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# **Green Management: A New Paradigm in the World of Business**

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INVESTOR IN PEOPLE

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# Foreword

In recent years, the necessity for sustainable business practices has experienced exponential growth, prompting industries worldwide to reassess their operations from an environmentally conscious perspective. The emergence of green management as a new paradigm in the world of business underscores this shift toward ecological responsibility. This book, *Green Management: A New Paradigm in the World of Business*, delves into various facets of green management and its implications for businesses globally.

The compilation of chapters within this book offers a comprehensive exploration of diverse topics pertinent to green management. From examining the trends and regulations surrounding green finance to investigating the impact of sustainable human resource management practices on employee retention, each chapter contributes valuable insights into the multifaceted nature of green management. One chapter delves into the discussion of sustainability within healthcare systems amidst the backdrop of the COVID-19 pandemic, comparing the approaches of Germany, France, Italy, and Turkey. Another chapter explores the intersection of internal and external corporate social responsibility with organizational competitive performance, particularly within the banking sector in Sri Lanka.

The book also examines the integration of green energy sources and initiatives for sustainable development, employing bibliometric analysis to assess their adoption. Furthermore, it explores the intersection of artificial intelligence (AI) and green human resource management practices, offering a systemic review of AI's influence on evolving green HRM strategies. Additionally, the book evaluates the application of green economy policies, such as those observed in Switzerland, to regions like the Karabakh area of Azerbaijan. It also scrutinizes the role of energy in human well-being through a case study from Jordan and explores green public procurement practices in Asian countries. Moreover, the book delves into various other topics, including green credit policies in Vietnam, sustainable development in healthcare management and accounting within Ukraine, and the role of green energy in the economic aspects of sustainable development. Finally, it addresses the significance of shareholder engagement, the evaluation of the 2030 Agenda's progress, and the adaptation of blockchain technology in financial arrangements from an Asian perspective.

*Green Management: A New Paradigm in the World of Business* serves as an invaluable resource for academics, policymakers, and practitioners seeking to navigate the complexities of sustainable business practices. Its diverse array of

chapters offers a comprehensive understanding of the challenges and opportunities inherent in adopting green management principles across various industries.

I commend the authors for their insightful contributions, and I trust that readers will find this book to be a guiding light in their journey toward a greener, more sustainable future.



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# Preface

*Green Management: A New Paradigm in the World of Business* is an attempt to analyze sustainability's influence on corporate operations. It considers the strategic, process, and attitudinal changes businesses need to sustain ecology-conscious trading.

This book is about the theory and a real instrument designed for adopting sustainable thinking in every existing organization, be it a small company or a big producer. Such a line of thought gives a fuller outline of the green management principles. It has a very diverse range of skills, which it imparts using practical examples, real-life examples, and proven strategies from leading companies across the globe.

The book will be a voyage of discovery for the readers, proving that having an environmentally aware mindset is one of the ways to solve the problems that are our planet's consequences. One of the advantages is the ability to invest and grow, build and support the brand's reputation, be prepared, and respond rapidly to any global issue. Moreover, "Green Management" attaches great importance to the ethics work of enterprise to take the position of environmental guardians, which means their duty toward environmental conservation is morally recognized to guarantee a sound ecological future for the next generations.

Today, we are struggling to deal with this ecological disaster and upcoming economic boon, which is important for future green management prospects. This book performs the function of a persuasive appeal and advises businesses on innovation, creativity, and responsibility as they strive toward that future, namely, the one with environmentally friendlier and more economic-sound policies.

*Green Management: A New Paradigm in the World of Business* explores the concept of business as more than just an idea to be executed. It serves as an inspiration and incentive for individuals and organizations to embrace the environmentally friendly transition that is currently underway. The ultimate outcome of the relationship between the economy and the ecosystem necessitates a comprehensive cooperation to promote the interests of both industry and the environment as a whole.

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## Chapter 1

# Green Finance: Trends and Regulation

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### Abstract

*Purpose:* This chapter highlights the key findings about the development of green finance in Central and Eastern European (CEE) countries. The main purpose is to analyze the policy to promote green financing, the role of financial institutions and regulators in the green finance agenda, and the challenges of green financing.

*Need for the study:* Through this study, we will identify the level of development of green finance in CEE countries. It is also necessary to know the role and contribution of central banks in the development of green finance.

*Methodology:* Using the comparative methodology, we analyzed the following indexes: green economic opportunities, the Green Growth Index, the Global Climate Risk Index, and the Green Central Banking Scorecard in the G20. We included 17 countries from Central and Eastern Europe (CEE): Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Czech Republic, Poland, Estonia, Romania, Hungary, Latvia, Lithuania, Kosovo, Montenegro, North Macedonia, Slovenia, Slovakia, and Serbia.

*Findings:* The results show that the countries of the Western Balkans do not have a satisfactory performance compared to other countries, although they stand well in terms of legislation.

*Practical implications:* Studying green finance in a group of countries would bring new insights to their economies and to all other countries wishing to develop green finance markets. Their exposition, especially for the countries of the Western Balkans, will bring new knowledge and practices to the Central Bank and relevant institutions.

*Keywords:* Green finance; green central banking; climate risks; low carbon; regulation; green investment; green growth

*JEL Classifications:* E5; E5; G2; G4; Q5

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## 1. Introduction

Green finance is a relatively new topic that offers a more creative form of funding for people, companies, and governments wanting to take part in low-carbon or green ventures. Today, we are aware that the possibility of the financial system collapsing is increased by the risks related to climate change. A rising number of global financial stakeholders are incorporating an evaluation of climate change into their risk management processes. This process might be more straightforward with the increased participation of macroprudential authorities, such as central banks, primarily by coordinating the shift to a low-carbon economy. Central banks are beginning to assess the risks associated with climate change and are incorporating them more and more into their broader policy agenda. The monetary policy strategy reviews and reserve management by central banks are becoming increasingly influenced by climate change issues. The strategy of central banks' monetary policy reviews and reserve management is becoming increasingly influenced by climate change issues. Involving the financial sector and the regulatory bodies in charge of it will be essential to achieving a green transformation toward low-carbon, sustainable growth and development.

Green finance is becoming more critical in the banking industry due to the need to protect banks and society from unforeseen future economic issues brought on by unexpected global financial events, climate catastrophes, social unrest, and corporate scandals (Ziolo et al., 2019). Furthermore, the paradigm of traditional banking is changing to emphasize the supply of environmentally friendly goods (Dikau & Volz, 2021).

Including climate change risk concerns in current monetary and macroprudential frameworks is necessary because central banks are accountable for financial and macroprudential stability. To promote green financing, central banks can use various practical policy tools. Numerous financial regulatory tools can be adjusted to either mandate or incentivize financial organizations to consider climate and environmental risks when making decisions about loan origination or financial stability. Investments must shift from carbon- and resource-intensive to sustainable to meet the goals of the 2030 Agenda for Sustainable Development and Paris Climate Accord. The central bank has implicit or explicit responsibility for maintaining financial and macroeconomic stability; as such, it should take a systemic approach to mitigate climate-related and other environmental risks. Moreover, central banks have a solid position to encourage the creation of sustainable finance strategies and ensure that financial firms price environmental and carbon risk appropriately because of their regulatory control over money, credit, and the financial system (Volz, 2017).

Against this background, this paper offers a theoretical analysis of green finance, different indicators, and the pros and cons of central banks' obligations to environmental objectives. The paper also explores how central banks, through monetary policies, can influence decisions in the distribution of credit in activities that affect green financing. The countries included in this study are from Central and Eastern Europe (CEE) (Bosnia and Herzegovina, Bulgaria, Croatia, Albania, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Poland, Romania, Northern Macedonia, Montenegro, Serbia, the Slovak Republic, and Slovenia).

The primary purpose of this study is to research the level of legislation and the relevant indicators in the Western Balkans countries to determine the current level, the challenges, and the recommendations that these countries should follow.

The paper is structured as follows: Section 2 briefly reviews the literature. Then, Section 3 covers data and methodology. Section 4 then discusses the range of different indices that indicate the performance of the countries involved and the legislation of these countries. Section 5 ends with some recommendations and conclusions for the proper work of central banks and other public institutions to achieve the standards set by the relevant institutions.

## 2. Literature Review

Humanity is facing a severe threat from climate change in this century, and its impacts are becoming increasingly visible. Funding green initiatives can decrease carbon emission levels (Li et al., 2021). Institutional investors engaged in impact investment will profit from green finance (Barber et al., 2021; Tang & Zhang, 2020). Investors in the corporate and Treasury markets can benefit from diversification through green financing (Reboredo, 2018). Funding for fossil fuel operations that endanger the environment and climate change can be decreased by increasing green financing (Ozili, 2022; Sachs et al., 2019). As defined by Höhne et al. (2012), green finance is a catch-all word for financial investments made in environmental products, policies that support the growth of a more sustainable economy, and programs and activities related to sustainable development.

Additionally, the literature mentions a broader variety of other environmental objectives, such as water cleanliness, biodiversity protection, or industrial pollution control. Pricewaterhouse Coopers Consultants (2013) states that green finance refers to financial products and services considering environmental factors in lending decisions, monitoring, and risk management. These promote environmentally responsible investments and low-carbon technologies, projects, industries, and businesses, as mentioned by other authors (Li et al., 2012; Lindenberg, 2014) if a “traditional” financial product, service, or instrument is used to collect money for environmentally friendly investments, initiatives, or activities. It can be considered “green.” According to the literature, green finance requires that financial resources be allocated to the protection of the environment, clean energy, green building, climate change, social inclusion, and corporate governance in all sectors of the economy (Urban & Wójcik, 2019; Yuan & Gallagher, 2019). In order to get a competitive edge in the market, banks should strategically select and market green finance products (Raberto et al., 2019). According to Ozili (2021), green finance is funding initiatives that improve the environment and generate money. Green finance is defined by Wang and Zhi (2016) as financing that combines financial gains with environmental preservation.

A green loan or credit is a unique form of short- to medium-term financial support provided by banks to start-ups, small enterprises, and multinational organizations to support their research and development of innovative products (Díaz-García et al., 2015).

Growing the proportion of green investments (GIs) goes beyond just meeting medium-term climate goals. The need to improve energy security, lessen the negative health consequences of air pollution, and discover new business opportunities are some reasons given by proponents of investing in low-carbon energy sources (Alva & Bhat, 2018). Furthermore, bank products such as green long-term investment accounts and sustainable investment accounts enable clients to save enough money to support environmentally conscious long-term investment ventures in agriculture and other sectors of the economy (He et al., 2019). According to recent data, banks enable businesses and people to engage in renewable energy projects, contributing to the rise in investment in this area (He et al., 2019). Trading and investing in “carbon emission rights” and their derivatives is known as “carbon finance.” Li and Liu (2011) say it differs from conventional financial activity. To lessen the damaging effects of carbon emissions on the environment, many banks in countries that export coal are issuing more carbon finance and fewer conventional loans on fossil fuels, such as coal (Ganda, 2018; Glomsrød & Wei, 2018).

Central banks are critical financial sector players to make appropriate climate change decisions. According to Chenet et al. (2021) central banks have started to enforce banks to obtain green certifications, green credit scores, environmental innovation, and social inclusion. Competitively, the central bank offers tax breaks and other incentives to banks that comply with these rules.

The term “green central banking” refers to how central banks can respond to the threats presented by climate change. In its climate agenda, the European Central Bank (ECB) lists three goals to which central banks might contribute, even though it recognizes that governments and lawmakers bear primary responsibility for addressing climate change: First, central banks can assist with financial risk. Second, central banks can contribute by providing financial resources for the change. Third, to promote more extensive behavioural changes, central banks might exchange their expertise (Spinaci et al., 2022).

Climate change could impact the economy in general and the financial system in particular, according to climate finance and economics research. The two main ways that climate risks manifest are: (1) physical risk, events as a result of climate change that will damage infrastructure and the properties of businesses and households; and (2) transition risk, effects on the financial system and the economy as a whole as a result of the shift to a low-carbon economy (Cipollone, 2022). Climate change could impact the economy in general and the financial system in particular, according to climate finance and economics research. Suddenly unpredictable climate episodes (such as extreme weather-related events or climate-related disasters) give rise to “physical risk,” which first appears as negative supply- and demand-side shocks to output and prices that hurt the balance sheets of households and businesses (Molico, 2019). According to Bolton et al. (2020), Rijal et al. (2024), and Kaur et al. (2024), physical risks are the financial losses and costs associated with catastrophic weather events and the results of long-term environmental changes. Capital depreciation can occur due to asset damage, which can cause a sudden repricing of entire asset classes. For example, the deterioration of financial companies’ balance sheets following weather disasters (a physical risk) lowers their profitability and debt servicing capacity, which raises

credit risk. Physical risk has the potential to directly or indirectly affect financial stability from a systemic standpoint because extreme weather events can result in increased liabilities, insurance claims, and bankruptcies that cause significant losses to the financial system. Financial stability can be affected in various ways by physical and transitional risks. The duration of the steps taken to address climate change and how quickly they are taken will determine the impact of these risks. In this context, the October 2018 progress report (NGFS, 2019) from the Network of Central Banks and Supervisors for Greening the Financial System emphasizes that climate change risks are a source of financial risk. It demands that supervisors and central banks ensure the financial system resists these threats.

Inflation targets are usually kept low by central banks, which implement monetary policy and manage the country's money supply. In light of the significant investments that must be made quickly to move toward a sustainable financial system, there has been a public debate about whether or not central banks should play a key role in addressing this issue. In order to achieve the primary objectives of price stability and financial stability, sustainability factors may be considered even in cases where environmental objectives are not explicitly mentioned in a central bank's mandate.

Central banks are uniquely positioned to shift resources away from carbon-intensive sectors and toward green investment because of their regulatory authority over money, credit, and the financial system. Central banks, particularly those in developing nations, usually have a solid institutional position that allows them to influence policy outcomes in ways other public institutions, like environmental ministries, are unlikely to be able to. Climate policies (mitigation measures to achieve a low-carbon economy and adaptation measures to address physical risks) impact monetary policy in addition to climate shocks (Boneva et al., 2021). The central bank can use various tools to enhance green investments, such as unconventional and traditional monetary policy tools. Additionally, using their power, central banks may push financial institutions to build the resources necessary to address environmental and climatic risks. According to Schoenmaker et al. (2015), macroprudential supervision should detect ecological imbalances that could result in material financial risks and account for externalities that could lead to financial instability. Limiting credit extensions to specific carbon-intensive or polluting activities would be a simple solution to reduce environmental, systemic risk.

A bank's credit allocation may be influenced, and green investments may be encouraged by differential reserve requirements that are correlated with the portfolio compositions of the bank, permitting lower (or higher) required reserve rates for portfolios skewed toward greener. Financial authorities impose capital requirements on financial institutions, which typically form a capital-to-risk (weighted) asset ratio, requiring them to keep a specific amount of capital for risk-weighted assets. Capital requirements may apply higher risk weights to carbon-intensive assets. "Carbon certificates" is another strategy that will provide an incentive to increase green investment. They can be distributed to low-carbon projects (Rozenberg et al., 2013). Banks can control how much credit they offer to different industries and what assets they invest in. This means they can decide which industries they want to support financially. This will limit the flow of resources to businesses or sectors that exceed

predetermined carbon-emission targets. One technique used in macroprudential regulation to limit financial institutions' exposure to assets with high risks – in the case of green financing, a high carbon intensity – is exposure limitations by counterparty, industry, or geographic area (Ndekwa et al., 2023; Schoenmaker & Tilburg, 2016; Sood & Ozen, 2024; Yerpude et al., 2022). The central banks in the eurozone are making a concerted effort to incorporate climate change concerns into their missions. The shared agreement encourages disclosure and knowledge of the risks associated with climate change. The European Central Bank (ECB) has reviewed banks' self-assessment of their procedures, clarified its expectations for climate risk management and disclosure in the previous few years, and, most recently, introduced a supervisory climate-risk stress test. The European Commission is working to put environmental, social, and governance (ESG) issues at the center of the financial system to convert the European economy into a circular economy (European Commission, 2018). Currently, the ECB's responsibility might be to mandate the adoption of ESG risk management standards by banks and other financial institutions (Dikau & Volz, 2018). Furthermore, according to Cecot (2019), commercial banks may use ESG risks as a criterion in their credit approval procedures. To consider the potentially harmful environmental effects of financial products and services, banks and other financial institutions should incorporate ESG risk management principles into their governance frameworks (Cecot, 2019).

### 3. Data and Methodology

The methodology is based on a comparison of the relevant indices. Three possible case counts can be compared: few-, single-, or many-countries. In the same way, Landman (2008) offered a three-part classification of comparative studies: single-country studies, studies that compare a single country, and studies that compare numerous countries. The research conducted by Shala et al. (2018), Shala and Qehaja (2021), and Shala and Perri (2022) employed a consistent methodology. The study scrutinized several key indexes, including the Green Economic Opportunities, the Green Growth Index, the Global Climate Risk Index, and the Green Central Banking Scorecard in G20. The analysis was focused on 17 countries situated in Central and Eastern Europe (CEE), such as Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Czech Republic, Poland, Estonia, Romania, Hungary, Latvia, Lithuania, Kosovo, Montenegro, North Macedonia, Slovenia, Slovakia, and Serbia.

Since comparative analysis applies to almost any topic and may be found in almost all disciplines, it plays a significant part in studying almost every topic (Azarian, 2011). Three phases were involved in the comparative methodology used in our study:

1. analyzing each index separately, including all countries;
2. analyzing the rankings of all countries in these indices; and
3. concluding which countries made more progress in green finance.

Specifically, we analyzed the legislative frameworks on energy and climate in Western Balkan countries, which are part of the NGFS. Meanwhile, we also mentioned G20 members' results for the Green Central Banking Scorecard.

#### 4. Analysis of Results and Discussions

The Green Growth Index is a tool used to evaluate how Central and Eastern European countries are performing regarding social inclusion, green economic opportunities, natural capital protection, and efficient and sustainable resource use. The index is scored on a scale of 1–100, with 1–20 indicating abysmal performance, 20–40 indicating low performance, 40–60 indicating moderate performance, 60–80 indicating excellent performance, and 80–100 indicating perfect performance. When a country achieves a green density score of 100, it meets the sustainability objectives.<sup>1</sup> Table 1.1 displays the Green Growth Index scores for Central and Eastern Europe (CEE) countries.

As can be seen from the latest data on the Green Growth Index (2022), the five countries with the best performance are the Czech Republic, Slovakia, Hungary,

Table 1.1. The Green Growth Index in CEE Countries.

Country	Sub-region	2010		2022	
		Index	Rank	Index	Rank
<b>Czech Republic</b>	EE	72.82	4	75.13	5
<b>Slovakia</b>	EE	70.25	6	74.04	7
<b>Hungary</b>	EE	68.41	10	69.75	12
<b>Latvia</b>	NE	66.39	16	68.85	14
<b>Lithuania</b>	NE	64.60	20	68.57	15
<b>Estonia</b>	NE	65.71	17	68.27	17
<b>Croatia</b>	SE	61.12	27	68.07	19
<b>Romania</b>	EE	65.60	19	68.01	20
<b>Slovenia</b>	SE	62.94	24	67.68	22
<b>Poland</b>	SE	63.45	23	66.66	24
<b>Macedonia</b>	SE	61.60	26	64.93	26
<b>Bulgaria</b>	EE	60.14	30	63.93	29
<b>Serbia</b>	SE	60.57	28	63.49	30
<b>Bosnia and Herzegovina</b>	SE	55.06	36	60.53	31
<b>Albania</b>	SE	60.40	29	60.48	32
<b>Montenegro</b>	SE	45.82	39	58.14	35

Source: Acosta et al. (2022). Green Growth Index 2022 – Measuring performance in achieving SDG targets, GGGI Technical Report No. 27 (link <https://greengrowthindex.gggi.org/>).

Note: NE – Northern Europe; EE – Eastern Europe; SE – Southern Europe.

<sup>1</sup>Source: Green Growth Index – Measuring performance in achieving SDG targets (gggi.org).

Latvia, and Lithuania, while Bulgaria and the five countries of the Western Balkans have recorded the weakest performance. Unfortunately, there is no data for Kosovo.

The dimensions of green economic opportunities are green investment, trade, employment, and innovation. Green investment is defined as both public and private investment that advances sustainable development and green growth by supporting, directly or indirectly, the conservation of natural capital through environmental protection and climate action, as well as the sustainable use of resources, including land, water, energy, and materials (Obradović, 2019). Meanwhile, green trade is defined as the ability of a nation to manufacture and export environmentally friendly products that support green growth, climate action, environmental protection, and sustainable development (European Parliament, 2019). “Green jobs” are jobs that come from more activities that support an environmentally sustainable economy. Green jobs also help preserve the environment, reduce people’s environmental impact, and offer respectable working conditions (ILO, 2015). Green innovation is considered product, process, and service innovations that positively impact the environment (Gao et al., 2018). These innovations include energy conservation, pollution prevention, waste recycling, and green product designs.

Regarding green economic opportunities, as seen from Table 1.2, the countries with the best performance during 2020–2021 are the Czech Republic, Slovakia, Hungary, Latvia, and Lithuania. These countries have offered good opportunities for green investment and green employment (see Table 1.2). In the countries of the Western Balkans, there is a lack of general data; however, from the data that has been presented, it can be seen that the best performance is in green investment (see Table 1.2).

The Global Climate Risk Index evaluates and ranks how extreme weather events (storms, floods, heatwaves, etc.) linked to climate change have impacted different nations and areas. The Global Climate Risk Index indicates a level of exposure and vulnerability to extreme weather events, which countries should understand as warnings to be prepared for more frequent and severe future events. The countries with the highest rankings experience extreme weather events the most, and they should use the CRI as a warning indicator that they could have either regular occurrences or uncommon but catastrophic disasters (Eckstein et al., 2019). The CEE countries with the highest scores in 2019 are Albania, North Macedonia, Kosovo, Lithuania, and Romania (see Table 1.3).

Positive Money and Green Central Banking produced the Green Central Banking Scorecard, which rates and ranks all the green policies and programs the G20 central banks have adopted. Research and Advocacy, Monetary Policy, Financial Policy, and Leading by Example are the four main categories used to assess the green policies of G20 central banks and regulators. Presenting environmental papers, joining the NGFS, and embracing key ideas can advance research and advocacy. Monetary policy includes interest rates and reserve requirements, funding and refinancing plans, collateral frameworks, direct credit allocation, green policies related to assets and monetary reserves, and coordination with fiscal authorities. Financial regulation includes capital and liquidity tools, disclosure and stress-testing green policies, and impact regulation of financial firms. Setting an