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Financing Green Transformation in the EU's Economy: Selected Aspects of the Implementation of EU Programmes

Abstract

Objective: The aim of this paper is to present ways in which the EU and its member states finance sustainability and what the impact of this different sources of financing is on sustaining the EU's socioeconomic development. The main purpose of the article is to justify the role of green finance in the process of balancing the socioeconomic development of the European Union, with particular attention to environmental aspects.

Research Design & Methods: The study is based on the literature review of green finance, with a particular focus on the functioning of the green economy in the EU countries.

Findings: Sustainable financing is defined as investment decisions that include environmental, social, and governance (ESG) factors. Contemporary economic crises may be a stimulus for rebuilding more sustainable economy. Sustainable financing may be also relevant for achieving the EU's climate and environmental policy goals and for putting the EU's economy back on the road to recovery.

Implications / Recommendations: This article can serve as a basis for financial decision-makers in balancing the socioeconomic development of EU countries, as well as for more extended analyses taking into account new aspects of green finance.

Contribution / Value Added: The added value of this study lies primarily in the skillful connecting of four main aspects of green finance activity in EU: (1) presenting chosen – most important, in the author's opinion – theoretical aspects of green finance, taking into considerations especially the EU; (2) describing examples of some green finance initiatives implemented by the EU in the form of particular programmes; (3) presenting the most important part of the EU's green financing legislation; (4) showing basic interconnections between green finance and sustainability, and *vice versa*.

Keywords: green finance; green economics, environmental data; sustainable development; EU legislation and strategies; EU taxonomy; EU countries

Article classification: theoretical/review paper

JEL classification: Q50

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Introduction

Growing global awareness of the negative impact of deteriorating natural environment on the functioning of socioeconomic systems, the quality of life, and the profitability of various business ventures increases activity to halt the incremental progress of unfavourable phenomena (such as climate change, biodiversity loss, ecosystem degradation or biodiversity, the degradation of ecosystems, or the pollution of waters, soils, and the atmosphere). Failure to take protective measures can only bring about further losses, caused both by catastrophic weather phenomena as well as slow changes in the environment associated with global warming. This situation can only result in further losses caused both by catastrophic weather events and unusual oceans activity or increasing desertification.

Halting, or preferably reversing, these undesirable trends, however, is neither easy nor cost-free. Growing hopes are linked to green finance in its broadest sense, i.e. structured financial activities that have been created to ensure better environmental performance. It includes loans, debt mechanisms, and other investment measures that are used to develop green projects or minimise the impact of standard solutions on the natural environment, including climate.

The European Green Deal is a package of policy initiatives that aims to put the European Union on the path of environmental transformation and, ultimately, to achieve climate neutrality by 2050. It also focuses on supporting the transformation of the European Union into a just and prosperous society with a modern and competitive economy. Climate change and environmental degradation both pose a threat to Europe and the rest of the world. To address these challenges, the *European Green Deal Action Plan* was created. It concentrates on assistance in transforming the EU into a modern, resource-efficient, and competitive economy:

– that achieves zero net greenhouse gas emissions in 2050;
– that decouples economic growth from resource use;
– in which no individual or region is left behind.

Transitioning to a climate-neutral economy requires global solutions. It is, therefore, time to align these various initiatives across jurisdictions in order to:

– scale up sustainable finance to plug the current investment gap;
– ensure compatible markets for sustainable financial assets across borders and avoid fragmentation;
– achieve economies of scale by exploring synergies;
– maximise the impact of EU investment to support our industry and help us deliver on our core priorities.

The main benefit for investors from green activity is a greater choice of projects and green finance products to satisfy the fast-growing demand. In turn, the main benefit for businesses includes new sources of funding through global capital markets and the financial sector worldwide.

Research methodology

The research was based on theoretical approaches to the concept of green finance and EU policy documents and strategies as well as comparative analyses of studies taken from different sources (theoretical papers, EU documents, and legal acts). Literature on financial aspects of balancing socioeconomic development in EU countries has been selected to present a broader context of the analysis.

The considerations carried out in the study were based on a comparative analysis of the available literature on the subject, considering the theories justifying the importance of green finance for the EU economy, as well as the need for its widespread implementation. The tools of green finance were described, with a particular attention to a relatively new instrument in the form of so-called green bonds. The literature was selected based on its relationship between the theory of green finance and its suitability for sustainable development of EU countries. The considerations were supplemented with relevant charts illustrating the functioning of the green finance mechanism in the European Union. The main purpose of this article is to justify the role of green finance in the process of balancing the socioeconomic development of the European Union, with particular attention to environmental aspects.

The specific objectives of the study were: (1) to review the contemporary literature on green finance, with emphasis on its theoretical aspects, against the background of the existing (macro) economic theories, and on the practical functioning of this concept in the European Union; (2) to present the mechanism of the functioning of the green financing system in the European Union and to justify the necessity of its widespread implementation; (3) to show the close links between sustainable socioeconomic development and green finance as an essential means of its financing by the European Union; (4) to present the functioning of a relatively new green financing mechanism in the form of so-called green bonds; (5) to formulate conclusions on the legitimacy and effectiveness of the use of green finance to finance the socioeconomic development of EU countries, with a particular emphasis on its environmental aspects.

Compact literature review and theory development

The development of green finance theory

The essence and importance of green finance

Green finance has emerged as a strategy that includes not only instruments to reduce greenhouse gas emissions and adapt to climate change, but also financial products and services that address a wider range of environmental issues (Koondhar et al., 2021), such as industrial pollution control, waste management, sanitation and hygiene, and environmental protection (Falcone & Sica, 2019).

Green considerations in financing decisions have evolved over the past few years from a risk mitigation approach to a driver of innovation and new opportunities that benefit businesses and society in the long term (Global Sustainable Investment Review, 2018; see also: Green Finance Platform, 2021).

Green finance can be defined in various ways, which causes some problems with the interpretation of this concept. A team led by Höhne (2012) defined green finance as a concept that refers to financial investments affecting sustainable development projects and sustainable development initiatives, environmental products, and policies that encourage the development of a more sustainable economy. Today, the definition is more narrow, i.e. it refers only to environmental initiatives and omits the other orders of sustainability. Green finance is now usually understood as any financial activity (product or service) that has been developed to produce a better environmental effect (WEF, 2020). The aim of green finance is, therefore, to increase the level of financial flows (from banks, microcredit, insurance, and investment) from the public, private, and not-for-profit (non-profit) sectors towards the priorities of sustainable development (UNEP, 2022).

It is emphasised all the time that green finance is part of a broader concept of sustainable finance (UNEP, 2016). The definition of sustainable development implies that the main aim of this concept is not just growth, but broader development, which is difficult to measure in economic terms. Green finance is a part of sustainable finance that covers only environmental problems, while sustainable finance takes a broader view, adding social, economic, and governance (institutional) problems.

At the same time, it is important to note that green finance is a broader concept than climate finance (Höhne et al., 2012). The latter is included in the concept of green finance, which considers measures not only in the climate area, but also other environmental problems. Given that green finance is limited to environmental issues only, it should still not be considered solely as a concept for reducing environmental risks. It is increasingly being treated as a factor that increases innovation and introduces a new quality in the economic development of societies (Sharma et al., 2022).

According to Prandecki (2023), the creation of a system of green finance should take into account five aspects: (1) the strengthening of market practices, which should be widely applied; (2) the use of public funds, which should be widely applied but cost-constrained; (3) the steering of finance through policy, primarily as the use of funds for sustainable development purposes; (4) the transformation of culture (this solution is the least noticed, involving policy guidance); (5) the improvement of governance (the least practised one).

The impact of green finance on sustainable development

Many studies have explored the role of green finance and its relationship with sustainable development (see, e.g., Wang et al., 2022). Wang and Zhi (2016) indicate that green finance is beneficial for effective environmental risk management and the reasonable balancing of environmental and economic resources. Moreover, Ng (2018) indicates that green finance is an economic activity that promotes environmental improvement, better resource use, and response to climate change.

Unlike conventional finance, green finance emphasises environmental protection, green industry, and sustainable development (Falcone & Sica, 2019; Kang et al., 2019). Zhou and Cui (2019) show that green finance has a positive impact on environmental improvement and enhances corporate social responsibility. Tolliver and colleagues (2019) show that better financing for environmental planning as well as financial instruments specifically designed for climate-friendly projects can help to achieve environmental, social, and governance (ESG) goals. An and colleagues (2021) show that green loans can offer financial support for national sustainable development if they comply with environmental regulations.

Zhang and Wang (2021) demonstrate that the vigorous development of green financing can reduce carbon consumption and significantly promote sustainable energy development. Sachs and colleagues (2019) argue that there is heterogeneity in the benefits between different types of green financing participants. Sinha and colleagues (2021) further show that the green financing mechanism may progressively have an adverse impact on environmental and social responsibility (Wang et al., 2022).

The impact of sustainability on green finance

Some studies have also looked at the impact of sustainability on green finance (Wang et al., 2022). Xiao and colleagues (2019) showed that under various green government regulatory policies,

green corporate behaviour and supervisory intensity enhance the role of green finance. Sinha and colleagues (2021) found that environmental and social responsibility play a significant role in promoting and sustaining the green bond market. Russo and colleagues (2021) demonstrated that sustainability incorporates ESG factors to drive the development of green finance. Prajapati and colleagues (2021) showed that ESG increases demand for green bonds by boosting investor confidence. Dan and Tiron-Tudor (2021) stated that investor decisions take ESG more into account and that ESG has an obvious impact on green bond issuance. Madaleno and colleagues (2022) argued that demand for clean energy increases investment in green finance. Xu and colleagues (2022) emphasised that environmental regulation has a positive impact on green finance through short- or long-term external financing.

A new financial model of green finance

Financial instruments such as green bonds, socially-responsible investment funds, and sustainable infrastructure finance continue to attract the interest of potential investors, policymakers, and researchers, as well as already established financial institutions such as green banks and green funds (Sharma et al., 2021). The literature on sustainable finance can be broadly divided into three main strands: (1) investments in sustainable assets; (2) the limitations of such investments; and (3) a comparative analysis of sustainable investments and their conventional counterparts.

The first strand concerns investments in sustainable assets (Sharma et al., 2021). Developing this strand, Naeem and colleagues (2021) highlight that green bonds can serve as a hedging instrument, especially in the context of crises (such as a pandemic), while Jawad and colleagues (2020) argue that the European and global clean energy equity indices are highly efficient compared to the US clean energy equity markets.

The second stream emphasises the limitations of sustainable investments, highlighting some of the obstacles and shortcomings in their implementation. Zheng and colleagues (2021) underline that the development of green finance is hampered by transaction costs and operational inadequacies in Bangladesh.

The third strand emphasises comparative analysis, with one body of literature finding no differences in financial returns from sustainable investments (Sharma et al., 2022).

The 'green' essence of green finance is reflected in the distribution of untapped social capital to various industries, such as renewable energy, green buildings, climate crises, corporate governance, and environmental protection (Yuan & Gallagher, 2018; Urban & Wójcik, 2019).

The European Union – a review of legislation and strategies

The European Green Deal

The European Green Deal is a fundamental document outlining the objectives, tasks and priorities for implementing the green economy in the economic systems of EU countries. It also defines issues related to the financing of the investment process aimed at ensuring an adequate level of well-being for the citizens of these countries, primarily in environmental and social terms. However, this strategy does not seem to take sufficient account of economic issues. According to the critics of the Green Deal concept, this is expressed above all in the European Union imposing overly strict regulations for environmental solutions, e.g. regulations for the insulation of buildings,

the marketing of electric cars, and, in particular, very strict standards for EU agriculture. Figure 1 presents the essentials of the investment process leading to EU citizens living on a healthy planet.

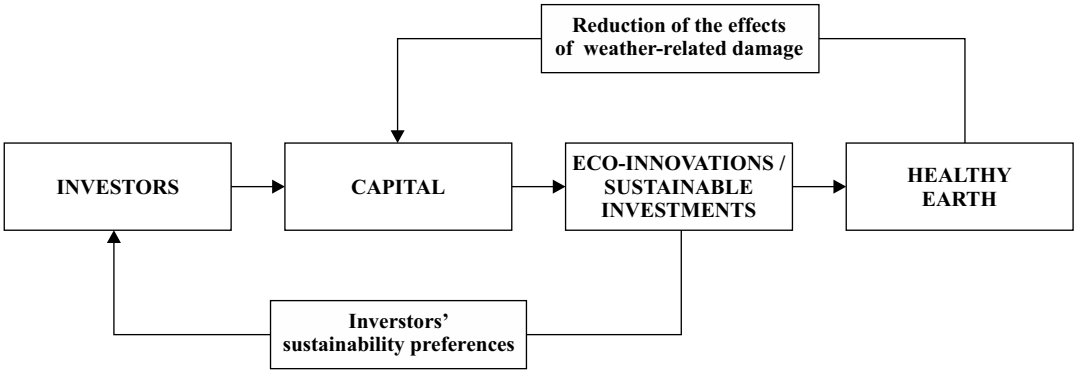

Figure 1. The components of the EU policy leading to the living in a healthy environment

Source: Own elaboration based on: COM, 2019b.

The European Green Deal is a key package of policy initiatives that aims to put the European Union on the path to environmental transformation and ultimately to achieve climate neutrality by 2050. It also aims to support the transformation of the European Union into a just and prosperous society with a modern and competitive economy. Climate change and environmental degradation both pose a threat to Europe and the rest of the world. To address these challenges, the *European Green Deal Action Plan* was created. It aims to help transform the EU into a modern, resource-efficient and competitive economy:

– that achieves zero net greenhouse gas emissions in 2050;
– that decouples economic growth from resource use;
– in which no individual or region is left behind.

Figure 2 presents key pillars of the green deal concept.

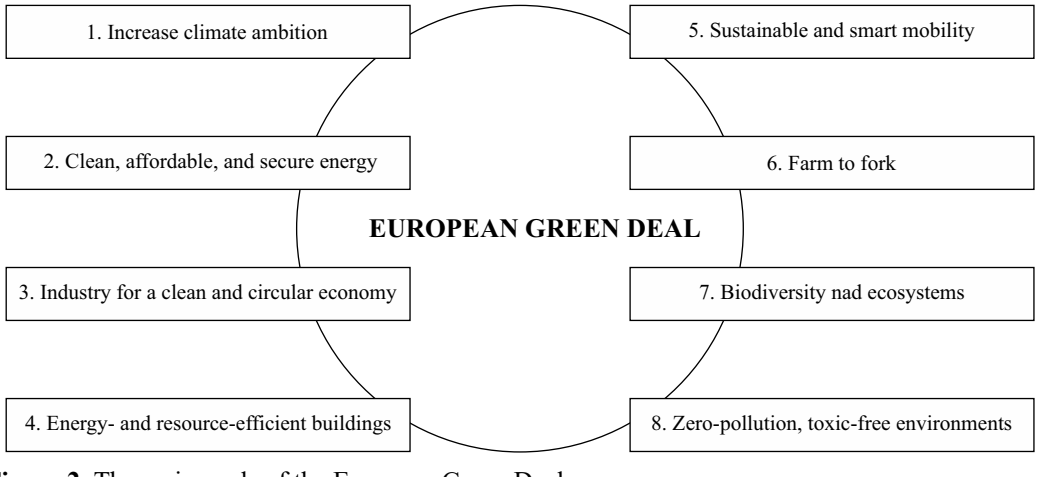

Figure 2. The main goals of the European Green Deal

Source: COM, 2019b.

The achievement of the objectives outlined in Figure 2 should lead to environmental, social, and economic benefits to the EU society.

Green/sustainable finance vs. the sustainability of EU countries

In particular, the following three key features of green finance should be noted:

– major private and public investments are needed to transform the EU economy in order to deliver climate, environmental, and social sustainability goals, including the Paris Agreement and the *UN Sustainable Development Goals (SDGs)*. Sustainable finance is an important component of *the European Green Deal*;
– sustainable finance makes sustainability considerations part of financial decision-making. This means more climate-neutral, energy- and resource-efficient, and circular projects. Sustainable finance is needed to implement the Commission's strategy towards achieving the UN SDGs;
– integrating sustainability considerations will mitigate the impact of natural disasters as well as environmental and social sustainability issues that can affect the economy and financial markets.

Figure 3 shows the EU's interaction between green finance and climate protection, taking into considerations primary climate goals by 2030.

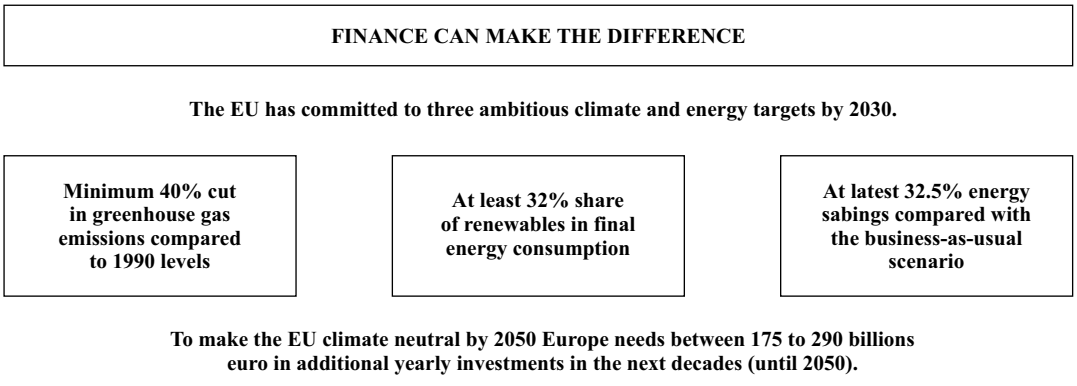

Figure 3. The EU's primary climate goals by 2030

Source: COM, 2019b.

It is clear from the chart above that the green finance activity is subject to a great deal of institutional regulation and is multifaceted in nature.

The EU green financing legislation

The EU introduced three key pieces of legislation that will incentivise and channel private sector investment into green and sustainable development. This follows from the 10-point Action Plan for Sustainable Finance from March 2018.

1. A unified EU green classification system – 'taxonomy' – to determine if an economic activity is environmentally-sustainable based on harmonised EU criteria. The European Parliament and the Council reached a political agreement in December 2019. The Taxonomy Regulation provides for a general framework that will allow the progressive development of an EU-wide classification

system for environmentally-sustainable economic activities. This aims to provide guidance for policymakers, industry, and investors on how best to support and invest in economic activities that contribute to achieving a climate-neutral economy. To qualify as green, an investment would need to contribute to at least one of the following six objectives: (1) climate change mitigation; (2) climate change adaptation; (3) the sustainable use of water and marine resources; (4) circular economy; (5) pollution prevention; (6) a healthy ecosystem.

A precise classification system is needed to exactly define the criteria that have to be fulfilled by sustainable or green investment products. Such a taxonomy should support investor decisions, avoid greenwashing, and help to channel capital flows into sustainable investments. The EU Taxonomy Regulation (EU, 2020) on the Establishment of a Framework to Facilitate Sustainable Investments) came into force on 12 July 2020, but many details are established through Delegated Acts. Figure 4 illustrates the cornerstones of the EU Taxonomy Regulation.

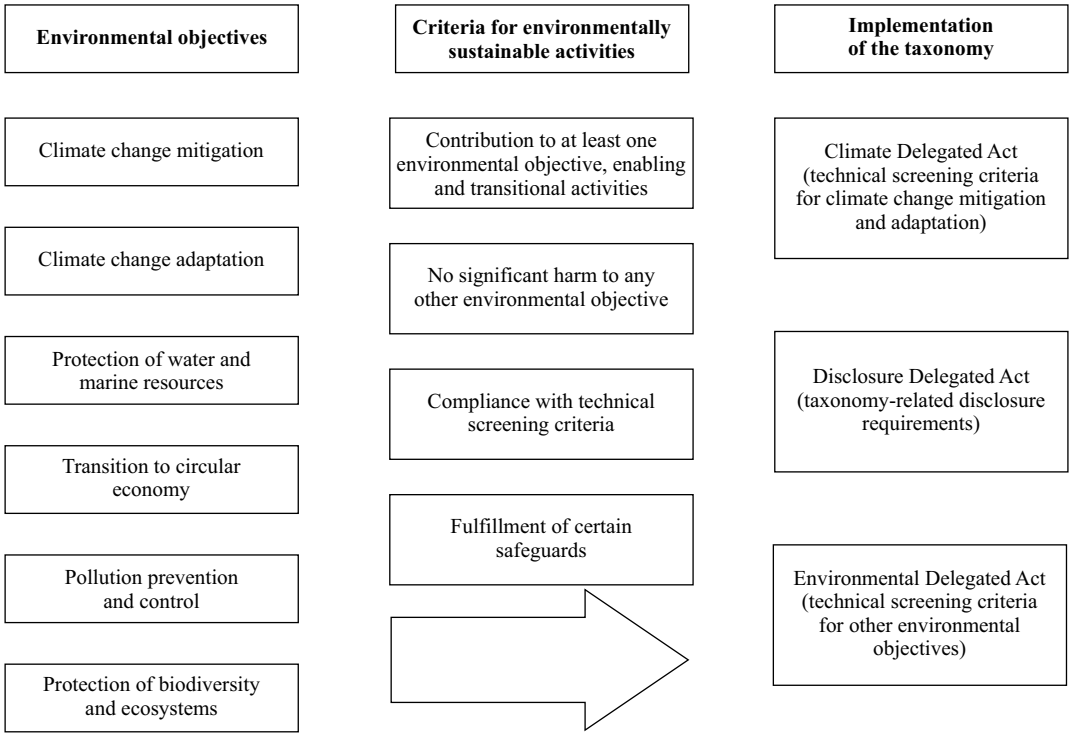

Figure 4. The pillars of the EU Taxonomy Regulation

Source: Own elaboration based on: Brühl, 2021.

2. Sustainability-related disclosures – enhanced disclosures by the manufacturers and distributors of financial products to end-investors. Financial market participants will have to disclose to their clients the impact of sustainability on financial returns and the impact of their investment decision on sustainability. These obligations come from March 2021.

3. Climate benchmarks and benchmarks' Economic, Social and Corporate Governance (ESG) disclosures – two new categories of climate benchmarks to orient the choice of investors who wish

to adopt a climate-conscious investment strategy. All mainstream benchmarks have to disclose their alignment with the Paris Agreement. Delegated acts, based on the work of the Technical Expert Group on Sustainable finance, are forthcoming beginning of 2020.

The Sustainable Finance Action Plan (SFAP) and the Sustainable Europe Investment Plan (SEIP)

The Sustainable Finance Action Plan (SFAP), announced by the European Commission, includes the following ten moves that can be divided into three categories (COM, 2018):
Category 1: Reorienting capital flows towards a more sustainable economy:
Action 1: Establishing an EU classification system for sustainable activities
Action 2: Creating standards and labels for green financial products
Action 3: Fostering investment in sustainable project
Action 4: Incorporating sustainability when providing financial advice
Action 5: Developing sustainability benchmarks

Category 2: Mainstreaming sustainability into risk management:
Action 6: Better integrating sustainability in ratings and market research
Action 7: Clarifying institutional investors' and asset managers' duties
Action 8: Incorporating sustainability in prudential requirements

Category 3: Fostering transparency and long-termism:
Action 9: Strengthening sustainability disclosure and accounting rule-making
Action 10: Fostering sustainable corporate governance and attenuating short-termism in capital markets

A description of the detailed steps can be found on the European Commission's website[1].

The Sustainable Europe Investment Plan (SEIP) is a key document for implementation of the EU green finance strategy. It recognises the massive investment needs of the European Green Deal. Unveiled by the European Commission in January 2020, the SEIP is designed to mobilise 1 trillion EUR of sustainability investments from public and private sources by 2030 and support cohesion territories in realising the green transition. It bundles together several EU spending programmes and instruments dedicated to environmental priorities, but with no overarching governance framework.

To assume the role of the SEIP's main implementation partner and further support the European Green Deal, the EIB Group announced in 2019 it would become the EU's climate bank and double its climate action and sustainability lending by 2025 as well as aligning its financing operations with the goals of the 2015 Paris Accords.

The Bank expects this transition to mobilise 1 trillion EUR on top of SEIP. The Commission and the EIB Group, however, underline that the SEIP falls short of closing Europe's green investment gap. In early 2021, the European Commission and the EIB Group estimated that the SEIP met less than half of the Green Deal's additional investment needs of 350 billion EUR a year.

[1] See: https://finance.ec.europa.eu/publications/renewed-sustainable-finance-strategy-and-implementation-action-plan-financing-sustainable-growth_en [accessed: 19.09.2023].

Table 1 shows an outstanding investment gap between real and planned financing of green activities of around 182 billion EUR per year.

The EU's green finance policy should also consider possible ways of raising funds from new sources to fill the existing and emerging gap.

Table 1. The main sources of funding the EU's green finance policy

Source of funding	Funding per year (EUR, billions)	The remaining gap
EU budget (2021–2027)	46.0	
RRF	30.0	
Other EU instruments	17.5	
InvestEU (mobilised)	28.0	
EIB Group	35.0	
National co-financing	11.5	
Total contribution to close the 350 bn euro investment gap	**168.0**	**182.0**

***** RRF – Recovery and Resilience Facility

Source: Kedward & Ryan-Collins, 2022; Claeys & Tagliapietra, 2020, and data from the European Investment Bank (EIB) Group. It should be noted that the table does not include national promotional bank investments.

InvestEU

InvestEU is the cornerstone of the Sustainable Europe Investment Plan (SEIP) as well as the key investment pillar of the European green transition. Consolidating several EU financing programmes and instruments, InvestEU aims to mobilise more than 372 billion EUR of public and private investments through a 26.2 billion EUR guarantee from the EU budget, which is operationalised by the EIB Group and other public financial institutions. With the overarching goal of supporting "economic recovery, green growth, employment, and well-being", InvestEU supports investments in four policy areas:

a) sustainable infrastructure;
b) research, innovation, and digitalisation;
c) SMEs;
d) social investment and skills.

Its financial architecture is complemented by the InvestEU Advisory Hub, a technical expertise facility that helps private and public project promoters prepare their projects and access public financial support.

Leverage under InvestEU

Leverage under InvestEU is realised in two steps. Leverage refers to the total sum of public and private co-investments crowded in with the EU guarantee or the difference between investment targets and EU budget support:

– first, notwithstanding the meaningful differences between the EIB Group and other financial institutions, the EIB Group raises funds on international capital markets backstopped by the EU guarantee support;

– in the second step, the Bank deploys these funds via direct instruments, co-investing with private and public actors in individual projects. An example would be the EIB Group extending a loan to an infrastructure project promoter, performing due diligence on their project preparation and financial structure. Alternatively, it relies on indirect instruments that share financial risks with public and private financial intermediaries, such as loan portfolio guarantees, on-lending, or securitisations. The more the Bank relies on indirect instruments, the more leverage it can realise, as these blend the EIB Group's resources with the capacities of public and private banks as well as private investments.

Figure 5 illustrates the specific financial dimension of the leverage process implemented under the InvestEU programme.

* NGEU – Next GenerationEU
** EIB – European Investment Bank

Figure 5. Leveraging through InvestEU in 2015–2020

Source: Own elaboration based on: Findeisen & Mack, 2023.

This process is based on the provision of financial guarantees by the EU from its budget and the Next GenerationEU programme, which form the basis of the investment process implemented under the InvestEU programme. This process is implemented by the European Investment Bank (EIB) and other so-called Implementing Partners and leads to the achievement of the quota target for green investments implemented in this way.

Green bonds as an example of a modern financing instrument for green finance activities

As noted by Kultys-Grabowska (2023), Europe's green bond market is the largest in the world. Data shows that in 2020, as much as 60% of all senior and unsecured green bonds in the world came from the EU (ECB, 2022). This ownership can certainly be considered influenced by the preference for sustainable development in Europe. It is estimated that in order to achieve the goals of the European Green Deal, 260 billion EUR in additional investments must be made annually. Sources of funding for these investments include green bonds (COM, 2019a).

As stated by Kultys-Grabowska, in order to reduce the risk of pseudo green marketing and limit the disruption to the existing green bond markets, an attempt has been made to define a European green bond standard. The purpose of defining this standard is to strengthen the process of creating a capital markets union in the EU and to develop the market for this instrument in general (COM, 2019a). The main requirement for green bonds to be issued is to match projects with the EU taxonomy, so 100% of the funds from green bond issuance will be allocated to projects in line with this taxonomy (EU, 2022).

As further observed by Kultys-Grabowska (2023), the main objectives of the EU taxonomy include (EU, 2020): (1) the mitigation of climate change; (2) adaptation to climate change; (3) the sustainable use and protection of water and marine resources; (4) transition to a closed-loop

economy; (5) pollution prevention and control; (6) the protection and restoration of biodiversity. Relative to the alignment of green bond issuance with the EU taxonomy, there is a relief provided for state issuers; they would not have to align individual projects with the taxonomy under public subsidy and tax credit programmes, and would only have to assess the compliance of such a programme with the EU taxonomy. In addition to aligning assets and projects with the EU taxonomy, all issuers complying with the European Green Bond Standard should (EU, 2022): (1) provide a commitment to comply with the standard; (2) publish an annual report on the use of proceeds with an aggregate environmental impact; (3) submit the documents to an external audit conducted by auditors approved for inspection by the ESMA (*European Securities and Markets Authority*). There is relief for state-owned issuers to use state auditors, who would be exempt from the ESMA registration system.

Discussion

The in-depth literature research carried out by the author has made it possible to define the essence of the concept of green finance and the significance of its implementation for the economy of the European Union. This is of particular importance in the aspect of economic crises of diverse origin (economic, social, environmental, or even health), which have appeared relatively frequently in recent years. The theoretical considerations have been set in the context of the views of schools operating within mainstream economics and linked to them accordingly. Furthermore, the activity carried out in the field of green finance has been linked to concepts of balancing socioeconomic development.

The legal acts and strategies adopted by the European Union allowing for the effective/efficient implementation of financing instruments for the development of the green economy are also presented. In particular, the so-called taxonomy and its fundamental objectives were taken into account. The mechanisms of their functioning, as well as the financial scale of the support flowing from them, are also presented. Attention is given to the functioning of a relatively new green financing tool in the form of green bonds.

The analyses carried out by different researchers can provide a basis for understanding the interaction between climate protection and green finance in the EU, as well as serving to deepen knowledge in the field of finance by entrepreneurs, representatives of local authorities and local governments, and the beneficiaries of funds supporting sustainable socioeconomic development. The obtained results can also deliver knowledge to those interested in the presented issues (e.g. researchers of the issue under consideration). Outcomes may also contribute to the development of green finance within the framework of the EU's financial policy and highlight the shortcomings of its implementation into the EU economy to date.

In addition, the specificities of the EU's solutions are presented and the main aspects of the theoretical and practical functioning of the green finance concept discussed in the literature are selected and highlighted, primarily in the form of:

(1) the impact of green finance on balancing socioeconomic development, especially of the EU countries;
(2) the tools used by green finance and the mechanisms of its operation;
(3) the positioning and relevance of green finance theory in theories of economic growth and climate policy;
(4) the EU's approaches to the green finance taxonomy and the linkages between its elements;

(5) the strategies and legislation developed by the EU to implement green finance solutions in the EU economy;
(6) the elements of the investment process leading to EU citizens living on a healthy planet;
(7) the most important aspects of green finance system creation.

The conducted analysis was based on a skilful combination of the theoretical framework of the considerations presented in the texts (covering selected economic development theories as well as EU strategies and legal acts) with the practical aspects of their implementation, which included a brief description of the realisation of EU programmes to implement the concept of green finance (the Sustainable Finance Action Plan (SFAP), the Sustainable Europe Investment Plan (SEIP) and InvestEU programme).

Conclusion

a) A general summary/overview of the results and findings

The following final conclusions can be drawn from this study:

1. The concept of sustainable/green finance is an essential tool to support the implementation of the concept of balancing the socioeconomic development of the EU countries.
2. Growing hopes are linked to green finance in its broadest sense, i.e. structured financial activities that have been created to ensure better environmental performance.
3. Green finance activity includes loans, debt mechanisms, and other investment measures that are used to develop green projects or minimise the impact of standard solutions on the environment natural environment, including climate.
4. The interaction between climate protection and green finance in the EU is set out in several strategic documents, not only European, but also worldwide, most notably in: the UN Agenda 2030 (17 Sustainable Development Goals), the Paris Agreement 2015, the European Green Deal and its Investment Plan, Fit-for-55, the EU climate law, and in the rules of the EU's climate investments.
5. The cornerstones of the EU Taxonomy Regulation include: (1) environmental objectives; (2) criteria for environmentally-sustainable activities; and (3) the implementation of the Taxonomy (Delegated Acts).
6. The main pillars of the EU green finance policy include: (1) a unified EU green classification system – 'Taxonomy'; (2) sustainability-related disclosures; (3) climate benchmarks and benchmarks' ESG (Environmental, Social, and Corporate Governance) disclosures.
7. The scale and scope of financing for sustainability through green finance is influenced by the effects of economic crises of various origins.
8. There are protests in many European countries hindering the implementation of the Sustainable Development Goals (SDGs) in the EU economies and their financing through green finance. Of course, they can disrupt the implementation of the Green Deal financing schemes.

b) Practical implications and recommendations for practice (managers, business/industry, or policymakers)

This paper can be a valuable source of information on the financial aspects of sustainable socioeconomic development – considering ecological aspects – for managers, business/industry, or policymakers. In addition, the study can serve as a source of knowledge for the above-

mentioned groups of beneficiaries on the financial instruments used by the EU to support balancing socioeconomic development of the member states with consideration of their environmental needs.

c) A description of research limitations

The study is limited to a general analysis of the tools used at the EU level. It does not assess their efficiency/effectiveness. Also, a detailed explanation of the mechanism of operation of the tools described, as well as conditions of a political nature, is not included. Relatively little consideration has been given to crisis conditions in sustaining development. Social protests, controversies over the overly drastic nature of environmental policy, as well as the omission or insufficient consideration of economic, social, and institutional aspects (including legal issues) are the main problems which make the implementation of green finance concept to the EU economy very difficult.

d) Suggestions for future research directions

In future studies of the issues presented in this paper, it would be appropriate to pay more attention primarily to the following issues:

(1) relations and interdependencies with the EU agricultural policy;
(2) much broader consideration of controversies and public protests;
(3) the clarification of the mechanism of the operation of selected policy tools for balancing development, especially of an innovative nature;
(4) the determination of the efficiency/effectiveness of the EU funding/funding of this policy;
(5) a desirable nature of the policy of balancing development, the desired amount of funds allocated for this purpose, their optimal allocation and its criteria, as well as participation in the budget and the EU Financial Perspective;
(6) the impact of crises on funding opportunities (budget constraints);
(7) support at national and regional levels;
(8) the concepts of new innovative programmes to support the implementation of green economy concept by EU countries;
(9) the peculiarities of the financing tools for sustainable development considering environmental aspects, compared to standard financing tools for socioeconomic development.

A thorough analysis of the above issues, carried out also considering econometric and statistical methods, should provide more detailed conclusions on the effectiveness/efficiency of the impact of green finance on balancing socioeconomic development of the EU member states, taking into account ecological aspects.

Reference List

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