, reduced availability of water, loss of biodiversity, and changes in land and soil productivity. Transition-related risks to the company are risks that arise from the transition to a low-carbon and climate-resilient economy. Such types of risks may

8 The EU Commission released (2019) the Consultation Document on the Update of the Non-Binding Guidelines on the EU Non-Financial Reporting Directive and introduced concept of "double materiality" that concerns the potential or actual impacts of climate-related risks and opportunities on company's performance, development and position regarded as "financial materiality" with audience investors, and the external impacts of company's activities regarded as "environmental and social materiality" with audience consumers, civil society, employees, and investors.

9 The new EU Corporate Sustainability Reporting Directive (CSRD) will mandate over 50,000 companies in Europe.

10 Official Journal of the European Union C 209/1 of June 20, 2019, "Communication from the Commission (EC) Guidelines on non-financial reporting: Supplement on reporting climate-related information (2019/C 209/01)", p. 1–30

11 Ibid.

12 Ibid.

be the following: requirements for energy efficiency, carbon pricing mechanisms raising the cost of fossil fuels, or laws encouraging sustainable land use could impact policy and generate risks; legal risks may occur due to lawsuits that could result from failing to prevent or minimize harmful climate consequences or failing to adapt to climate change; technological risks may arise if a technology with lower climate-damaging impacts replaces a technology with higher ones; market risks can arise if a consumer and business customer choice shifts to less climate-damaging products and services; reputational risks concern difficulties in attracting or retaining customers, employees, business partners, and investors because of the company's reputation for climate damage.

Generally, it can be expected that a company with a higher negative climate impact will be more exposed to transition-related risks. As regards the structure of the proposed disclosures, the Commission (EC) Guidelines on non-financial reporting: Supplement on reporting climate-related information, propose climate-related disclosures for each of the five areas of disclosure, described in the business model; the company's policies and due diligence process; the policy outcome; the principal risks and the management of risk; and the key performance indicators. The EC guidelines identify the limited disclosures recommended for each area of disclosure. An entity should consider the disclosures recommended to the extent necessary to understand the entity's development, performance, condition, and impact of its activities[13]. Companies decide whether to use the recommended disclosures and the detailed suggestions included under further guidance and to what extent. When deciding on the matter, companies should embrace the principles underlying good contemporary practices in non-financial reporting specified in the Commission's 2017 Non-Binding Guidelines on Non-Financial Reporting. The Guidelines include the requirements and principles concerning the disclosed information: *material*; *fair*, *balanced, understandable*; *comprehensive but concise*, *strategic and forward-looking*, *stakeholder orientated*, *consistent, and coherent*.[14]

Over the recent decades, influential international organizations and reporting initiatives have made tremendous efforts toward achieving sustainable development goals. Each organization is focused on its aims and specific objectives; its conceptual framework is based on principles similar to a certain extent to other framework principles, but not fully aligned, or at least its philosophy is not identical with the philosophy of other similar frameworks; the audience, users and targets of the guiding recommendations are also not the same. The organizations diverge in their approach that depends on which stakeholder group the activities are focused on. At the Ethical Corporation's Responsible Business Summit (New York 2018) it was emphasized that investigating how each reporting framework defines "materiality" for a business is one of the greatest ways to comprehend the key distinctions between the reporting frameworks. As it is stated in the quoted article, "GRI and SASB complement each other nicely on this front," – Mohin pointed out (June 27, 2018). "Materiality to GRI is outward looking since it refers to the impacts of the company on the world around it". As regards SASB, SASB's materiality focuses on the impacts of topics of sustainability on a company's financial condition or operating performance, proposing a more inward-looking approach (Helle Bank Jorgensen, 2018, Reuters Events). "They are converse, while complementary," – Mohin argued. CDSB's members consider equally how the organization affects the environment and how the environment influences the organization. The IIRC's members consider a matter to be material (significant) if the matter could considerably affect the organization's ability to create value in the short, medium, or long-term perspective.

[13] In addition, Annex I, provides further guidance for banks and insurance companies.

[14] Official Journal of the European Union C 215/1, Communication from the Commission Guidelines on non-financial reporting (methodology for reporting non-financial information) (2017/C 215/01), pp. 1–20

The question arises of what the major contribution and mission of each of the worldwide leading organizations are regarding the problem crucial for the article. Due to its activities throughout several decades, the influential International Accounting Standards Board (IASB) *contributes transparency, accountability, and efficiency primarily to financial markets and investors thus fostering trust, growth, and long-term financial stability in the global economy.* The Carbon Disclosure Project (CDP) *focuses on investors, companies, and cities through an urgent course of action that aims to create a truly sustainable economy.* For comparison, the mission and the goals of the Climate Disclosure Standards Board (CDSB) are to make it possible for *significant information about climate change and natural capital to be included in mainstream reporting that would improve the efficient allocation of financial capital and use of financial resources*. The Sustainability Accounting Standards Board (SASB) aspires to improve investors' ability to make decisions to support value creation. The International Integrated Reporting Council (IIRC) seeks *to harmonize corporate behavior and capital allocation with the overarching objectives of financial stability and sustainable development.* The Global Reporting Initiative (GRI) *aims to enable decisions that benefit everyone in terms of social, environmental, and economic benefits*. As the foundation for enabling trade, the International Organization for Standardization (ISO) *works to develop high-quality, secure, and effective products*. Therefore, *further alignment is globally necessary* – a more complete alignment of the principles and targets of the conceptual frameworks focused on sustainability and sustainable development, and if it is achieved it will bring greater progress towards sustainability and sustainable development. "Moderately optimistic assumptions could be made that the climate changes will drive the world towards a technological leap and will remain a challenge, which will most probably bring about innovations and improvements in technologies" (Oreshkova, 2013, p. 52). It may be suggested that discovering appropriate solutions will create new opportunities for innovation in present-day technologies, economies, and societies.

The increasing societal and institutional concern arising from climate change regards present and probable future impacts on business entities, financial institutions, and other organizations and their activities examining and applying different standards and frameworks focused on sustainability reporting. Usually, the aim was to identify which of the frameworks would best articulate their specific climate-related risks and strategies to stakeholders. It was publicized (2019) that *climate-related reporting frameworks are highly but not fully, [author's note] – aligned* (Tho, 2019). The report prepared by the Corporate Reporting Dialogue (CRD) was a part of a two-year study named "The Better Alignment Project", which found alignment between the TCFDs recommendations and the global organizations' frameworks and standards on sustainability reporting even stronger than it was expected.[15] The technical mapping of the report found that the participants' standards and frameworks are harmonious and complementary with the seven principles for effective disclosures of the Task Force on Climate-Related Financial Disclosures (TCFD), i.e., *disclosures should provide* ***relevant information****; disclosures should be* ***specific and complete****,* ***clear, balanced, and understandable****, and* ***consistent over time****,* ***comparable among organizations within a sector, industry, or portfolio****; disclosures should be* ***provided on a timely basis***[16], and with the 11 disclosures recommended by the TCFD – on governance, strategy, risk management, and metrics and targets – comprehensively covered by the participants' frameworks and standards. 80 % of the TCFD's 50 metrics are fully or reasonably

[15] The Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), the Sustainability Accounting Standards Board (SASB), and CDP were the parties involved in the investigations, comparative analysis, and report preparation.

[16] TCFD Final Report 2017. Recommendations of the Task Force on Climate-related Financial Disclosures, June 15, 2017

covered by CDP, GRI, and SASB indicators, and of all CDP, GRI, and SASB climate-related indicators, 70% have no material differences from the TCFD's 50 metrics (Tho, 2019). Mackintosh, chair of the CRD and a former vice-chairman of the IASB pointed out that because the Task Force has been attaining a lot of traction and many companies are interested in using the recommended metrics in their corporate reporting, the study examined the participants' frameworks against the TCFD's recommendations. Mackintosh fairly remarked that TCFD has been quite successful over the years. The TCFD's framework rests on four pillars: ***governance*** of climate-related risks and opportunities, the board's oversight and management's role in assessing and managing such risks by both the investors and companies; ***strategy*** regarding the risks and opportunities posed by climate change, how the allocation of assets is affected, and the processes investors use to assess performance; ***risk management*** regarding the processes investors follow to measure, monitor and manage climate-related risks; ***metrics and targets*** regarding measures used by investors to manage their climate-related risks and opportunities.[17]

The vast majority of both preparers and users of corporate report information are unsure how reporting frameworks and standards on sustainability in the market complement or differ from one another – whether in terms of comparability, materiality, definitions of [terms and – *author's note*] terminologies, or the used metrics, according to a survey found in the same report (Tho, 2019). Considering the views and attitudes of preparers, investors, funders, and regulators, Mackintosh argued, "It would be much more preferable to have one set of standards, which everybody could understand and use and would be comparable across companies, industries and countries" (2019). In light of such a high level of alignment, the crucial question arises of which framework or standard should a company apply. Mackintosh recommended three important things to be examined: whether a framework can be compared to other frameworks, what is material (significant) to the company, and what the company hopes to achieve with climate-related disclosures. "But – as Mackintosh admitted – he does not think that there's a straight answer to the question," adding that a Corporate Reporting Dialog report's section gives some answers. "There's still a lot of crossover and potential for confusion" – Mackintosh admitted (2019). Undoubtedly, the approach of each company or organization should be tailored to the nature and specifics of its activity and the particular risks that the activity and inherent assets face due to climate change, and the risks that the activity itself creates regarding climate.

4. THE INNOVATIVE PROPOSALS FOR CLIMATE-RELATED DISCLOSURES MADE BY THE U.S. SEC, THE ISSB, AND THE EFRAG

Progressive proposals for reporting standards on climate-related matters have occurred recently – the U.S. Securities and Exchange Commission's (SEC's) proposal for *"The Enhancement and Standardization of Climate-Related Disclosures for Investors"* of March 2022 (with comments expected by June 17, 2022), the International Sustainability Standards Board's (ISSB's)[18] *"[Draft] IFRS S-2 Climate-related Disclosures"* of March 2022 (with comments expected by July 29, 2022), and the European Sustainability Reporting Standards (ESRS) of April 2022, developed by the European Financial Reporting Advisory Group (EFRAG) *"ESRS E1: Climate change"*.

[17] Net-Zero Knowledge Hub (2022) Your Net-Zero Strategy Aligning with TCFD recommendations: Climate-related financial reporting, July 2022

[18] On 3 November 2021, the IFRS Foundation announced the ISSB to meet demands for high-quality information on climate change and other environmental, social, and governance issues rising among investors with international investment portfolios, and to provide a worldwide baseline of sustainability-related disclosure standards to support capital market participants.

The SEC has a unique position in the financial reporting regulatory landscape in the United States. On 21 March 2022, the supreme regulatory institution on the front line of financial reporting[19] in the U.S., the U.S. SEC, proposed rules to enhance and standardize climate-related disclosures for investors. The significant changes would require registrants to include climate-related disclosures on certain matters in the statements and periodic reports incorporating information about climate-related risks that are likely to affect their businesses, operational results, and financial condition materially, and certain metrics in the note attached to the audited financial statements. It would force disclosure of greenhouse gas emissions, which has turned into a commonly used metric to assess a registrant's exposure to such risks. In topical publications, it is pointed out that the SEC's course of action and programme are politically influenced. Well-known is the fact that amongst Republicans the existence of climate change is denied as well as the assumption that climate change is a result of human activity, "thinking that market forces and technological innovation will bail us out" (Eccles, 2022).

The analysis reveals much more similarities between the three proposals than differences, which is encouraging (Eccles, 2022). However, "some of the differences are important," – Eccles argued. On the question of the likelihood of a future global framework and standard for disclosure on climate-related issues, Professor Eccles is rather an optimist since he considers "*the groundwork is being laid for a truly global standard for climate-related disclosures*," (Eccles, 2022) and specifics caused by the necessity to consider nuances of various jurisdictions' laws, rules, and customs can be expected. Eccles's hypothesis is based on a dependable report recently released by the SustainAbility Institute ERM (ERM) and Persefoni grounded on a comparative analysis of all three proposals[20]. It is revealed that a considerable convergence is achieved between the new climate-related disclosure frameworks. Specifically, the rules proposed by the U.S. Securities and Exchange Commission (SEC), the EU European Financial Reporting Advisory Group (EFRAG), and the IFRS Foundation's International Sustainability Standards Board (ISSB) are thoroughly discussed. However, it is concluded that an opportunity for greater harmonization exists and if it is achieved it would improve both comparability and quality of disclosure related to climate change. "…and lack of common reporting requirements has led to a *proliferation* of standards in response to investor and other stakeholder demands for more climate-related financial information... resulted in an '*alphabet soup of standards…*' difficult to navigate, with both issuers and investors calling for convergence and harmonization" (ERM, 2022).

Organizations occupying different positions in the international regulatory landscape developed the proposals. As highlighted, the SEC's proposal[21] focuses primarily on protecting investors advancing in publicly traded companies in the U.S. and relates to all SEC registrants comprising foreign private issuers. On April 21, 2022, guidance on a range of requirements concerning sustainability-related disclosure was released, including the European Sustainability Reporting Standards (ESRS). The objective of the [Draft] ESRS E1 '*Climate change'* as stated, is for requirements to be specified to enable sustainability statements users to understand the enterprise's strategies,

[19] Under the U.S. securities laws, the U.S. SEC not only has the authority to establish accounting standards to be followed by public companies but also the power to enforce standards. The SEC has looked for leadership in establishing and improving the accounting principles to be applied to prepare financial statements to the private sector, since its inception. The Financial Accounting Standards Board (U.S. FASB), which has the power to set, but not to enforce, accounting standards to be used by public companies, performs that function.

[20] The SustainAbility Institute by ERM (ERM) and Persefoni (2022). The Evolution of Sustainability Disclosure: Comparing the 2022 SEC, ESRS, and ISSB Proposals, 9 June 2022

[21] U.S. SEC (2022). "Enhancement and Standardization of Climate-Related Disclosures for Investors, March 21, 2022

policies, actions, etc. For example, how does the enterprise impact climate change and cause effects (actual or probable, positive or negative); previous, ongoing, and planned actions to comply with the goal set by the Paris Agreement to keep global warming to 1.5 °C; strategies, policies, and ability to modify the business model(s) and activities in the transition to a sustainable economy and help keep global warming to 1.5 °C; actions or activities to avoid, mitigate or remediate adverse impacts, and specific outcomes; essence and extent of the undertaking's material risks and opportunities arising from its impacts and dependencies on climate change; effects of risks and opportunities, related to the undertaking's impacts and dependencies on climate change, on its development, performance, and position over short, medium and long term, and enterprise's ability to create value.[22] The new EU Directive, which will ultimately have an impact on all large undertakings in the EU, on companies with EU listings, and non-EU companies with EU subsidiaries, will be supported by EFRAG's proposal. The EFRAG's ESRS proposal is based on the concept of double materiality – how matters of sustainability affect reporting entities and how entities' activities affect the environment and society. The IASB and the new ISSB do not have the authority to compel disclosure. Rather, as standard-setters, the Boards' primary responsibility is to develop standards for reporting on sustainability issues that different jurisdictions and regulators might accept and adopt, or might not, or otherwise employ in the rulemaking process. The analysis of the most recent proposals reveals an increasing alignment of the frameworks for climate-related disclosure. It is essential for creating a uniform baseline for requirements and reporting practices procedures globally because may have a substantial impact on climate-related information quality leading to improved insights and decisions. Crucial takeaways of the comparative analysis in the report prepared by the SustainAbility Institute by ERM and Persefoni[23] are considered the following: the guiding rules developed by the U.S. SEC, EFRAG, and ISSB, are considerably improved; evolving engagements among international experts and organizations dedicated to environmental, social and governance issues, sustainability, and climate change improve the overall background specifically for disclosure of quantifiable data about greenhouse gas emissions; for the moment, companies should focus on the TCFD's framework applied across industries and types of organizations underlying the three proposals intended for helping companies to evaluate climate-related financial risks and opportunities.[24]

The alignment in the proposed frameworks for disclosure of risks and opportunities climate-related supports companies to navigate such a complex landscape and comply more effectively with requirements. The global process of alignment on climate disclosure guidelines influences positively the overall quality of information, to the benefit of both companies and investors. "… further harmonization… supports the development of a clear global baseline for climate and broader ESG-related disclosure requirements,"[25] which will not only have the benefit of making disclosures less complicated but be more widely accepted as well (Kawamori, 2022). The SEC's, EFRAG's, and ISSB's proposals are constructed on the same foundation – the Greenhouse Gas Protocol and TDFC's recommendations (Wyatt, K., 2022). Discussing the proposals, R. LaCount admitted that important differences remain. Therefore, companies must reasonably

22 EFRAG PTF-ESRS [Draft] ESRS 1 Climate change, Exposure Draft, April 2022

23 ERM 2022. New report helps companies and investors make sense of proposed climate disclosure standards, 9 June 2022

24 "More companies will disclose emissions (Scope 1, 2, and 3): This will increase the amount of available data and facilitate reporting over time. In particular, as more companies report their Scope 1 and 2 emissions data, Scope 3 reporting will become easier and more reliable," (Quoted following ERM 2022, "New report helps companies and investors make sense of proposed climate disclosure standards", 9 June 2022, ERM 2022).

25 ERM 2022. New report helps companies and investors make sense of proposed climate disclosure standards, 9 June 2022

consider what is required to adhere to the appropriate guidelines and follow accurate business and governance strategies, policies, and processes. Companies that proactively address strategies for climate change will gain a competitive advantage because will be responsive in spotting and acting on opportunities and reducing risks. The Commission (EC) highlighted probable benefits expected from providing climate-related information by increasing awareness and understanding of climate-related risks and opportunities, diversifying the investor base, creating a lower cost of capital, and improving constructive dialogue with stakeholders.

5. CONCLUSION

The thesis that greenhouse gas emissions pose considerable risk to the global economy is widely maintained. Its supporters claim that such emissions affect and will continue to have a strongly negative impact on numerous economic sectors. It is expected communities of investors and creditors (present and potential), employees, and other interested parties, to increasingly need credible information about companies' business activities mostly exposed to risk arising from climate change, and companies that generate risk concerning climate due to the nature of their activities. Therefore, it is necessary to know to what extent companies are organized to incur impacts and unfavorable effects of evolving aggressive phenomena due to climate change and to what extent companies are prepared to take appropriate future actions for prevention.

The role of civil society will also be of crucial importance. Civil society members should have morality, awareness, interest, and desire to require an adequate response to the global necessity of comprehensive qualitative disclosures about climate-related matters. The disclosure efficiency will mostly depend on the priorities and concerns, the insight and responsibility of executives at the highest levels of corporate governance and management.

Climate change is turning into a substantial factor influencing significant investment decisions regarding the allocation of financial capital globally. Investors are increasingly trying to navigate climate risk and gain an advantage and benefit from climate transition. It is not surprising that the new proposals occur in a period of flourishing climate-related disclosure regulations worldwide. Over the most recent decades, remarkable progress has been achieved as the global baseline for disclosures on climate-related matters was settled. However, a long way is still to go ahead to reach the extent, to which the regulatory basis for international financial reporting is developed.

The present-day forward-thinking philosophy and concern about the global necessity of proper solutions for combatting climate change should be developed and raised to a qualitatively new level. The appropriate actions for mitigation of and adaptation to climate change are considered an effective strategy for a sustainable future world that can reduce probable negative effects as well as the manifestation of climate-related risks and vulnerability of people, ecosystems, and biodiversity; however, beyond certain levels of global temperature, adaptation will no longer be possible for some species. Climate change poses unique challenges to humankind. Another key argument is that climate change can be regarded as an exclusive chance for creating new opportunities. Proper solutions will probably discover opportunities for innovations in technologies, economies, and societies, in favor of climate-change mitigation.

The goal of developing international standards for climate-related disclosures of high quality, designed to be uniformly and universally applied should be regarded as the highest priority for constituting a comprehensible regulatory basis for corporate reporting on sustainability.

REFERENCES

Accountancy Europe (2022). EU reaches agreement on the CSRD: a historic moment for corporate reporting, 30 June 2022.

CDP (2022). Disclosure Insight Action Now for Nature. The Decade of Delivery, March 2022.

Eccles, R. G. (2021). A Comparative Analysis of Three Proposals for Climate-Related Disclosures, Forbes, June 11, 2022, at https://www-forbes-com.cdn.ampproject.org/c/s/www.forbes.com/sites/bobeccles/2022/06/11/a-comparative-analysis-of-three-proposals-for-climate-related-disclosures/amp/, last accessed on 9 July 2022.

EFRAG European Reporting Lab (2021). Conceptual Framework for Non-Financial Information Standard Setting, European Financial Reporting Advisory Group

ERM (2022). New report helps companies and investors make sense of proposed climate disclosure standards, 9 June 2022.

EU Commission (2019) Consultation Document on the Update of the Non-Binding Guidelines on the EU Non-Financial Reporting Directive (NFRD), Brussels

EU Commission (2020) State of the Union: Commission raises climate ambition and proposes 55 % cut in emissions by 2030, Press Release, 17 September 2020.

EU Commission (2021) European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions, Press Release, 14 July 2021.

EU Commission (2021) Remarks and EU side event on disclosures at COP 26: EU Sustainability Reporting Standards and the Future of Sustainability Reporting, 4 November 2021.

EU Directive 2014/95 of the European Parliament and of the Council of 22 October 2014, OJ L 330.

European Parliament (2021). EU climate action policy: Responding to the global emergency.

European Parliament (2022). The six policy priorities of the von der Leyen Commission: State of play as the Commission approaches mid-term, In-depth analysis.

Helle Bank Jorgensen (2018). Demystifying the 'alphabet soup' of reporting frameworks, June 27, 2018. Reuters Events. Sustainable Business, at https://www.reutersevents.com/sustainability/demystifying-alphabet-soup-reporting-frameworks

Hoesung Lee (2022). Remarks by the IPCC Chair during the press conference to present the Working Group II contribution to the Sixth Assessment Report, February 28, 2022.

Official Journal of the European Union C 209/1 of June 20, 2019 "Communication from the Commission Guidelines on non-financial reporting: Supplement on reporting climate-related information", pp. 1–30

Official Journal of the European Union C 215/1, European Commission, Communication from the Commission Guidelines on non-financial reporting (methodology for reporting non-financial information) (2017/C 215/01) July 5, 2017, pp. 1–20

Oreshkova, H. (2013). The crisis and the future of financial reporting. Global Financial Reporting Standards - Reality or Utopia. *Economic alternatives*, *2013*(2), pp. 50–74

Pearl, Ira G. (2022). ESG Reporting: Deciphering The Alphabet Soup: The industry is working on standard convergence, but we're not there yet – and the acronym list is daunting. Here's what to do in the meantime, January 2022, at https://chiefexecutive.net/esg-reporting-deciphering-the-alphabet-soup/.

Sakalasooriya, N. (2021). Conceptual Analysis of Sustainability and Sustainable Development. *Open Journal of Social Sciences*, *9*(3), 396-414, DOI: 10.4236/jss.2021.93026.

TCFD 2017 Final Report. Recommendations of the Task Force on Climate-related Financial Disclosures, June 15, 2017.

TEG report on climate-related disclosures and the summary of feedback from stakeholders, 2019.

The Climate Disclosure Standards Board (CDSB) (2022). Framework for reporting environmental and social information. Advancing and aligning disclosure of environmental and social information in mainstream reports, January 2022.

Tho, Alexis See (2019). Climate-related reporting frameworks highly aligned, FM Financial Management Sustainability Accounting and reporting, November 1, 2019.