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Bridging the sustainability information gap: an assessment of the European sustainable finance framework

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1 | The EU Sustainable Finance Framework Using Financial Markets to Reach Environmental Objectives

1 INTRODUCTION

Sustainable finance has been defined by the European Commission as “the process of taking due account of environmental and social considerations in investment decision-making, leading to increased investments in longer-term and sustainable activities.”¹ The need for sustainable finance is substantial. In 2021, the European Commission (“Commission”) estimated that there was an annual investment gap of EUR 350 billion to reach its 2030 target and an additional EUR 130 billion to realize its other environmental goals.² By 2023, this assessment had evolved significantly. Incorporating the RePowerEU plan, which promotes the production of clean energy and aims to reduce the European Union’s (“EU”) dependence on Russian fossil fuels, the Commission estimated that an additional annual investment of EUR 620 billion between 2023 and 2030 would be necessary.³ More specifically, the annual additional financing needed for transitioning to a climate-resilient future was estimated at EUR 477 billion in 2023.⁴ In this thesis, I analyse the European Sustainable Finance Framework, a collection of legislation that intends to close this financing gap by creating the informational infrastructure necessary for reorienting private capital toward sustainable economic activities.⁵

1 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: Action Plan: Financing Sustainable Growth COM/2018/097 final (“Action Plan”).

2 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Empty: Strategy for Financing the Transition to a Sustainable Economy COM/2021/390 final, p. 1.

3 Communication from the Commission to the European Parliament and the Council: 2023 Strategic Foresight Report Sustainability and people’s wellbeing at the heart of Europe’s Open Strategic Autonomy COM/2023/376 final, p. 7.

4 Commission Staff Working Document Investment needs assessment and funding availabilities to strengthen EU’s Net-Zero technology manufacturing capacity SWD(2023) 68 final, p. 3.

5 The Commissions’ overview of the European Sustainable Finance Framework can be found in: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Empty: Strategy for Financing the Transition to a Sustainable Economy COM/2021/390 final, p. 2.

The European Sustainable Finance Framework (“EU SFF”) is comprised of the Corporate Sustainability Reporting Directive (“CSRD”)⁶ and European Sustainability Reporting Standards (“ESRS”),⁷ the Taxonomy Regulation (“TR”),⁸ the Sustainable Finance Disclosure Regulation (“SFDR”),⁹ the European Green Bond Standard Regulation (“EuGBR”),¹⁰ the EU Climate Benchmarks Regulation,¹¹ and the sustainability preferences under the Markets in Financial Instruments Directive II (“MiFID II”).¹² Together, these laws create the legal infrastructure intended to reorient private capital to more sustainable investments. The EU SFF is integrated into existing European financial regulation in two ways. First, some of the legislation directly amends existing financial regulations. Second, by employing the same regulatory strategies that are common in financial regulation. In particular, the EU SFF employs the strategy of enhancing disclosure requirements to foster better investment decisions. The foundational premise of the EU SFF is that increased transparency regarding the sustainability impact, risks, and opportunities enables investors to incorporate sustainability considerations into their investment decisions, increasing the allocation of capital to sustainable investments. In this thesis, I assess the effectiveness of EU SFF in achieving its intended aim of reorienting private capital to sustainable investments. For this, I have formulated the following research question:

To what extent does the European Sustainable Finance Framework enable investors to make better informed investment decisions that integrate sustainability considerations, and how can this framework be improved to facilitate the reorientation of capital flows toward sustainable economic activities?

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- 6 Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (“CSRD”).
 - 7 Commission Delegated Regulation (EU) 2023/2772 of 31 July 2023 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards (“ESRS”).
 - 8 Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (“TR”).
 - 9 Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector (“SFDR”).
 - 10 Regulation (EU) 2023/2631 of the European Parliament and of the Council of 22 November 2023 on European Green Bonds and optional disclosures for bonds marketed as environmentally sustainable and for sustainability-linked bonds (“EuGBR”).
 - 11 Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.
 - 12 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms.

In this introductory Chapter, I set out three foundational elements for my research. First, in paragraph 2, I discuss the key developments that led to the creation of the EU SFF. Second, I explain how I conceptualize the EU SFF in this research and discuss the three intersecting dimensions of the framework: economic objectives, financial regulations objectives, and environmental aims, in paragraph 3. Third, in paragraph 4, I explain my research question and the methodology that I used to conduct this research.

2 HISTORICAL DEVELOPMENTS

2.1 Introduction

The fundamental physical mechanisms of climate change have been known since the nineteenth century.¹³ Since the 1970s, climatologists have warned of the potentially disastrous consequences of climate change.¹⁴ Today, there is an overwhelming consensus that the recent and predicted global warming is largely caused by human activities, in particular, the emission of greenhouse gases (“GHG”).¹⁵ This is commonly referred to as anthropogenic climate

13 Already in 1827, Joseph Fourier worked on the theory of heat and proposed that the Earth’s atmosphere plays an important role in the planet’s temperature, see: Fleming J.R., “Joseph Fourier, the ‘greenhouse effect’, and the quest for a universal theory of terrestrial temperatures”, *Endeavour* 1999, vol. 23(2), p. 72. In 1859, the Irishman John Tyndall demonstrated that gases, such as CO₂, can absorb heat and wrote that “Thus the atmosphere admits of the entrance of the solar heat; but checks its exit, and the result is a tendency to accumulate heat at the surface of the planet.”, see: Hulme M., “On the origin of ‘the greenhouse effect’: John Tyndall’s 1859 interrogation on nature.”, *Weather* 2009, vol. 64(5), p. 121. In 1896, the Swedish scientist Svante Arrhenius was the first to attempt to calculate how increases in CO₂ would increase surface temperature, see: Anderson T.R., Hawkins E. & Jones P.D., “CO₂, the greenhouse effect and global warming: from the pioneering work of Arrhenius and Callendar to today’s Earth System Models”, *Endeavour* 2016, vol. 40(3), p. 178.

14 Bodansky D., “The United Nations Framework Convention on Climate Change: A Commentary”, *Yale Journal of International Law* 1993, vol. 18(2), p. 451.

15 Cook J., e.a. “Quantifying the consensus on anthropogenic global warming in the scientific literature”, *Environmental Research Letters* 2013, vol. 8(2), 024024. The study examined 11944 abstracts from peer-reviewed scientific literature published between 1991-2011, matching the topics ‘global warming’ or ‘global climate change’. In 4014 abstracts, a position was taken on the human contribution to climate change. Of those, 3896 endorsed that humans contribute to climate change (97,1%), 78 papers reject this conclusion (0,7%), and 40 were uncertain (0,3%). See also: Anderegg W.R.L., e.a., “Expert credibility in climate change”, *Proceedings of the National Academy of Sciences* 2010, vo. 107(27), p. 12107: 97-98% of the 200 most-published climate scientists endorse IPCC conclusion; Doran P.T. & Zimmerman M.K., “Examining the Scientific Consensus on Climate Change”, *Eos*, vol. 90(3), p. 22: of 3146 surveyed Earth scientists, 82% agreed that human activity contributed to climate change, whereas amongst the subset of Earth scientists with the greatest expertise in climate science, the agreement was 97,4%; Cook J., e.a., “Consensus on consensus: a synthesis of consensus estimates on human-caused global warming”, *Environmental Research Letters* 2016, vol. 11(4),

change, which can be opposed to climate change that is caused by natural drivers that are not influenced by human activity.¹⁶

The devastating effects of climate change have given rise to the need for financing that is aimed at “reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts,” also known as climate finance.¹⁷ Climate finance is an important part of sustainable finance. A key turning point in climate finance is marked by the United Nations (“UN”) Paris Agreement, which entered into force in 2016. Before the Paris Agreement, there had been a focus on financing climate action through public resources, in particular through aid from developed to developing nations. This approach has shifted toward increasingly incorporating private capital. This shift reflects both the realisation that the need for climate finance exceeds the capacity of the public sector and the realisation that public climate finance is fruitless as long as private capital continues to finance economic activities that exacerbate anthropogenic climate change.

In paragraph 2.2, I outline the UN-level developments that led to the adoption of the Paris Agreement. This historical context at the UN level illustrates how the approach to climate finance has evolved from relying exclusively on public resources to integrating private investment. In paragraph 2.3, I examine the European policy landscape developments that ensued after the Paris Agreement. To provide a comprehensive understanding, I first provide an overview of European policy in the years before the Paris Agreement, which demonstrates how private investment gradually became a component of climate finance. This is followed by an analysis of the policy initiatives introduced after the conclusion of the Paris Agreement. While a broader regulatory framework for climate action exists, I limit my discussion to private financing of climate action, in line with the topic of this research.

048002: reviewing studies that review the consensus of climate change, a consensus on human-induced climate change of around 90-100% is found.

16 Höök M. & Tang X., “Depletion of fossil fuels and anthropogenic climate change – A review”, *Energy Policy* 2013, vol. 52, p. 797; Hulme M., e.a., “Relative impacts of human-induced climate change and natural climate variability”, *Nature* 1999, vol. 397, p. 688.

17 United Nations Framework Convention on Climate Change, Standing Committee on Finance, 2014 Biennial Assessment and Overview of Climate Finance Flows Report (2014), available at: https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2014_biennial_assessment_and_overview_of_climate_finance_flows_report_web.pdf, accessed: 25 March 2025.

2.2 Climate Finance at the International Level

2.2.1 Climate Finance at the UN Level

The history of climate finance on an international level can be traced back to the 1972 United Nations Stockholm Declaration and Action Plan, which identified financial resources as one of four supporting measures of environmental assessments and management and recommended the establishment of an Environment Fund.¹⁸ This fund levelled off at around USD 30 million annually in the following years.¹⁹ Soon, this voluntary funding base was found to be too little to adequately perform its task.²⁰ In 1988, governments requested the World Meteorological Organization and the UN Environment Programme to set up the Intergovernmental Panel on Climate Change (“IPCC”), with the mandate to “provide internationally coordinated assessments of the magnitude, timing and potential environmental and socio-economic impact of climate change and realistic response strategies.”²¹ In the following year, the UN General Assembly adopted a resolution to establish an Intergovernmental Negotiating Committee to start preparations for negotiations on a framework convention on climate change.²² Shortly thereafter, the IPCC published its First Assessment Report, which predicted an average global mean temperature rise of 0.3°C per decade in the next century.²³ However, in a world heavily dependent on fossil fuels, the trade-off between combating climate change and fostering economic growth was – and still is – the most prominent obstacle to realizing a globally cohesive and effective policy on climate change.²⁴

18 Report of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.1 (Stockholm Declaration and Action Plan) (1972), Part I, Chapter II A. Framework for environmental action.

19 Report of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.1 (Stockholm Declaration and Action Plan) (1972), Part I, Chapter III, Resolution on International and Financial Arrangements, section III Environment Fund.

20 United Nations Report of the World Commission on Environment, Our Common Future, A/42/427 (Brundtland Report) (1987), Section 2.2.4 Increase the Revenue and Focus of the Environment Fund.

21 United Nations Resolution adopted by the General Assembly (43rd session), Protection of global climate for present and future generations of mankind, A/RES/43/53 (1988).

22 United Nations Resolution adopted by the General Assembly (44th session), Protection of global climate for present and future generations of mankind, A/RES/44/207 (1989), calling on states “to prepare as a matter of urgency a framework convention on climate, and associated protocols containing concrete commitments in the light of priorities that may be authoritatively identified on the basis of sound scientific knowledge, and taking into account the specific development needs of developing countries”.

23 Houghton J.T., Jenkins G.J. & Ephraums J.J. (eds.), *Climate Change: the IPCC Scientific Assessment*, Cambridge University Press 1990, at xvi, table 1.

24 Bodansky D., “The United Nations Framework Convention on Climate Change: A Commentary”, *Yale Journal of International Law* 1993, vol. 18(2), p. 451, p. 475.

Moreover, the diverging interests of states had a dampening effect on the willingness to commit resources to resolve the problem.²⁵

In 1992, the Intergovernmental Negotiating Committee drafted the United Nations Framework Convention on Climate Change (“UNFCCC”). The ultimate objective of the UNFCCC is to stabilize “(...) greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system (...)”.²⁶ The framework convention does not set out a binding legal obligation to take action to limit anthropogenic climate change. Instead, it sets out the processes by which actions to reach its aims shall be negotiated.²⁷ For example, article 7 UNFCCC sets out the establishment of a Conference of Parties (“COP”) that “shall, within its mandate, make the decisions necessary to promote the effective implementation of the Convention.” Today, the UNFCCC has 198 parties, including the European Union.²⁸

Article 11 UNFCCC establishes a mechanism for the provision of financial resources that are necessary to realize the UNFCCC’s objectives. According to article 11 (2) UNFCCC, “[t]he financial mechanism shall have an equitable and balanced representation of all Parties within a transparent system of governance”. A key concept thus is that, while climate change impacts all nations, the contribution to resolve the problem should be based on the economic capacity and the historical emissions of a state – also known as the principle of Common But Differentiated Responsibilities.²⁹ The financial mechanism comprises the provision of resources on a grant or concessional basis, the specific arrangements of which have to be agreed upon by a COP.³⁰ However, as the UNFCCC is a framework convention, the financial mechanism does not contain any binding obligations to contribute financial resources to

25 See for an inventory of obstacles to the INC’s work: Bodansky D., “The United Nations Framework Convention on Climate Change: A Commentary”, *Yale Journal of International Law* 1993, vol. 18(2), p. 451, 475.

26 Article 2 UNFCCC.

27 An overview of the working of the UNFCCC can be consulted in: Freestone D., “The United Nations Framework Convention on Climate Change – The Basis for the Climate Change Regime”, in: Gray K.R., Tarasofsky R. & Carlarne C.P. (eds.), *The Oxford Handbook of International Climate Change Law*, Oxford University Press 2016, p. 97-119.

28 United Nations, Parties to the United Nations Framework Convention on Climate Change, available at: <https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states>, accessed on 30 December 2024.

29 The principle of Common But Differentiated Responsibilities (CBDR) is mentioned both in article 3 (1) UNFCCC: “[t]he Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities” and article 4(1) UNFCCC: “All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: (...)” See also: Stone C.D., “Common but Differentiated Responsibilities in International Law”, *American Journal of International Law* 2024, vol. 98(2), p. 276.

30 Article 11 UNFCCC.

climate change mitigation and adaptation. Instead, further mechanisms and funds were established in line with article 11 UNFCCC in various COPs, including the 2009 Copenhagen Accord which set out the goal to jointly mobilize USD 100 billion annually from “a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance” by 2020.³¹

2.2.2 Paris Agreement

On 4 November 2016, the Paris Agreement entered into force.³² The goal of the Agreement is “[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.”³³ Similar to prior international efforts, climate finance in the Paris Agreement mainly revolves around public financial aid, as is reflected in articles 9, 10, and 11, which focus on resources to be provided in line with the principle of Common But Differentiated Responsibilities.

The Paris Agreement, however, also contains a novel type of financial commitment in article 2 (1) (c): “Making financial flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development.” The phrase “financial flows” is not defined in the Paris Agreement, but it can be assumed that the term encompasses both public and private financial capital. There are two reasons for this. The first is that article 2 of the Paris Agreement contains the general aims of the Agreement, which should be interpreted more broadly than public funding discussed in articles 9-11 of the Paris Agreement.³⁴ Second, a broad understanding is in line with the definition of climate finance used by the UNFCCC Standing Committee on Finance: financing that aims at “reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and

31 United Nations Report of the Conference of the Parties on its 15th session, held in Copenhagen from 7 to 19 December 2009: addendum, FCCC/CP/2009/11/Add.1 (Copenhagen Report) (2009), p. 7.

32 In the same year as the Paris Agreement was concluded, the UN General Assembly set out the Sustainable Development Goals (SDGs) in a resolution called the 2030 Agenda (United Nations Resolution adopted by the General Assembly (70th session), Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1 (2015)). SDG 13 is to “Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy.” This SDG has five targets, most of which are directed at resilience against and adaptation to climate-related disasters, integration of climate change measures into policy and planning, building knowledge and capacity, implementing the UNFCCC, and promoting mechanisms to raise capacity for planning and management.

33 Article 2 (1) (a) Paris Agreement.

34 Calster G. van & Reins L. (eds.), *The Paris Agreement on Climate Change: A Commentary*, Edgard Elgar 2021, p. 83.

increasing the resilience of, human and ecological systems to negative climate change impacts”, which is not limited to public financing alone.³⁵ Importantly, article 2 (1) (c) of the Paris Agreement can be seen as a step in recognizing that public funding can never suffice for effective climate mitigation and adaptation, especially as long as private capital continues to be used to fund economic activities that exploit environmental resources and contribute to climate change.

The inclusion of climate finance in article 2 of the Paris Agreement elevates it to one of the main objectives of the Agreement.³⁶ However, although climate finance has become an explicit aim, the Paris Agreement does not establish any binding obligations for its members. Rather than imposing the commitment to enhance climate finance, the alignment of financial flows is merely an aspiration. Nonetheless, article 2 (1) (c) of the Paris Agreement is a crucial development that has shaped the climate finance policy of the EU, including the EU SFF.

2.3 Sustainable Finance at EU Level

2.3.1 *From Public to Private Capital in Pre-Paris Agreement European Policy*

The gradual shift from public to private capital in climate finance can also be observed in policy pieces at EU level. For example, in 2009, the European Commission presented a blueprint on climate finance.³⁷ The blueprint focussed heavily on the financing need of developing countries, estimating this would be around EUR 100 billion annually by 2020.³⁸ The Commission wrote that it is “very often wrongly assumed to be the necessary contribution from public budgets of developed countries” and stressed that to generate the necessary financial flows, a mix of sources must be called upon, including (1) domestic

35 United Nations Framework Convention on Climate Change, Standing Committee on Finance, 2014 Biennial Assessment and Overview of Climate Finance Flows Report (2014), available at: https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2014_biennial_assessment_and_overview_of_climate_finance_flows_report_web.pdf, accessed on 31 March 2025.

36 Calster G. van & Reins L. (eds.), *The Paris Agreement on Climate Change: A Commentary*, Edgard Elgar 2021, p. 73-74.

37 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Stepping up international climate finance: A European blueprint for the Copenhagen deal COM(2009) 475 final.

38 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Stepping up international climate finance: A European blueprint for the Copenhagen deal COM(2009) 475 final.

public and private finance, (2) flows leveraged by the carbon market, and (3) international public finance.³⁹

In 2010, the Commission presented *Europe 2020: A strategy for smart, sustainable and inclusive growth*.⁴⁰ Written during the direct aftermath of the 2008 financial crisis, the report strongly emphasized economic and social progress and warned against a return to business as usual. One of the main priorities identified by the Commission was sustainable growth: “promoting a more resource efficient, greener and more competitive economy.”⁴¹ Moreover, the Commission emphasized the need to mobilize EU financial instruments and create a funding strategy that contained both public and private funding.⁴²

Commission communications and European Council conclusions from the late 00’s and early 10’s also stressed that private finance is key to scaling up climate finance.⁴³ Anticipating the Paris Agreement in 2014, the Council described private investments as a “key source” and having a complementary role, stressing the need for transparency and common understanding of climate finance.⁴⁴ Nonetheless, public financing initiatives were dominant at that time.⁴⁵

Until the Paris Agreement, private resources were part of the general policy on climate finance, but this was usually in the context of the financial commitments made to developing countries. The most important exception to this is the European Emission Trading System, which targets the climate position

39 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Stepping up international climate finance: A European blueprint for the Copenhagen deal COM(2009) 475 final, p. 4.

40 Communication from the Commission: EUROPE 2020 A strategy for smart, sustainable and inclusive growth COM(2010) 2020 final.

41 Communication from the Commission: EUROPE 2020 A strategy for smart, sustainable and inclusive growth COM(2010) 2020 final, p. 3.

42 Communication from the Commission: EUROPE 2020 A strategy for smart, sustainable and inclusive growth COM(2010) 2020 final, p. 14.

43 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change COM(2010) 86 final, p. 11; Council of the European Union, Press Release: Outcome of the Council Meeting 3264th Council meeting Economic and Financial Affairs, 15 October 2013, 14714/13, para. 9.

44 Council of the European Union, Press Release: Outcome of the Council Meeting 3343rd Council meeting Economic and Financial Affairs, 7 November 2014, 15211/14, para. 5, 11.

45 These include the pledges of EU Member States to the Green Climate Fund, committing to the annual USD 100 billion goal from the Copenhagen/Cancun convention, the EU External Investment Plan, the EU flagship initiative Global Climate Change Alliance+, see: European Commission, “International climate finance – How the EU supports climate action in developing economies across the world”, available at: https://ec.europa.eu/clima/eu-action/international-action-climate-change/international-climate-finance_nl, accessed on 31 March 2025.

of private enterprises through tradeable emission allowances, thus forcing polluters to make a monetary commitment by either purchasing permits or reducing emissions.⁴⁶ This can be seen as a typical market-based solution to the efficiency problem at the core of climate change, as transferrable rights are attributed to the permission to pollute.⁴⁷

2.3.2 Private Sustainable Finance in Post-Paris European Policy

From 2015 onward, there has been a shift in how private investment is discussed in policy documents on climate finance. The Council of the European Union's conclusions, which establish the EU's political position, began to explicitly identify the private sector as a crucial actor in redirecting capital toward low-carbon and climate-resilient investments.⁴⁸ This shift in perspective was further stressed in subsequent Council conclusions, which emphasized the EU's efforts to align investment incentives with climate objectives, notably within the framework of the Capital Markets Union, which sets out the plans to create a single capital market within the EU.⁴⁹ The 2017 conclusion pushes on the need to develop a framework to achieve the aim of article 2 (1) (c) Paris Agreement by mobilising private finance.⁵⁰

The work of the Financial Stability Boards' ("FSB") Task Force on Climate Related Disclosures ("TCFD") also had significant influence on the shaping of EU policy for mobilising finance. The FSB includes the G20 states, the members of the Financial Stability Forum, and the European Commission and monitors international financial stability. In 2017, the FSB Task Force on Climate-related Financial Disclosures published a report on the impact of global warming on financial markets and developed recommendations for climate-related disclosures. The Task Force concluded that from climate change, two types of risks put pressure on long-term financial stability: transition risks and physical risks.⁵¹ Physical risks are those that relate to the physical damage caused by climate change, such as flooding, droughts, and storms.⁵² Transition

46 See in general: Bogojevic S., *Emission Trading Schemes: Markets, States and Law*, Bloomsbury Publishing 2013.

47 Weber R.H., "Emission Trading Schemes: A Coasean Answer to Climate Change?", in: Mathis K. & Huber B.R. (eds.), *Environmental Law and Economics*, Springer 2017, p. 355.

48 Council of the European Union, Press Release: Outcome of the Council Meeting 3421st Council meeting Economic and Financial Affairs, 10 November 2015, 13830/15, para. 7.

49 Council of the European Union, Press Release: Outcome of the Council Meeting 3488th Council meeting Economic and Financial Affairs, 11 October 2016, 13111/16, para. 11.

50 Council conclusion on Climate Finance, Outcome of the Council Meeting 3563rd Council meeting Economic and Financial Affairs, 10 October 2017, 12975/17.

51 Financial Stability Board, "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures", *Financial Stability Board* 2017, p. 5-6.

52 Financial Stability Board, "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures", *Financial Stability Board* 2017, p. 6. Note that the recommenda-

risks refer to financial risks that stem from the transition to a low-carbon economy.⁵³ Transition risks encompass legal and policy risks, such as changes in regulation and climate change litigation.⁵⁴ At the same time, the Task Force also emphasized that climate change mitigation and adaptation provided for investment opportunities.⁵⁵ To adequately assess these risks and opportunities, financial markets need to be informed sufficiently about them. The Task Force thus developed recommendations on climate-related disclosures on the areas of governance, strategy, risk management, and metrics and targets, specifying what type of information a company should disclose on these.⁵⁶

In March 2018, the European Commission published the *Action Plan: Financing Sustainable Growth*, which refers to the work of the HLEG and FSB.⁵⁷ The Action Plan sets out strategies for connecting finance and sustainability. For this, the Commission defined the term sustainable finance as “the process of taking due account of environmental and social considerations in investment decision-making, leading to increased investments in longer-term and sustainable activities.”⁵⁸ The Action Plan thereby is exemplary for the policy shift from climate financing, focused specifically on the causes and consequences of climate change, to sustainable finance, which encompasses a broader spectrum of considerations that include social dimensions. The Action Plan has three overarching aims.⁵⁹ Within these three aims, a total of ten key actions are identified:

1. Reorienting capital flows toward a more sustainable economy
 - a. Establishing a clear and detailed EU taxonomy, a classification system for sustainable finance

tion to disclose climate-related financial risk does not specifically relate to disclosures in prospectuses but more generally to, for example, annual financial reporting.

53 Financial Stability Board, “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures”, *Financial Stability Board* 2017, p. 5.

54 Pouikli K., “Editorial: a short history of the climate change litigation boom across Europe”, *ERA Forum* 2022, vol. 22, p. 569, 577-578.

55 Financial Stability Board, “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures”, *Financial Stability Board* 2017, p. 6-7.

56 Financial Stability Board, “Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures”, *Financial Stability Board* 2017, p. 13 ff.

57 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: Action Plan: Financing Sustainable Growth COM/2018/097 final.

58 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: Action Plan: Financing Sustainable Growth COM/2018/097 final, p. 2.

59 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: Action Plan: Financing Sustainable Growth COM/2018/097 final.

- b. Creating an EU Green Bond Standard and labels for green financial products
- c. Fostering investment in sustainable projects
- d. Incorporating sustainability in financial advice
- e. Developing sustainability benchmarks
2. Mainstreaming sustainability into risk management
 - a. Better integrating sustainability in ratings and market research
 - b. Clarifying asset managers' and institutional investors' duties regarding sustainability
 - c. Introducing a 'green supporting factor' in the EU prudential rules for banks and insurance companies
3. Fostering transparency and long-termism
 - a. Strengthening sustainability disclosure and accounting rule-making
 - b. Fostering sustainable corporate governance and attenuating short-termism in capital markets

In June 2018, the Commission set up the HLEG, with the aim of aiding in the realisation of the Action Plan by developing “1) a unified classification system for sustainable economic activities, 2) an EU green bond standard, 3) benchmarks for low-carbon investment strategies, and 4) guidance to improve corporate disclosure of climate-related information.”⁶⁰ The final report was published at the beginning of 2018 and set out two main action points: that the contributions of finance to sustainable growth need to be enhanced and that financial stability must be maintained by broadening the perception of financial risks.⁶¹ This research focuses on the first aim of the Action plan: “to channel private financial flows into relevant economic activities.”⁶² The first aim has been further developed and refined in the 2021 Strategy for Financing the Transition to a Sustainable Economy.⁶³ Herein, the Commission sets out the legislative components of the EU SFF, which will be discussed in the paragraph 3.

Two years prior to the Strategy for Financing the Transition to a Sustainable Economy, the Commission published the Green Deal, a growth strategy for the EU for the coming 30 years which sets out the mechanisms by which

60 Technical Expert Group on Sustainable Finance, “Financing a Sustainable European Economic: Report on Climate-related Disclosures”, *European Commission* January 2019, p. 3.

61 High-Level Expert Group on Sustainable Finance, “Financing a Sustainable European Economy, Final Report”, *European Commission* 2018.

62 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Empty: Strategy for Financing the Transition to a Sustainable Economy COM/2021/390 final.

63 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Empty: Strategy for Financing the Transition to a Sustainable Economy COM/2021/390 final.

Europe should become climate neutral.⁶⁴ To this end, the Green Deal contains around 20 different proposals in a wide range of policy areas, including agriculture, industry, transport, research and innovation. The financing of the Green Deal is laid out in the Sustainable Europe Investment Plan.⁶⁵ The Green Deal and its financing parallels overlaps with the aforementioned Strategy for Financing the Transition to a Sustainable Economy. Together, these policy developments led to the adoption of the legislation that forms the EU SFF, which is discussed in the next paragraph.

In June 2023, the European Council tasked Enrico Letta to write a report on the future of the European Single Market, which was published in April 2024.⁶⁶ The report describes that European businesses face significant bureaucratic burdens “due to the overlapping regulations and administrative complexities generated by the EU’s complex multilevel governance system” but does not explicitly mention the sustainable finance legislation as part of this problem.⁶⁷ The Draghi report, published in September 2024, singles out the sustainable finance reporting requirements under the CSRD/ESRS as an excessive burden that slows the economic growth and competitiveness of the EU.⁶⁸ In a similar spirit, the Budapest Declaration of November 2024, wherein European Heads of State and Government have called for a simplification of the regulatory framework, in particular for SMEs, calls for a reduction of reporting requirements of at least 25%.⁶⁹ Following the start of the second

64 Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Deal COM/2019/640 final; see also: Claey's G., e.a., “How to make the European Green Deal work”, *Breugel Policy Contribution* 2019; Krämer L., “Planning for Climate and the Environment: the EU Green Deal”, *Journal for European Environmental & Planning Law* 2020, vol. 17(3), p. 267, 269.

65 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Sustainable Europe Investment Plan European Green Deal Investment Plan COM/2020/21 final.

66 Letta, E., “Much more than a Market – Speed, Security, Solidarity Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens”, April 2024, available at: <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>.

67 Letta, E., “Much more than a Market – Speed, Security, Solidarity Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens”, April 2024, available at: <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>, p. 10.

68 European Commission, The Draghi report: A competitiveness strategy for Europe (Part A): A competitiveness strategy for Europe, September 2024, available at: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en; European Commission, The Draghi report: In-depth analysis and recommendations (Part B): In-depth analysis and recommendations, September 2024 available at: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

69 European Council, Press Release, Budapest Declaration on the New European Competitive Deal, 8 November 2024, available at: <https://www.consilium.europa.eu/en/press/press-releases/2024/11/08/the-budapest-declaration/>, point 4.

mandate of the European Commission under Ursula von der Leyen on 1 December 2024, *A Competitiveness Compass for the EU* was published on 29 January 2025, which recognises the message of both the Letta and the Draghi report.⁷⁰ In the Competitiveness Compass, the Commission sets itself the goal to reduce reporting burdens “at least 25% for all companies and at least 35% for SMEs” and announces the publication of a series of Omnibus packages.⁷¹ Consequently, Omnibus I and II were published on 26 February 2025, containing proposals to amend the CSRD and CSDDD.⁷² On 17 April 2025, the so-called Stop the Clock Directive entered into, which postponed the application of the CSRD and CSDDD, creating time for amending those two Directives.⁷³

At the time of completion of this, 31 October 2025, the legal status of the EU SFF thus is facing substantive and far-reaching changes. Whereas the only legally binding amendment at this date is the Stop the Clock Directive, several impactful developments are on their way:

- The scope and content of the CSRD is under negotiation, with an expected 80% of companies being removed from the current scope⁷⁴
- The ESRS are under revision, with a planned elimination of sector-specific ESRS⁷⁵

70 Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: *A Competitiveness Compass for the EU* COM(2025) 30 final.

71 Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: *A Competitiveness Compass for the EU* COM(2025) 30 final, p. 17-18.

72 Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements COM(2025) 80 final (Omnibus I); Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directives 2006/43/EC, 2013/34/EU, (EU) 2022/2464 and (EU) 2024/1760 as regards certain corporate sustainability reporting and due diligence requirements COM(2025) 81 final (Omnibus II).

73 Article 1 and 2 Directive (EU) 2025/794 of the European Parliament and of the Council of 14 April 2025 amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements.

74 Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements COM(2025) 80 final (Omnibus I): “The number of undertakings subject to mandatory sustainability reporting requirements would be reduced by about 80%”.

75 Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements COM(2025) 80 final (Omnibus I): “There would be no sector-specific reporting standards, so avoiding an increase in the number of prescribed datapoints that undertakings should report.”

- Delegated Acts under the Taxonomy Regulation are amended⁷⁶
- And the SFDR is expected to be overhauled in the fall of 2025.⁷⁷

This thesis evaluates the EU SFF in its legally binding form as of 31 October 2025, when no substantive modifications to the framework had been formally adopted.

3 THE EUROPEAN SUSTAINABLE FINANCE FRAMEWORK

3.1 Introduction

Based on the international and European policy initiatives that have ultimately resulted in the EU SFF, the conclusion may be reached that the EU SFF is primarily about sustainability as it stems from the necessity to take climate mitigation and adaptation measures. A closer look at the EU SFF, however, reveals that the framework is at least as much about general economic policy and financial markets regulation specifically as it is about sustainability. In this paragraph, I set out the building blocks of the EU SFF, first by discussing the overview of the framework released by the Commission in paragraph 3.2 and then by presenting my own conceptualisation of the EU SFF, which serves as the basis for this entire thesis in paragraph 3.3. Subsequently, I discuss how the EU SFF combines the three policy aims of economic progress, financial market regulation, and sustainability in paragraph 3.4.

3.2 Overview of the EU SFF Presented by the Commission

In Strategy for Financing the Transition to a Sustainable Economy, the Commission presents the EU SFF as consisting of three building blocks: 1. EU Taxonomy, 2. Disclosures, and 3. Tools, as can be seen in the following image that has been presented in the ‘Strategy for Financing the Transition to a Sustainable Economy’.

76 COMMISSION DELEGATED REGULATION (EU) .../... amending Commission Delegated Regulation (EU) 2021/2178 as regards the simplification of the content and presentation of information to be disclosed concerning environmentally sustainable activities and Commission Delegated Regulations (EU) 2021/2139 and (EU) 2023/2486 as regards simplification of certain technical screening criteria for determining whether economic activities cause no significant harm to environmental objectives.

77 European Parliament, Briefing, Review of Regulation (EU) 2019/2088 on sustainability-related disclosures in financial services, 9 October 2025, available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/774660/EPRS_BRI\(2025\)774660_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/774660/EPRS_BRI(2025)774660_EN.pdf).

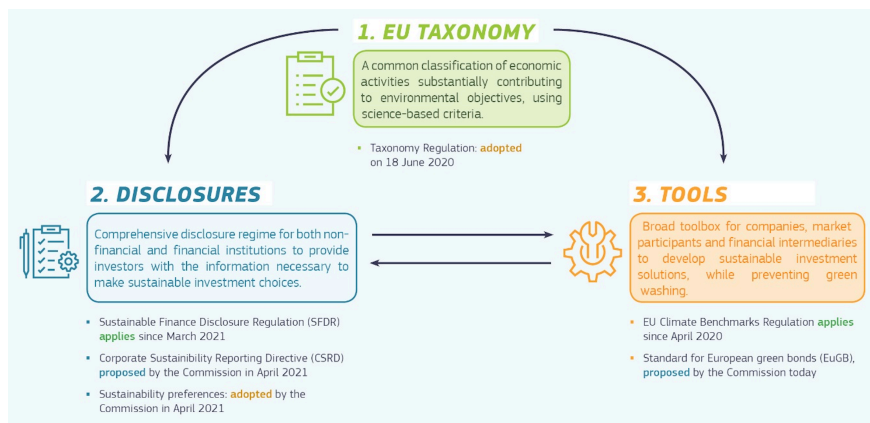


Figure 1: The Foundations of the EU Sustainable Finance Framework. Source: Commission Communication, *Strategy for Financing the Transition to a Sustainable Economy*, COM(2021) 390 final, p. 2.

The first building block of the EU SFF in the overview of the Commission is the Taxonomy, a classification system for environmentally sustainable economic activities. As a general rule, to qualify as an environmentally sustainable economic activity, the activity must contribute to the environmental objectives set out in the regulation.⁷⁸ The Taxonomy Regulation applies both to businesses subject to the CSRD and to businesses subject to the SFDR.⁷⁹ Moreover, when businesses issue bonds that are Taxonomy-aligned, they can use the label European Green Bond for these securities.

The second building block in the overview from the Commission is the disclosures, which aim to inform the market about the sustainability risks and impacts. Here, the Commission groups together three regulatory initiatives.⁸⁰ First, the SFDR, which applies to financial market participants and financial advisers, obliges them to disclose both on entity and product level the sustainability risks and the sustainability impacts of investments to their clients.⁸¹ These are financial businesses that act as intermediaries between the companies who are active in the real economy and are searching to raise capital on financial markets and investors who are investing in those real economy companies by purchasing their shares or other financial instruments. The second legislative initiative is the CSRD, integrated into the Accounting Directive (“AD”). The CSRD applies to European credit institutions, insurance companies, large companies, and listed companies and obliges them to report

78 Article 3 TR.

79 Article 1 (2) (c) TR.

80 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Empty: Strategy for Financing the Transition to a Sustainable Economy COM/2021/390 final, p. 2.

81 Article 1 and 2 and 6 SFDR.

their sustainability impacts, risks and opportunities in accordance with the rules described in the ESRS. These are the businesses that are active in the real economy, searching to raise capital on financial markets by issuing financial instruments, the issuers. The third legislative initiative is the Sustainability Preferences, integrated into the MiFID II framework⁸² and the Insurance Distribution Directive (“IDD”),⁸³ so that sustainability preferences are systematically considered when recommending financial instruments and products to clients.⁸⁴

The third building block is the tools, consisting of the EuGBR and the EU Climate Benchmarks, integrated into the Benchmark Regulation.⁸⁵ The EuGBR is a designation that issuers can use for their bonds if the proceeds are used to finance Taxonomy-aligned activities; the Benchmark Regulation contains rules on how to determine how aligned an investment portfolio is to either the EU Climate Transition Benchmark or the EU Paris-aligned Benchmark.

3.3 The Conceptualisation of the EU SFF Used in this Thesis

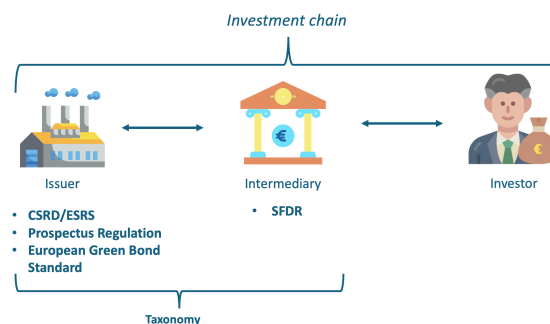


Figure 2: Conceptualisation of the EU SFF used in this thesis. Source: Own image.

82 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms.

83 Commission Delegated Regulation (EU) 2021/1257 of 21 April 2021 amending Delegated Regulations (EU) 2017/2358 and (EU) 2017/2359 as regards the integration of sustainability factors, risks and preferences into the product oversight and governance requirements for insurance undertakings and insurance distributors and into the rules on conduct of business and investment advice for insurance-based investment products.

84 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: EU Taxonomy, Corporate Sustainability Reporting, Sustainability Preferences and Fiduciary Duties: Directing finance towards the European Green Deal COM/2021/188 final.

85 Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

In this thesis, I approach the EU SFF through the investment chain, which encompasses three actors: (i) the issuers, as the primary actors in whom capital is invested, (ii) the intermediaries, who facilitate the investment process, and (iii) the investors, whose capital is used to finance the issuers' business activities. This approach, which is visually represented in the image above, demonstrates how the EU SFF creates an information infrastructure that allows sustainability information to travel from issuers to investors, enabling them to make better informed investment decisions that incorporate sustainability information. By approaching the EU SFF through the investment chain and the information flow therein, this approach aids in the understanding of how the framework combines its two core objectives: (a) the investor-driven reallocation of capital by means of disclosures and (b) tangible environmental progress.

The inclusion of the Prospectus Regulation ("PR"), which is not a part of the Commissions' EU SFF, is necessary in this overview as the regulation plays a critical role in the transmission of information from issuer to intermediary: the PR mandates the publication of a prospectus by issuers upon issuing securities, which will likely contain sustainability information. It, therefore, becomes a critical instrument in the transmission of information from issuer to investor. Conversely, my approach excludes the sustainability preferences under MiFID II and the EU Climate Benchmarks, as these do not primarily concern the disclosure of information towards investors.⁸⁶

I have chosen to use this approach instead of the overview of the Commission for three reasons. First, it better clarifies the central idea of the EU SFF, namely that sustainability information is generated and regulated at different levels in the investment chain and that this flow of information enables investors to incorporate sustainability considerations into their investment decisions. After all, without sufficient sustainability information, the investor-driven reallocation of capital to sustainable investments is unlikely to take place.

Second, this approach clarifies how the three main categories of actors are affected by the EU SFF and how they relate to one another. Throughout this thesis, I use this categorisation of actors:

1. *The issuers* – the businesses that are active in the real economy and finance their activities by issuing securities. The issuers play a direct role in the transition to a climate-neutral society as they have a direct impact on sustainability matters through their business activities, for example, by

⁸⁶ For the same reason, other legislation that could be encompassed under the broad term sustainable finance is excluded from this research as it does not primarily concern the obligation to disclose sustainability information to investors. This exclusion applies to prudential legislation (including the management of ESG risks in capital requirements and ideas for green supporting or brown penalizing factors), as well as the Corporate Sustainability Due Diligence Directive, which primarily targets corporate behaviour rather than the disclosure of information to investors.

emitting GHG in their production processes. Ultimately, all sustainability information that investors receive should, therefore, reflect the sustainability impacts, risks, and opportunities at issuer level.

2. *The intermediaries* – the businesses that facilitate the exchange between investors and issuers. Intermediaries are not active in the real economy: they do not produce tangible goods or provide services in the real economy and may therefore have a more limited sustainability impact than the issuers active in the real economy. The intermediaries play an important role in safeguarding the integrity of the sustainability information about issuers and preventing relevant information from being deformed or lost. Although the group of intermediaries facilitating the exchange between issuers and investors is extremely wide, encompassing, for example, all parties involved in securities custody, my research focuses specifically on ‘financial advisers’ and ‘financial market participants’, who are directly regulated under the EU SFF.⁸⁷ The scope of my research deliberately excludes financial businesses that fulfil intermediary roles but fall outside EU SFF regulation.
3. *The investors* – the actors whose capital is used to finance the issuers. The investors are actors for whose benefit the EU SFF has been designed: they should be informed about the sustainability risks and effects of their investments, enabling them to make decisions that take sustainability considerations into account. Investors, thus, simultaneously are the market participants in need of protection and the market participants that yield the power to decide which projects receive funding. Although the group of investors is diverse in terms of professionalism, expertise, and information needs, the EU SFF does not differentiate between investor types. I adopt this approach in my conceptualization of the EU SFF.

The third advantage of my overview of the EU SFF is that it demonstrates how the different legislation applies to different actors. The issuers, to whose sustainability impact, risks, and opportunities the information flow ultimately should pertain, are regulated by the CSRD/ESRS, the PR, and the EuGBR. These are disclosure requirements that require issuers to generate information about themselves so that investors can make an investment decision on whether the securities issued by the issuer are a suitable investment for them. The intermediaries are regulated by the SFDR, which requires them to transmit sustainability information about the issuers to the investors. Both issuer and intermediary are affected by the Taxonomy, which unifies the definition of ‘environmentally sustainable economic activity’.

⁸⁷ Financial advisers and financial market participants are both defined terms in the sense of article 2 SFDR and are regulated under that Regulation.

3.4 The Three Dimensions of the EU SFF

The EU SFF, with its legislation on integrating sustainability disclosures into financial market regulation, may be characterised as primarily concerning environmental sustainability. However, this characterisation overlooks that the EU SFF comprises three policy dimensions: economic growth, the functioning of financial markets, and environmental sustainability.

3.4.1 *The Economic Dimension*

The economic dimension of the EU SFF can be observed in the characterisation of the framework as an internal market initiative. This economic framing is manifested in two ways. First, the rhetoric contained in the legislation and the policy documents surrounding the EU SFF focuses strongly on an economic narrative. Second, the constitutional basis of the EU SFF is article 114 of the Treaty on the Functioning of the European Union (“TFEU”), the creation of the internal market.

3.4.1.1 *Economic Narrative*

The economic narrative that supports the EU SFF is evident in all legislation contained in the EU SFF, as well as in surrounding policy documents. In the recitals to the SFDR, TR, and CSRD, the Commission stresses that a sustainable, resource-efficient and circular economy is a prerequisite to the long-term competitiveness of the EU.⁸⁸ The recitals contain references to various policy pieces ranging from the Green Deal to post-COVID-19 recovery plans, which primarily pertain to economic policy.⁸⁹ These references demonstrate that the EU SFF is seen as part of a growth strategy. The recitals list objectives such as “building an economy that works for the people” and “stability, jobs, growth and sustainable investment”, underlining the economic function of the EU SFF.⁹⁰ Through the economic lens, the EU SFF thus can be seen as the attempt to build a market for sustainable investing, not by relying solely on market powers but by shaping the legal infrastructure that is necessary to realize that market.⁹¹

3.4.1.2 *Legal Basis*

The framing of the EU SFF as an economic policy aimed at improving the functioning of the internal market forms the core of the constitutional

88 Recital 2 and 9 SFDR, recital 1, 6, 9 TR, recital 1,2, 12 CSRD.

89 Recital 1 CSRD.

90 Recital 1 CSRD.

91 As Iris Chiu remarks that this in essence is the ordoliberalistic approach that is common in EU regulation, in : Chiu I., “Building a Single Market for Sustainable Finance in the EU – Idealism, Policy and Mixed Messages”, 2020, available at: <http://dx.doi.org/10.2139/ssrn.3631946>, p. 1.

legitimization of the EU SFF. The CSRD, TR, SFDR, and EuGBR all are based on article 114 TFEU. This article provides the legal basis for legislative action which pursues the objective of article 26 TFEU, namely the creation of the internal market as contained in article 3 of the Treaty on the European Union (“TEU”).⁹² This can be contrasted to the legal basis of environmental action, articles 191-193 TFEU.⁹³ In the constitutional system of the EU, choosing the internal market as the legal basis for sustainable finance regulation instead of the environmental legal basis has a reason. According to the principle of conferral, the EU’s power to act is limited by the competences that have been conferred upon it by the Member States in order to attain the objectives of the Union as set out in its treaties.⁹⁴ Importantly, the EU has an exclusive competence to act in the area of the functioning of the internal market by virtue of articles 2 (1) and 3 TFEU, whereas environmental action falls under shared competence (article 2 (2) and 4 TFEU). Thus, the economic framing of the EU SFF is not merely a political choice but also for the reason that in the constitutional system of the EU, the economic framing is necessary to have the power to enact such far-reaching legislation in the first place.

3.4.2 The Financial Regulation Dimension

The EU SFF primarily regulates the disclosure of sustainability information in financial markets and fits seamlessly into existing financial regulation. Financial market regulation exists to improve the financial system, which in turn supports the real economy.⁹⁵ Financial regulation can, therefore, be viewed as a sub-category of the general economic aim discussed in the previous section. The EU SFF primarily contains disclosure rules that serve two financial regulation aims: improving market efficiency in financial markets and protecting investors.

3.4.2.1 Efficient and Transparent Financial Markets

The EU SFF characterises the inability of financial markets to channel more private capital toward sustainable investments as an efficiency problem: Market

⁹² See also: Weatherhill S, *The Internal Market as a Legal Concept*, Oxford University Press 2017, p. 11 on the importance of article 114 TFEU. Article 3 TFEU: “The Union shall establish an internal market that works for the sustainable development of Europe, based, among other things, on balanced economic growth and a high level of protection and the improvement of the quality of the environment.” Article 26 (2) TFEU defines this market as “an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provision of the Treaties.”

⁹³ Fisher E., Lange B. & Scotford E., *Environmental Law Text, Cases, and Materials*, Oxford University Press 2013, p. 128-138.

⁹⁴ Article 5 (2) TEU.

⁹⁵ Armour J., e.a., *Principles of Financial Regulation*, Oxford University Press 2016, p. 26-27.

failures prevent the efficient allocation of capital to environmentally sustainable economic activities. In particular, the lack of sustainability information is considered the primary obstacle preventing investors from incorporating sustainability into their investment decisions and consequently allocating capital toward sustainable activities. Hence, the EU SFF primarily contains disclosure rules.

The EU SFF regulates disclosures through two complementary strategies. First, by mandating the disclosure of comprehensive sustainability information that covers four dimensions of sustainability in relation to economic activities: (i) the negative sustainability impacts, (ii) the positive sustainability impacts, (iii) the financial risks emerging from sustainability considerations, and (iv) the financial opportunities arising from sustainability. This is also known as double materiality and is aimed at providing investors with neutral and comprehensive information that enables them to make their own assessment of the sustainability profile of the business or the economic activity. This type of disclosure can be found in the CSRD, ESRS, PR and SFDR. Second, it is also necessary that investors are informed about how the sustainability impact of an activity of business relates to external standards. The TR provide such a standard, containing clear and normative thresholds for qualifying activities as environmentally sustainable economic activities. Together, these complementary transparency strategies create the legal infrastructure for information transmission from issuer to investor, the EU SFF thus contributes to an efficient and transparent financial market.

3.4.2.2 *Investor Protection*

Another important core objective within the financial market dimension of the EU SFF is investor protection.⁹⁶ This aim is reflected in the recitals to all the legislation that is contained in the EU SFF.⁹⁷ The protection of investors overlaps both with the aim of economic efficiency and with EU consumer law in general, as is made explicit in recital 4 SFDR which lists other consumer protection laws and continues: “[...] those Directives and Regulations ensure the more uniform protection of end investors and make it easier for them to benefit from a wide range of financial products, while at the same time providing rules that enable end investors to make informed investment decisions.”⁹⁸ This approach aligns with the emphasis on addressing power imbalances

⁹⁶ Colaert V., “The changing nature of financial regulation: Sustainable finance as a new policy goal”, *Common Market Law Review* 2022, vol. 59(6), p. 1669, 1675, 1680-1681, 1686.

⁹⁷ For example: recitals 4, 5, 9, 10 SFDR; recitals 8, 12, 18, 28, 46, 50 CSRD; recitals 6, 9, 13, 18, 21 TR.

⁹⁸ Recital 4 SFDR.

between individuals and businesses, which is reflected in the EU's commitment to consumer empowerment since the 1992 Maastricht Treaty.⁹⁹

The economic efficiency paradigm supposes that the users of the financial system make rational choices, i.e. that the investor makes choices that are objectively in her own interest. However, in reality, biases and heuristics compromise the ability of investors to make decisions in a rational manner.¹⁰⁰ This means that making sustainability information available is not sufficient to ensure that rational choices are made and that investors act in their own interest. Both the TR and the SFDR play a crucial role in this context. The CSRD may guarantee that sustainability information is produced in the first place, but the TR and SFDR ensure that information is provided in a manner that is easily processable for investors. The TR does this by qualifying economic activities as environmentally sustainable or not, helping investors to understand the sustainability impact of their investment. The SFDR does so by prescribing the disclosure of sustainability risks, impacts, and opportunities of investment decisions to investors, essentially processing information generated on the basis of the CSRD. This purpose of the SFDR is also stressed in recital 19, which states that it is necessary that “financial market participants and financial advisers provide the information necessary to enable end investors to make informed investment decisions.”¹⁰¹ Without such guidance, investors would be, according to the recitals, confused by diverging disclosure rules,¹⁰² have difficulty comparing products,¹⁰³ and experience information asymmetries in principal-agent relationships.¹⁰⁴ The financial regulation dimension of the EU SFF is thus not only about the efficient functioning of financial markets but also about empowering investors through accessible sustainability information.

3.4.3 The Environmental Dimension

While the legal basis of the EU SFF is article 114 TFEU, the realisation of the EU's internal market, and not 191 – 193 TFEU, the legal basis for environmental action, the environmental dimension of the framework is at least as prominent as the economic and the financial regulation dimensions. The EU SFF has been

99 Ramsay I., “Consumer Law and The Search for Empowerment”, *Canadian Business Law Journal* 1991, vol. 19, p. 397, 405; Ramsay I., *Consumer Law and Policy*, Hart Publishing 2007, p. 40-41.

100 For example: Daniel K. & Titman S., “Market Efficiency in an Irrational World”, *Behavioral Finance* 1999, vol. 55(6), p. 28.

101 The term ‘end investor’ appears 18 times in recitals to the SFDR (however, the term does not appear in the articles of the SFDR).

102 Recital 9 SFDR.

103 Recital 9 SFDR.

104 Recital 10 SFDR.

enacted as a direct response to the pressing need to finance climate mitigation and adaptation measures, reflecting the environmental and climate policies established at both international and European levels discussed in paragraph 2. Moreover, the overarching objective of the framework is to enable the orientation of private capital towards a sustainable economy to achieve a climate-neutral Europe in 2050.¹⁰⁵

It is important to keep stressing that the EU SFF refrains from imposing direct obligations on its regulated entities – issuers and financial intermediaries – to adopt sustainable practices. Similarly, investors retain full autonomy over their investment decisions, with no mandatory requirements in the EU SFF to direct capital toward sustainable activities. Instead, the environmental dimension of the EU SFF operates through both substantive environmental norms and disclosure requirements. The substantive norms can be found primarily in the TR: by establishing the detailed criteria for qualifying economic activities as environmentally sustainable, the regulation is not only a disclosure regulation but also creates substantive environmental norms. Next to this, the disclosure requirements that are contained throughout the framework serve the environmental aims through two nuanced mechanisms. First, the disclosures that issuers have to make on the basis of the EU SFF force them to confront their own sustainability impact. The extensive disclosure rules contained in the CSRD/ESRS obligate businesses to assess their own sustainability position, which in itself may already increase awareness and foster action.¹⁰⁶ Second, the disclosures enable external parties, in particular investors, to factor the sustainability impact of businesses into their decision-making process.¹⁰⁷ This transparency mechanism, which is the core of the EU SFF, thus creates market incentives that may discourage investments in less sustainable businesses while encouraging capital flows toward more sustainable alternatives. Businesses that have an adverse impact on sustainability may thus expect financial repercussions from the market. This market-driven accountability mechanism, therefore, may effectively transform the

105 For example: recital 1, 2, 3 SFDR; recital 1, 2, 3 CSRD; recital 1, 2, 3, 4 TR.

106 For example: Alsayegh M.F., Abdul Rahman R. & Homayoun S., “Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure”, *Sustainability* 2020, vol. 12(9), 3910. The authors find that disclosing the implementation of environmental and social strategies resulted in higher environmental and social performance.

107 For example: Li Y., e.a., “The impact of environmental, social, and governance disclosure on firm value: The role of CEO power”, *The British Accounting Review* 2018, vol. 50(1), p. 60. The authors find a positive association between ESG disclosure levels and firm value “suggesting that improved transparency and accountability and enhanced stakeholder trust play a role in boosting firm value.” Kahn P.A., Johl S.K. & Johl S.K., “Does adoption of ISO 56002-2019 and green innovation reporting enhance the firm sustainable development goal performance? An emerging paradigm”, *Business Strategy and the Environment* 2021, vol. 30(7), p. 2922. The authors find that ‘green reporting’ boosts responsible investment because responsible investor assume that green innovation generates more revenue.

disclosure requirements of the EU SFF into direct economic incentives to take environmental action. This hope is also expressed in recital 13 TR, which states that the disclosure requirements “would incentivise investee companies to make their business models more environmentally sustainable”. The seemingly only procedural disclosure rules contained in the EU SFF thus may have real environmental consequences by virtue of the interplay between market dynamics and environmental objectives.

4 RESEARCH QUESTION & METHODOLOGY

4.1 Research Question

4.1.1 *Research question*

In this research, I evaluate the effectiveness of the EU SFF in achieving its objective: enabling investors to better integrate sustainability considerations into their investment decisions, with the ultimate aim of reorienting capital toward sustainable investments. At its core, the EU SFF aims to reach its ultimate sustainability objective by enhancing transparency. This mechanism is designed to transform procedural disclosure rules into legislation that generates tangible environmental impacts by facilitating informed investment decisions. Based on this premise of environmental impact through financial regulation, I have formulated the following research question: *To what extent does the European Sustainable Finance Framework enable investors to make better informed investment decisions that integrate sustainability considerations, and how can this framework be improved to facilitate the reorientation of capital flows toward sustainable economic activities?*

To answer this question, I analyse how the disclosure obligations that arise from the EU SFF shape the flow of sustainability information from issuer to investor. This analysis is based on the premise that the flow of information must be sufficiently functional in order to reach the desired market-driven accountability, and thus environmental effects. After all, if investors do not receive sufficient sustainability information to incorporate sustainability considerations into their investment decision, the investor-driven reallocation of capital to sustainable investments is unlikely to take place.

To assess whether this flow of information enables investors to make informed investment decisions that integrate sustainability considerations, I employ Law & Economics theory (“L&E”). L&E sets out criteria for successful market regulation and thereby serves as a qualitative methodology for evaluating legislation. At the same time, L&E is rooted in strong normative foundations. In section 4.2.3, I discuss how L&E is used as the qualitative method in this research. In Chapter 2, I further discuss the normative foundations of L&E for my research. After I have set out the normative framework in Chap-

ter 2, I evaluate the constituent parts of the EU SFF through the L&E perspective and assess whether they meet the conditions that L&E sets out. I first assess the ongoing sustainability disclosures on the basis of the CSRD, ESRS, and TR in Chapter 3. This will be followed by a discussion of the initial disclosures on the basis of the PR and EuGBR in Chapter 4. In Chapter 5, I evaluate the disclosures of sustainability information by intermediaries to investors on the basis of the SFDR. To this end, I have formulated three sub-questions that I address in Chapters 3, 4, and 5, respectively:

1. How effective are the ongoing disclosure requirements from the CSRD/ESRS and article 8 TR in reducing information asymmetries regarding sustainability between issuers and investors?
2. How effective are the initial disclosure requirements from the Prospectus Regulation and the European Green Bond Regulation in reducing information asymmetries regarding sustainability between issuers and investors?
3. How effective are the disclosure requirements from the Sustainable Finance Disclosure Regulation in reducing the principal-agent problem between intermediaries and investors?

By analysing the individual parts of the framework, I am also able to oversee how the different parts interact with each other. This enables me to evaluate the framework's overall effectiveness, which will be the topic of Chapter 6. On the basis of this evaluation, I identify possible shortcomings and suggest improvements in line with L&E theory that would enhance the effectiveness of the EU SFF.

4.1.2 *Relevance and Originality*

The plan for the EU SFF was first conceived in the European Commissions' *Action Plan: Financing Sustainable Growth* in 2018, partially in response to the objective of article 2 (1) (c) Paris Agreement: "Making financial flows consistent with a pathway toward low greenhouse gas emissions and climate-resilient development". Subsequently, the SFDR was published in November 2019, the TR in June 2020, the CSRD in December 2022, and the EuGBR in 2023. The earliest piece of legislation, the SFDR, applies since March 2021. The CSRD is the last legislation of the EU SFF to apply, only from the financial year starting on 1 January 2024 onward or later, depending on the type of business.¹⁰⁸ In total, the legislation of the EU SFF encompasses well over 1,000

¹⁰⁸ Large businesses that are public-interest entities and employ more than 500 employees, will have to comply with the sustainability reporting rules for the financial year starting on or after 1 January 2024. This date remained unchanged under the so-called Stop the Clock Directive. However, the original schedule for reporting has been postponed by two years for other businesses that fall under the scope of the CSRD.

pages in the Official Journal of the European Union, which contains the official publication of EU legal acts.¹⁰⁹ With parts of the EU SFF applying to all European issuers, intermediaries and financial advisors, the framework significantly impacts EU financial markets.

The framework's extensive scope, complexity, and novelty justify this research that evaluates whether the EU SFF is capable of achieving two of its core objectives: to enable investors to make informed investment decisions that integrate sustainability considerations and thereby to reorient capital towards sustainable activities. This evaluation is crucial for the legitimacy of the EU SFF under EU law, in particular in the light of the principle of proportionality, which mandates that "content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties."¹¹⁰ If the framework is not suitable for achieving its desired outcomes, it may be in violation of the competence of the European legislator to have enacted this framework.¹¹¹

The academic relevance of this research lies in the approach to analysing and evaluating the EU SFF. Over the last couple of years, many articles have been written on parts of the EU SFF. Most of these articles focus on individual legislative developments within the EU SFF and do not contain comprehensive evaluations of the framework in its entirety. Books that have appeared on the topic are mostly edited volumes, containing chapters by different authors on distinct topics within the EU SFF. Examples are:

- Beekhoven van den Boezem F., Jansen C., & Schuiling B. (eds.), *Sustainability and Financial Markets*, Wolters Kluwer 2019
- Smits R. (ed.), *Sustainable Finance and Climate Change*, Edgar Elgar 2024
- Busch D., Ferrarini G. & Grünewald S.N. (eds.), *Sustainable finance in Europe: corporate governance, financial stability and financial markets*, Springer Nature Switzerland 2024
- Alexander K., Gargantini M., & Siri M. (eds.), *The Cambridge Handbook of EU Sustainable Finance: Regulation, Supervision and Governance*, Cambridge University Press 2025

While these books provide valuable insights into specific aspects of sustainable finance legislation and market developments, they lack a comprehensive evaluation of the EU SFF as an integrated regulatory framework. In October 2024, T. Zukas published the monograph *Regulating Sustainable Finance in*

109 This includes: CSRD (66 pages), ESRs (284 pages), TR (31 pages), CDR 2021/2139 (349 pages), CDR 2021/2178 (59 pages), CDR 2022/1214 (45 pages), CDR 2023/2486 (164 pages), SFDR (16 pages), CDR 2023/363 (25 pages), CDR 2022/1288 (74 pages), EuGBR (68 pages).

110 Article 5 TEU.

111 The legislation in the EU SFF is based on article 114 TFEU, which provides the legal basis for measures that contribute to the functioning of the internal market. Although this is an exclusive competence according to article 3 TFEU, the proportionality principle applies nonetheless.

Europe.¹¹² This book is the first comprehensive discussion of legislation from the EU SFF to my knowledge, discussing the SFDR, TR, MiFID II Sustainability Preferences, and the CSRD. Zukas's overarching focus, however, is distinct from the research in this thesis: instead of evaluating the flow of information from issuer to investor from an L&E perspective, he focuses on one of the other central objectives of the EU SFF, namely to minimize greenwashing. This means that the selection of legislation, as well as the general perspective taken in the book, differs from the approach taken in this research.

Ultimately, the relevance and originality of this work lie in the fact that this research analyses and evaluates not only the seemingly distinct legislative components within the EU SFF but also the framework in its entirety. By examining the relationships between the distinct pieces of legislation and evaluating the framework's overall effectiveness, I not only address the fundamental question about the framework's legitimacy but also provide practical recommendations for its improvement.

4.1.3 *Scope and Limitations*

4.1.3.1 *Legislation*

In this thesis, I approach the EU SFF through the investment chain as discussed in paragraph 3.3. For this, I focus specifically on the legislation that determines what sustainability information enters into the investment chain through disclosure obligations. Based on this approach, I have come to a slightly different selection of legislation for my analysis than what is included in the EU SFF as envisaged by the Commission, as discussed in paragraph 3.2. First, I include the PR, which contains the obligation to publish a prospectus when issuing securities, in my research, despite it not being a part of the EU SFF. The reason for this is that I evaluate the disclosure requirements that influence the generation of sustainability information in the investment chain. The open norms of the PR are likely to require the inclusion of sustainability information in the prospectus, thereby requiring the generation of new information. The importance of the PR in shaping the sustainability information that enters the investment chain, therefore, makes it essential to include it in the evaluation of the framework's effectiveness.

The second difference is my exclusion of the EU Climate Benchmarks and the Sustainability Preferences in MiFID II. Both of these do create disclosure obligations. Under the MiFID II sustainability preferences, firms providing investment advice and portfolio management must incorporate clients' sustainability preferences into their suitability assessments and disclose how they

112 Zukas T., *Regulating Sustainable Finance in Europe*, Duncker & Humblot 2024.

do so.¹¹³ Whilst this is not generating sustainability disclosures, it does mean that investment firms reach out to investors with sustainability information and thus likely contribute to better informing investors on the sustainability impact of their investment. The MiFID II sustainability preferences thereby serve the same policy goal as the rest of the EU SFF: enabling a more informed investment choice in order to reorient capital to more sustainable investing.¹¹⁴ However, other than the legislation that I analyse in this research, which concerns the generating of sustainability information throughout the investment chain, the MiFID II sustainability preferences concern the advisory process between an investment firm and a client and presumes that the relevant sustainability information has already been generated based on other disclosure requirements.¹¹⁵ Therefore, without dismissing the important role of the MiFID II sustainability preferences in influencing how well-informed investors are, it falls outside the more narrow focus of this thesis.

The EU Climate Transition Benchmark Regulation contains requirements for labelling a benchmark as an EU Climate Transition Benchmark or an EU Paris-aligned Benchmark.¹¹⁶ The idea behind this is that investors use benchmarks to measure the sustainability performance of their investment portfolios. The EU Climate Transition Benchmark Regulation sets out methodological requirements that benchmarks must meet to obtain the label of EU Climate Transition Benchmark or EU Paris-aligned Benchmark, which contributes to increasing transparency on why a particular benchmark with that label can be considered low-carbon. This is particularly relevant in light of the multitude of low-carbon benchmarks that have emerged in the market, with differing

113 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms (MiFID II sustainability preferences). See: Colaert V., "On the Sustainability of the MiFID II and IDD Investor Protection Frameworks", in: Alexander K., Gargantini M., & Siri M. (eds.), *The Cambridge Handbook of EU Sustainable Finance: Regulation, Supervision and Governance*, Cambridge University Press 2025, p. 317.

114 This is reflected in recitals 1-3 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms (MiFID II sustainability preferences).

115 See also: recital 5 Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms (MiFID II sustainability preferences).

116 Article 3 (1) (23a) and (23b) Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

degrees of ambition and methodologies.¹¹⁷ The reliability of this label also can increase market confidence in such a benchmark and help prevent greenwashing.¹¹⁸ These benchmark-labels contain relevant sustainability information for investors, enabling them to make better informed investment decisions. They, therefore, like the MiFID II sustainability preferences, play an important role in reorient capital to more sustainable investing. However, the EU Climate Transition Benchmark Regulation, too, falls outside of the narrow scope of this thesis as it regulates how the providers of these benchmark-labels construct their label on the basis of sustainability information that has already been generated and disclosed. In that sense, the EU Climate Transition Benchmark does not contain the requirement to disclose “novel” information about sustainability risks, impacts and opportunities.

For the same reason, other legislation that could be encompassed under the broad term sustainable finance is excluded from this research as it does not primarily concern the obligation to disclose sustainability information to investors. This exclusion applies to prudential legislation (including the management of ESG risks in capital requirements and ideas for green supporting or brown penalizing factors), the primary focus of which is on risk management rather than transparency.

I also exclude the Corporate Sustainability Due Diligence Directive (“CSDDD”). The CSDDD sets out rules for businesses and their value-chains on human rights and environmental impacts, and includes the obligation to disclose these matters both on their website and in an annual statement that may be the annual sustainability report which is required under the CSRD.¹¹⁹ The CSDDD thus contributes to the generation of information that feeds into the information flow between issuer and investor, and this information flow should be partially covered under the CSRD. It is however not the primary intent of the CSDDD to establish this flow of information, but rather to create rules on identifying and ending negative impacts. In other words, the CSDDD should primarily be viewed as conduct regulation instead of a disclosure mechanism.

In focussing only on the legislation that has as its intent to generate and transmit sustainability information between issuer and investor (via inter-

117 Recital 9 Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

118 Recital 10 and 11 Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

119 Article 1 jo. article 16 Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859 (CSDDD).

mediaries), I thus come to examining the CSRD/ESRS, the Taxonomy Regulation, the Prospectus Regulation, the EuGBR, and the SFDR. This corresponds to the EU SFF's primary intent: to create an information infrastructure to reorient capital flows to environmentally sustainable economic activities. At the same time, I recognize that the information that investors receive is influenced by a broader web of relevant regulation, which, however, fall outside the narrow scope of this research.

4.1.3.2 Empirical Assumptions

In this thesis, I examine whether the EU SFF *enables* investors to make better informed investment decisions. I deliberately do not examine whether better informed investors will actually invest more sustainably. The latter question requires empirical research, which falls outside of the scope of my legal research.

However, it is important to address the empirical assumption that lies at the core of the EU SFF: that improved sustainability information leads to more sustainable investing. This assumption underpins the entire EU SFF and is relied upon by the European Commission in order to justify it. While I do not empirically test this assumption, I do acknowledge that there are both arguments that support and arguments that challenge the theoretical underpinning of the EU SFF. Two core arguments that support the presumption that increased access to sustainability information leads to more sustainable investing are as follows.

First, improving transparency regarding the sustainability impacts, risks and opportunities will enable investors to take these into consideration and thus to allocate capital more sustainably. Even if there is no guarantee that they will do so, there is empirical evidence that suggests that investors who are better informed on the sustainability impact of their investments, will take these into account in their investment decisions.¹²⁰ Additionally, there are empirical studies that support the assumption that investors who are better informed on sustainability impact do in fact invest more sustainably, for financial and non-financial reasons.¹²¹

120 For example: Eccles R.G., Kastropeli M.D. & Potter S.J., "How to Integrate ESG into Investment Decision-Making: Results of a Global Survey of Institutional Investors", *Journal of Applied Corporate Finance* 2017, vol. 29(4), p. 125. The authors found that the biggest barrier to integrating ESG information into investment decisions for institutional investors is a lack of high-quality ESG data. Similar: Jonsdottir B., e.a., "Barriers to Using ESG Data for Investment Decisions", *Sustainability* 2022, Vol. 14(9), 5157; Amel-Zadeh A. & Serafeim G., "Why and How Investors Use ESG Information: Evidence from a Global Survey", *Financial Analysts Journal* 2018, vol. 74(3), p. 87.

121 For example: Heeb F., e.a., "Do Investors Care about Impact?", *The Review of Financial Studies* 2023, vol. 36(5), p. 1737. The authors conducted a study to examine how much extra investors would pay for sustainable investments based on their social impact. The key findings were that (1) investors showed significant willingness to pay more for sustainable investments in general, but (2) they didn't pay significantly more for investments with

Second, the EU SFF increases not only the availability of sustainability information but also the reliability of that information through mandatory disclosure requirements accompanied by financial supervision. This may increase the willingness to invest sustainably compared to a market with purely voluntary sustainability disclosures, where concerns about greenwashing may deter sustainable investing.¹²² This too supports the presumption that the availability of sustainability information through the EU SFF can facilitate the reorientation of capital toward sustainable economic activities.

At the same time, four important factors indicate that the presumption that more sustainability information leads to more sustainable investing may not work entirely as envisaged: the financial motivation to invest, ideological motives, market substitution effects, and information processing costs. First, investors who are driven purely by financial motivations in their investment decisions may choose not to invest sustainably if such investments do not yield higher returns than non-sustainable investments. Note that the evidence is

higher social impact. Investors felt positive emotions when choosing sustainable investments, regardless of the actual impact level. The researchers concluded that investors' willingness to pay extra for sustainable investments seems to be driven more by emotional factors rather than a careful calculation of the actual social impact achieved. Jansson M. & Biel A., "Motives to engage in sustainable investment: a comparison between institutional and private investors", *Sustainable Development* 2011, vol. 19(2), p. 135. This study compared sustainable investing motivations across 60 fund managers, 453 private investors, 71 institutional investors. Private and institutional investors were primarily motivated by environmental and social values (self-transcendent values). Fund managers were mainly motivated by expected long-term financial returns. Different secondary motivations emerged: private investors also considered long-term returns, whilst institutional investors focused on risk reduction. Additionally, a significant misalignment was found: investment institutions misunderstood their clients' preferences by overemphasizing the importance of financial returns and underestimating how much their clients valued ethical, environmental, and social factors. Hartzmark S.M. & Sussman A.B., "Do Investors Value Sustainability? A Natural Experiment Examining Ranking and Fund Flows", *The Journal of Finance* 2019, vol. 74(6), p. 2789. This study examines how investors react to sustainability ratings in U.S. mutual funds. The researchers found that investors believed sustainable funds would perform better in the future. However, the actual data showed no evidence that high-sustainability funds outperformed low-sustainability ones. The researchers conclude that investors' preferences for sustainable funds were driven by two factors (1) emotional positive associations with sustainability that led to optimistic performance expectations and (2) non-financial motivations for choosing sustainable investments. Bauer R., Ruof T. & Smeets P., "Get Real! Individuals Prefer More Sustainable Investments", *The Review of Financial Studies* 2021, vol. 34(8), p. 3976. This research examines how pension fund members view sustainable investing through two large field surveys. Around 66% of members supported increased company engagement on UN Sustainable Development Goals (SDGs). The main driver for this support was members' social preferences – meaning they valued societal benefits beyond pure financial returns.

122 See: ESMA, Progress Report on Greenwashing, Response to the European Commission's request for input on "greenwashing risks and the supervision of sustainable finance policies", 31 May 2023, ESMA30-1668416927-2498.

mixed on whether sustainable investments actually yield higher financial returns.¹²³

Second, there may be investors who purposefully do not invest sustainably due to ideological reasons. For these investors, increased sustainability information may have effects opposite to those envisaged in the EU SFF. In this context, it is important to recognize the recent political backlash against the green transition in Europe, including the Omnibus initiative,¹²⁴ as well as developments in the US.¹²⁵ These developments indicate that there is currently some political resistance to climate and sustainability policies, which may create an environment in which some investors could deliberately avoid sustainable investments for ideological reasons.

Third, even if a substantial part of investors decides to invest more sustainably, this may be offset by those who jump into the financing gap left by sustainable investors.¹²⁶ The risk here is that unsustainable investment opportunities will become relatively cheaper, because they are less wanted, which can attract investors who do not care about sustainability impact.¹²⁷

Fourth, the EU SFF presumes that investors will incorporate available sustainability information into their investment decision. This presumption however is not as absolute as it may appear. Processing the disclosed information is not “free” but comes at a cost for the investor.¹²⁸ In particular,

123 Bolton P. & Kacperczyk M., “Do investors care about carbon risk?”, *Journal of Financial Economics* 2021, vol. 142(2), p. 517: “We find that stocks of firms with higher total carbon dioxide emissions (and changes in emissions) earn higher returns, controlling for size, book-to-market, and other return predictors.” Note that other research suggest that in fact there is a negative relationship between high carbon emissions and profitability; businesses with high emissions tend to be less profitable than businesses with low emissions. See for example: Oestereich A.M. & Tsiakas I., “Carbon emissions and firm profitability”, *Journal of Sustainable Finance & Investment* 2024, vol. 14(4), p. 766; Chava S., “Environmental externalities and cost of capital”, *Management Science* 2014, vol. 60(9), p. 2223. The observed lower profitability does not contradict the fact that businesses profit from externalising their environmental costs. The difference in profitability that is shown in these papers, might stem from various other factors, including industry-specific characteristics, regulatory pressures, or operational inefficiencies that are unrelated to environmental externalities.

124 Jones E. & Youngs R., “Confronting Backlash Against Europe’s Green Transition”, Carnegie Endowment for International Peace, 11 September 2025, available at: <https://carnegieendowment.org/research/2025/09/climate-backlash-europe-green-transition-farmers-protests?lang=en>, accessed on: 1 October 2025; Bosetti V., e.a., “Green backlash and right-wing populism”, *Nature Climate Change* 2025 vol. 15, p. 822-828.

125 Selby J., “The Trump presidency, climate change, and the prospect of a disorderly energy transition”, *Review of International Studies* 2019, vol. 45(3), p. 471-490; Ettinger A. & Collins A.M., “Trumpism and the rejection of global climate governance”, *International Relations* 2025, vol. 39(1) p. 76-100.

126 Colaert V., “The changing nature of financial regulation: Sustainable finance as a new policy goal”, *Common Market Law Review* 2022, vol. 59(6), p. 1688.

127 Colaert V., “The changing nature of financial regulation: Sustainable finance as a new policy goal”, *Common Market Law Review* 2022, vol. 59(6), p. 1688.

128 Grossman S.J. & Stiglitz J.E., “On the impossibility of informationally efficient markets”, *The American Economic Review* 1980, vol. 70(3), p. 393-408.

investors must first monitor the market in order to become aware of the disclosures, then they must obtain the information and extract what is relevant for them (acquisition costs), and lastly they must analyse what that information means to them (integration costs).¹²⁹ Given these costs, it may be rational for investors to ignore certain information.¹³⁰ This risk may be exacerbated when the information is more complex to analyse, which arguably is the case for the extensive disclosures that are generated under the EU SFF.

It follows that there are serious concerns regarding the presumption that more transparency will lead to more informed investment decisions and thus to more sustainable investments. Given the arguments in favour and against this presumption, it is not certain the EU SFF will indeed lead to more sustainable investments, though it is also unlikely that it will lead to less sustainable investments. Even though the presumption is fundamental to the approach of the EU SFF, there are three reasons why I do not further address the question and take as a given that, in general terms, more sustainability information will lead to more sustainable investing. First, the empirical nature of this presumption falls outside the scope of the legal approach that I take in this thesis. In order to determine how investors act when receiving more sustainability information requires a different approach and method than chosen in this specific research.

Second, the presumption reflects a policy rationale of the European Commission that is beyond my task to question: in this legal thesis, I assess whether the legislative instruments of the EU SFF are adequate in light of their objective of enabling investors to make a more well-informed investment decision and not whether the underlying policy objective is empirically correct. Moreover, as I discuss in Chapter 2, from a Law & Economics perspective, more sustainability information should in theory lead to more sustainable investing.

Third, and most importantly, this research remains valuable regardless of whether the presumption that more sustainability information leads to more sustainable investing is proven to be (partially) flawed in an empirical sense. The research question *To what extent does the European Sustainable Finance Framework enable investors to make better informed investment decisions that integrate sustainability considerations, and how can this framework be improved to facilitate the reorientation of capital flows toward sustainable economic activities?* focusses on the first part of the two-step reasoning that (1) more transparency leads to better informed investment decisions, which (2) lead to a reorientation of capital flows. This two-step reasoning means that if the first part is unfulfilled,

129 Blankespoor E., Haan E. de & Miranovic I., "Disclosure processing costs, investors' information choice, and equity market outcomes: A review", *Journal of Accounting and Economics* 2020, vol. 70(2-3), 101344.

130 Sims C.A., "Implications of rational inattention", *Journal of Monetary Economics* 2003, Vol. 50(3), p. 665-690; Blankespoor E., Haan E. de & Miranovic I., "Disclosure processing costs, investors' information choice, and equity market outcomes: A review", *Journal of Accounting and Economics* 2020, vol. 70(2-3), 101344.

the second part cannot be realized either: if the legal infrastructure to generate sustainability information is defective, investors will not be enabled to make better informed investment decisions in the first place. The legal infrastructure thus must be sufficient regardless of whether empirically speaking (all) investors will invest more sustainably when receiving more sustainability information. The value of this research lies in analysing the first prerequisite, the legal infrastructure to generate sustainability information, which is a necessary (but not the only) prerequisite for the success of the EU SFF in achieving its policy aims.

4.1.3.3 Terminology

Two key terms in this research are sustainability and sustainable finance. Given the widespread usage of these terms within and outside this research, it is important to define the terms in the context of this thesis. In the Commission's *Action Plan: Financing Sustainable Growth*, sustainable finance is defined as "the process of taking due account of environmental and social considerations in investment decision-making, leading to increased investments in longer-term and sustainable activities."¹³¹ Subsequently, the terms environmental and social considerations are explained. Environmental considerations are defined as "climate change mitigation and adaptation, as well as the environment more broadly and related risks (e.g. natural disasters)", whereas social considerations include "issues of inequality, inclusiveness, labour relations, investment in human capital and communities".¹³²

Academic literature offers alternative approaches to defining sustainable finance. For example, in *What Do We Mean by Sustainable Finance? Assessing Existing Frameworks and Policy Risks*, Migliorelli extensively debates multiple conceptions of 'sustainable finance' and related terms. He defines it as "finance to support sectors or activities that contribute to the achievement of, or the improvement in, at least one of the relevant sustainability dimensions".¹³³ Alternatively, Zukas conceptualizes sustainable finance through the three ESG dimensions: environmental, social, and governance.¹³⁴ Yet another approach is taken by Fatemi and Fooladi, who propose a new paradigm that promotes a sustainable value creation framework within which all social and environ-

131 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: *Action Plan: Financing Sustainable Growth* COM/2018/097 final, p. 2.

132 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: *Action Plan: Financing Sustainable Growth* COM/2018/097 final, p. 2.

133 Migliorelli M., paper "What Do We Mean by Sustainable Finance? Assessing Existing Frameworks and Policy Risks", *Sustainability* 2021, vol. 13(2), 975, p. 2.

134 Zukas T., *Regulating Sustainable Finance in Europe*, Duncker & Humblot 2024, p. 18-21.

mental costs and benefits are accounted for.¹³⁵ These divergent perspectives illustrate the diverse understandings of the concept of sustainable finance.

In this research, I focus on sustainable finance within the parameters of the EU SFF, for which the definition in the Commission's *Action Plan: Financing Sustainable Growth* serves as a starting point.¹³⁶ However, even within this framework, the scope of sustainable finance varies across legislation. For example, the CSRD takes a comprehensive ESG approach, demanding disclosures on environmental, social, and governance topics. The SFDR focuses primarily on environmental and social characteristics, with good governance practices as a supplementary dimension of sustainable investing. Conversely, the TR has a narrower focus on environmentally sustainable economic activities. This heterogeneity, even within the EU SFF, is exemplary for the difficulty of formulating one singular definition of sustainable finance.

In this research, I acknowledge that sustainability encompasses environmental, social, and governance (ESG) aspects. However, when referring to 'sustainability', I primarily mean its environmental dimension, as defined in article 3 of the TR. Article 3 TR sets out the definition for environmentally sustainable economic activities, which are activities that contribute to six objectives: (1) climate change mitigation and (2) adaptation, (3) the sustainable use and protection of water and marine resources, (4) the transition to a circular economy, (5) pollution prevention and control, and (6) the protection and restoration of biodiversity and ecosystems.¹³⁷ The reason for this limited focus is that the environmental dimension of sustainability aligns with the foundations of the EU SFF: the need to finance climate change mitigation and adaptation measures, which form the basis of the international and national policies discussed in paragraphs 2 and 3 of this chapter. In line with this narrower interpretation of sustainability, I, in principle, use 'sustainable finance' to describe the financing of environmentally sustainable economic activities as set out in the TR. However, as noted earlier, the CSRD and SFDR adopt a broader view of 'sustainability matters,' encompassing social and governance aspects. Depending on the context and when discussing these regulations, I may follow a wider interpretation.

4.1.3.4 Timeframe

This research encompasses the legislative development of the EU SFF from its inception in the 2018 *Action Plan: Financing Sustainable Growth* through to

135 Fatemi A.M. & Fooladi I.J., "Sustainable Finance: A new paradigm", *Global Finance Journal* 2013, vol. 24(2), p. 101.

136 Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions: *Action Plan: Financing Sustainable Growth* COM/2018/097 final, p. 2.

137 Article 9 TR.

31 October 2025. Legislative developments beyond this date fall outside the scope of my analysis.

4.2 Methodology

4.2.1 Introduction

This thesis contains doctrinal legal research, which consists of two steps: first, locating the sources and second, interpreting and analysing them.¹³⁸ More specifically, the interpretation and analysis of the sources is based on L&E as a qualitative research method, as I discuss in paragraph 4.2.3. This research method provides a relatively rigid framework for evaluating the EU SFF, which raises the question on the multiple dimensions through which the topic of sustainability can be approached and the relationship between the research method and the complexity of anthropogenic climate change.

4.2.2 Locating the Sources

The primary sources for this research are the legislation that comprises the EU SFF. To interpret the legislation, I have relied on a multitude of sources. On the one hand, I have used publications by governmental entities. These include the recitals to the legislation, as well as policy publications by, *inter alia*, the European Commission and financial supervisors such as the European Securities and Markets Authority (“ESMA”), and national supervisors such as the Dutch Authority for the Financial Markets (“AFM”).¹³⁹ On the other hand, I have relied on academic publications, consulted via the university library of Leiden University, Goethe University Frankfurt, and University of Vienna, and the online databases. Instead of a comprehensive overview of all published literature on sustainable finance, I have selected only the resources directly relevant to my research topic and question.

4.2.3 Law & Economics as a Qualitative Research Method

This research evaluates whether the EU SFF enables investors to make informed investment decisions that integrate sustainability considerations. The methodology of this evaluation comprises two distinct phases. First, a

138 Hutchinson T. & Duncan N., “Defining and Describing What We Do: Doctrinal Legal Research”, *Deakin Law Review* 2012, vol. 17(1), p. 83, 110.

139 Recitals to EU legislation do not confer rights upon individuals and thus are not a primary source of law. However, by explicating the relevant legal and factual circumstances, the recitals serve a legitimizing and an explanatory function. See also: Heijer M. der, Os van den Abeelen T. van & Maslyka A., “On the use and misuse of recitals in European Union law”, *Amsterdam Law School Research Paper* No. 2019-31.

positivistic inquiry into the substantive content of the EU SFF legislation, in which I set out the content of the relevant legislation.¹⁴⁰ Second, an evaluative analysis using L&E as a qualitative research method.¹⁴¹

L&E evaluates rules and institutions in terms of economic efficiency. In L&E, the market is seen as a vehicle of social progress and general welfare, whereby the law serves as a tool to address market failures that inhibit the market from functioning efficiently. By using L&E as a method, I apply the principles of L&E to analyse how the EU SFF functions as a regulatory intervention that is designed to optimize market efficiency. The analysis thus rests on the presumption that financial markets are currently unable to efficiently allocate capital to sustainable investment due to specific market failures. The EU SFF is thus evaluated as a regulatory intervention aimed at minimizing these market failures. The normative dimension of this is elaborately discussed in Chapter 2.

In Chapters 3 – 5, I use L&E as the basis to evaluate the separate policy pieces that constitute the EU SFF. To use L&E as a method, I employ three steps. First, I identify which market failure is addressed by a specific piece of legislation within the EU SFF. Typically, this is stated in the recitals of the legislation. Second, I set out qualitative criteria to determine whether the legislation is successful in addressing the market failure that it aims to minimize. The third step is to evaluate whether the legislation meets those parameters. By employing this approach to the individual legislation that I analyse in this research, I am also able to draw general conclusions on how successful the EU SFF is through the lens of L&E. Moreover, it enables me to identify specific shortcomings and formulate recommendations.

The idea to use L&E as a qualitative research method, was conceived during the seminar *Methods of Law & Economics* (Paris, 30 June – 1 July 2022), organised by Droit et Croissance. During this seminar, Professor Simone Sepe set out the theoretical foundations of L&E and its methodological applications in legal research, which have significantly shaped the approach taken in this research.¹⁴²

4.2.3.1 Perspectives

One point of critique on using L&E as a qualitative method and as the normative foundation of the evaluation of the EU SFF could be that it takes a narrow, wealth-driven perspective. The EU SFF is ultimately about contributing to the adaptation and mitigation of the effects of anthropogenic climate change.

140 Barak A., *Purposive Interpretation in Law*, Princeton University Press 2005, p. 3.

141 Paccès A.M. & Visscher L., “Methodology of Law and Economics”, in: Klink B. van & Taekema S. (eds.), *Law and Method. Interdisciplinary research into Law*, Mohr Siebeck 2011, p. 85-107.

142 Powerpoint presentation of Droit et Croissance Conference 30 June – 1 July 2022, available at: <https://droitetroissance.fr/wp-content/uploads/2015/01/Slides-Simone-Sepe.pdf>.

Within the legal field, three dominant views on anthropogenic climate change have taken hold, namely climate change as (1) an environmental problem, (2) an economic problem, and (3) an ethical problem.¹⁴³ The economic perspective, central to this research, is said by some to “simply [seek] to maximize aggregate economic value and does not address the ethical issues raised by climate change”.¹⁴⁴ The juxtaposition of the economic perspective and the ethical perspective reveals a common sentiment: that the market and the environment do not go hand in hand. Although this research is built on an L&E normative framework, I aim to overcome this juxtaposition. As I elaborately discuss in Chapter 2, an efficient market should prioritize collective well-being in a broad understanding that accounts for all value, especially including those of non-tradeable goods such as the environments, which are so crucial to the maximization of our collective welfare. Moreover, however valid the critique on the market in its role of contributing to anthropogenic climate change, this should not be a reason to dismiss serious attempts to improve this economic system, as the EU SFF is attempting to do.

4.2.3.2 Complexity

Another critique on the formalistic L&E method is that it does not capture the complexity of how the law functions in reality.¹⁴⁵ The EU SFF attempts to influence the real economy and its effect on climate change through regulating financial markets. However, both climate change and financial markets are extremely complex. As a physical phenomenon, climate change is both interconnected and multidimensional.¹⁴⁶ It takes place on a global scale, but its sources and effects are not spread homogeneous around the globe. Moreover, climate change still borders on the limits of our scientific knowledge.¹⁴⁷ Similarly, financial markets and their regulation are extremely complex.¹⁴⁸ This raises the question of whether a relatively rigid evaluative framework such as L&E can ever suffice to reach valid conclusions and recommendations on the EU SFF. In fact, I believe that in light of the complex reality that the EU SFF aims to regulate, it is of particular importance to formulate a robust analytical framework for evaluating the EU SFF. In a speech in 2012, the then Executive Director of Financial Stability of the Bank of England, Andrew

143 Bodansky D., Brunnée J. & Rajamani L., *International Climate Change Law*, Oxford University Press 2017, p. 4-10.

144 Bodansky D., Brunnée J. & Rajamani L., *International Climate Change Law*, Oxford University Press 2017, p. 7.

145 Salter M. & Mason J., *Writing a Law Dissertation: An Introduction and Guide to the Conduct of Legal Research*, Pearson Education 2007, p. 112-114.

146 Dryzek J., *The Politics of the Earth*, Oxford University Press 2005, p. 8.

147 Fisher E., Lange B. & Scotford E., *Environmental Law Text, Cases, and Materials*, Oxford University Press 2013, p. 32-45.

148 See in general: Chapter 4 “The Limits of Financial Regulation”, Armour J., e.a., *Principles of Financial Regulation*, Oxford University Press 2016, p. 80-98.

Haldane, reflected on how complex and detailed regulation both increases the likelihood of errors by those who must comply with it and can increase regulatory arbitrage and advocates more straightforward regulation.¹⁴⁹ Similarly, an analytical framework that pre-emptively attempts to cater for all eventualities and shies away from rigid intellectual foundations and evaluative criteria may ultimately fail in exposing structural deficiencies and formulating practical points of improvement.

4.2.4 Artificial Intelligence Disclosure

At the time of writing, Leiden University has not established guidelines on the use of AI in academic research. However, research by Perkins and Roe found that there is a consensus among academic publishers that the use of AI tools must be disclosed.¹⁵⁰ In line with the principle of transparency that is part of the general academic integrity policy of Leiden University, I therefore disclose that I have relied on Claude AI and Grammarly for textual improvements to my writing during the final editorial stage of my research in the winter of 2024-2025.¹⁵¹ The reason for choosing these specific tools is that they do not use user input to train their models.¹⁵² All substantive parts of this research, including the ideas, structural organisation, and content, are entirely my own original work. While I have used Claude AI for specific fragments where I deemed linguistic improvements beneficial, I have not used Claude AI for the manuscript as a whole. I have relied on Grammarly to check spelling and grammatical mistakes in the entire manuscript. All AI suggestions were carefully evaluated, and only a selection of the language improvements have been incorporated into the manuscript.

149 See also on complex regulation: Haldane A.G., "The dog and the frisbee", speech at Jackson Hole Symposium on 31 August 2012, available at: <https://www.bis.org/review/r120905a.pdf>, accessed on: 7 July 2023, p. 14; Fleisher V., "Regulatory Arbitrage", *Texas Law Review* 2010, vol. 89(2), p. 227.

150 Perkins M. & Roe J., "Academic publishing guidelines on AI usage: A ChatGPT supported thematic analysis", *F1000Research* 2024, available at: [10.12688/f1000research.142411.2](https://doi.org/10.12688/f1000research.142411.2).

151 Leiden University, Academic integrity, available at: <https://www.staff.universiteitleiden.nl/research/quality-and-integrity/academic-integrity/academic-integrity/law/institute-of-private-law?cf=law&cd=institute-of-private-law#honesty,scrupulousness,transparency,independence,responsibility>, accessed on: 28 February 2025. Claude is a large language model that has been developed by Anthropic. Claude models have been pre-trained to predict the next word in a text. The version that I have used, Claude 3.5 Sonnet, has been trained on data up until April 2024. As I have only used Claude for textual improvements and never for substantive feedback, it is in no way relevant to my writing data that has been generated since April 2024 is not used by the model. Grammarly is an AI program that corrects grammar, spelling, and punctuation mistakes.

152 Claude Pro FAQ's, "I would like to input sensitive data into Free Claude.ai or Claude Pro. Who can view my conversations?", available at: <https://support.anthropic.com/en/articles/8325621-i-would-like-to-input-sensitive-data-into-free-claude-ai-or-claude-pro-who-can-view-my-conversations>, accessed on: 28 February 2025.