EUROPEAN CENTRAL BANK
EUROSYSTEM

Occasional Paper Series

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Different shades of green: EU corporate disclosure rules and their effectiveness in limiting "greenwashing"

No 370

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Abstract

Greenwashing is a generic term used for breaches and misleading claims about the sustainability credentials of various legal provisions, ranging from unfair competition, securities laws infringements and unethical advertising to wrong corporate disclosure. This paper focuses on the latter.

Against the background of the significant financial flows needed to finance the transition to meet the objectives of the Paris Agreement and the EU Climate law, the EU corporate sustainability reporting rules integrated in the Corporate Sustainability Reporting Directive (CSRD) and the Corporate Sustainability Due Diligence Directive (CSDDD), as well as the EU taxonomy constitute an ambitious legislative framework which is aimed at establishing common mandatory European Sustainability Reporting Standards for companies to report comparable and relevant information required by investors and other stakeholders.

This framework's aim is to support companies in the transition to a more sustainable economy and help stakeholders and investors understand the sustainability risks in their investments (and facilitate financial flows for the transition). This will help mitigate greenwashing risks because this framework raises the responsibility for inaccurate disclosure. In addition, accurate data are important for central bank operations because they can ensure that prices and the risk control framework adequately reflect climate physical and transition risks. The success of the regulatory framework will rely heavily on its credible implementation, including penalties, which will help anchor expectations and condition the behaviour of economic agents.

The paper also makes some recommendations going forward so that the regulatory framework for sustainability disclosure is effective in combating greenwashing. Any future regulation aimed at addressing greenwashing risks more explicitly should be based on the existing sustainability disclosure framework. The assessment in this paper is based on the originally agreed legal texts of the CSRD, CSDDD and the EU taxonomy. This paper focuses solely on the assessment of the relevant Union law in light of the economic literature concerning the regulatory tools effective to deal with financial "greenwashing" and is without prejudice to the future omnibus package on sustainability.

JEL codes: K2, G21

Keywords: greenwashing, climate, sustainability, disclosure

Non-technical summary

The temperature objective agreed in Paris (2015) is a global objective. To achieve this, the aim of the European Climate Law (ECL) is to reduce net greenhouse gas emissions by at least 55% by 2030 and to become climate-neutral by 2050.

Greenwashing occurs when sustainability-related statements published by a corporate entity do not clearly and fairly reflect the entity's underlying sustainability profile. Hence, greenwashing forms an obstacle not only for investors, business conduct and prudential regulators, but also for governments in their endeavour of reducing emissions by 2050. The risk of greenwashing has grown significantly in recent years and is expected to remain high. This is mainly due to lack of standardisation which leaves leeway to parties to shape the content of their disclosures and hinders the comparability of such disclosures . To address this, the EU has initiated a number of regulatory developments, and this paper focuses on the EU rules governing corporate sustainability disclosures.

In light of the ample literature that discusses the economic effects of greenwashing on the financing of the transition to a low-carbon economy and the reputational and litigation risks, this paper discusses the nexus of disclosure requirements for corporates and banks in the EU.

The EU taxonomy, the Corporate Sustainability Reporting Directive in connection with the European Sustainability Reporting Standards (ESRS), and the Corporate Sustainability Due Diligence Directive are seen as a package in terms of sustainability disclosure. The EU taxonomy is the cornerstone of EU legislation because it is designed to institute a market transparency tool enabling a common language for environmental sustainability and defining green investments. The Corporate Sustainability Reporting Directive and the ESRS introduce the double materiality perspective, which is linked to the taxonomy, as well as mandatory transition plans to ensure that companies' business model and strategy are compatible with the transition to a sustainable economy and with the objectives of limiting global warming to 1,5 °C in line with the Paris Agreement and achieving climate neutrality by 2050, as established in the ECL, with no or limited overshoot. The Corporate Sustainability Due Diligence Directive requires Member States to enact legislation that requires large corporates to conduct risk-based human rights and environmental due diligence, as well as to harmonise the role of third-party verifiers. Banks are subject to environmental, social and governance requirements, as well as disclosure requirements laid down in the banking package (Capital Requirements Directive, CRD VI; Capital Requirements Regulation, CRR III). Harmonised enforcement and sanctioning powers for breaches of sustainability and disclosure requirements gave teeth to the sustainability disclosure rules.

The paper concludes that this nexus of corporate disclosure requirements is far-reaching. The paper also formulates a number of recommendations going forward and sets out that any future regulation aimed at reducing greenwashing risks should be linked to the corporate sustainability disclosure framework. It is acknowledged

that the 2025 Commission work programme and the 2025 Competitiveness Compass for the EU have a stronger focus on simplification and include an Omnibus package on sustainability, which will cover a far-reaching simplification in the fields of sustainable finance reporting, sustainability due diligence and taxonomy. On 26 February 2025, the European Commission published omnibus packages bringing together proposals that will amend the three pieces of sustainable finance legislation discussed in this paper. The assessment in this paper is based on the originally agreed legal texts of the CSRD, CSDDD and the EU taxonomy. This paper focuses solely on the assessment of the relevant Union law in light of the economic literature concerning the regulatory tools effective to deal with financial "greenwashing" and does not prejudice in any way the outcome of the future omnibus package on sustainability.

1 Introduction

In December 2023 ClientEarth warned ten large banks to stop financing Saudi Aramco or face potential legal action because the latter was allegedly involved in greenwashing. What is greenwashing? The three European Supervisory Authorities (ESAs) define greenwashing as "a practice where sustainability-related statements, declarations, actions, or communications do not clearly and fairly reflect the underlying sustainability profile of an entity, a financial product, or financial services".

This definition is broad because it includes entities, services and products – and it is agnostic on whether this constitutes wilful misconduct. It is also all-encompassing, since greenwashing may occur at any point in the investment value chain, life of a product and provision of a service. Internationally, no uniform legal definition of greenwashing exists as yet.

In light of the large investment push needed to finance an orderly transition to a low-carbon economy and the fact that most of the financing will need to come from private resources, the lack of an internationally agreed definition of greenwashing may be detrimental to sustainable finance flows across countries. After all, the temperature objective agreed in Paris (2015) is a global objective. Hence, greenwashing forms an obstacle not only for investors, business conduct and prudential regulators (Nieto, 2019), but also for governments in their endeavour of reducing emissions and fulfilling their national commitments to reach net zero by 2050 (Khan et al., 2020).

Greenwashing is currently a generic term used for various breaches. A review of the existing litigation cases, reveals that these breaches are related to various legal provisions related to unfair competition, securities listing or public offering rules, unethical advertising or wrong reporting/disclosure in the EU. This paper focuses on the latter, particularly in relation to entities as opposed to products.

Following a review of existing literature, this paper analyses entities' disclosure requirements in the EU, including any due diligence requirements. It aims to assess whether the existing EU sustainable disclosure framework is effective in limiting the possibilities of greenwashing. Our paper takes the perspective of corporate disclosure and reporting requirements imposed on entities, including a focus on banks (EBA, 2023; ESMA, 2023). The assessment is based on the originally agreed legal texts of the CSRD, CSDDD and the EU taxonomy. It is noted that on 26 February 2025, the European Commission published omnibus packages bringing together proposals that will amend the three pieces of sustainable finance legislation.

The paper concludes that the EU has created a nexus of legal provisions based on the European Climate Law[1] (ECL) and corporate disclosure requirements set out in

[1] Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

the flagship EU regulations: the Taxonomy Regulation,[2] the Corporate Sustainability Reporting Directive[3] (CSRD), the Corporate Sustainability Due Diligence Directive[4] (CSDDD) as well as the new Capital Requirements Directive (CRD VI) and Capital Requirements Regulation (CRR III)[5], which taken together limit the possibility of greenwashing and provide for severe sanctions for environmental, social and governance (ESG) misrepresentations. Hence, it is important that the simplification and streamlining initiated by the European Commission preserves the elements in the sustainable finance framework that prevent greenwashing. A few non-exhaustive examples of such elements may include, *inter alia*, transition plans, third-party verifiers, disclosure templates and standards on climate change and biodiversity, as well as enforcement and sanctions.

This paper is organised in five sections in addition to this introduction. Section 2 estimates the investment needs in relevant sectors to fulfil the EU's ambitious objective of reducing emissions to net zero by 2050. Section 3 discusses relevant literature that provides conceptual support to the corporate disclosure and taxonomy regulation to limit greenwashing. Section 4 assesses the relevant sustainability disclosure regulation in the EU and its effectiveness in channelling investment to the economic sectors and activities consistent with the achievement of net-zero emissions by 2050. The last section concludes and presents some reflections going forward.

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2 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 (OJ L 198, p.13).

3 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 (Text with EEA relevance), OJ L 322, p. 15-80; 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 (OJ L 284, 22.12.2023, p. 1). The latter includes phase-in-rules, guidance on materiality assessments, guidance on value chains and the relationship between the list of data points and the taxonomy.

4 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 (OJ L 2024/1760, 5.7.2024). "Sustainability" extends far beyond environmental concerns, encompassing a broader spectrum of issues including human rights.

5 Regulation (EU) 2024/1623 of the European Parliament and of the Council of 31 May 2024 amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor (OJ L 2024/1623, 19.6.2024) (CRR III) and Directive (EU) 2024/1619 of the European Parliament and of the Council of 31 May 2024 amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks (OJ L 2024/1619, 19.6.2024) (CRD VI).

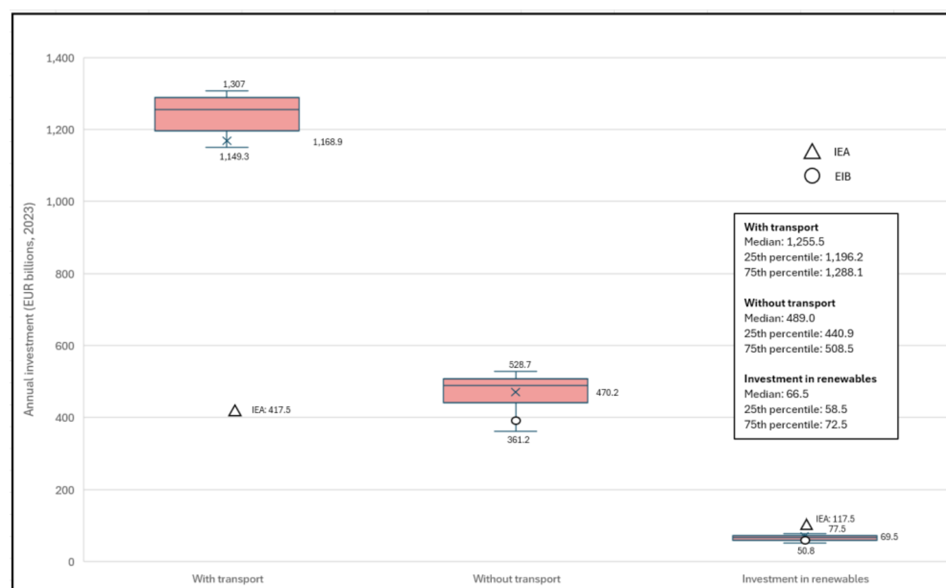
2 Investment needs to meet the European Climate Law objectives

Key to the fulfilment of the objectives of the ECL is investing in mitigation, including new technologies and the infrastructure of the energy (i.e. power grid) and transport sectors (i.e. electric cars). Estimates of investments by the European Commission vary considerably depending on the policy tools and whether the transport sector is included or not.[6] Climate mitigation policy tools comprise regulation (i.e. land use, land use change and forestry; emissions standards for cars and vans), encouraging the adoption of new technologies (i.e. renewables, hydrogen, biofuels, electro fuels) and carbon pricing (i.e. energy taxes, EU emissions trading system, carbon border adjustment tax). There is also significant variation in the estimates of the International Energy Agency (IEA) and the European Investment Bank (EIB). Chart 1 shows a range of estimates of investment needs for climate risk mitigation in the EU for the 2020-30 period.

Chart 1

Average annual energy investment needs (mitigation) in the EU (2020-30)

(EUR billions 2023/year)



Sources: European Commission, EIB and IEA estimates.
Notes: The lack of consistency of assumptions across models, different supporting models and a lack of clarity of the breakdown of the output figures make comparability difficult. European Commission estimates based on SWD (2021) 621 final and SWD (2020) 176 final. Average value is next to the box.

The ECL is made operational via the “Fit for 55” (2021) package of legislation and the REPower EU programme (2022), which ramps up the ambition of the Fit for 55

[6] The difficulties of decarbonising the transport sector derive from the fact that it is the least diversified energy end-use sector and the technical limitations to replace oil-based fuels, the limitations in the use of carbon capture technologies and the continuous growth of global demand for mobility (de Blas et al., 2020).

objectives for renewables, energy efficiency and key hydrogen infrastructure. The EU's ultimate objective is to reduce net GHG emissions by at least 55% by 2030 and to become climate-neutral by 2050. The Fit for 55 scenarios and investment needs are based on the European Commission's estimates shown in Chart 1.[7] Accordingly, on average, €764 billion per year was invested in the EU in the decade to 2020 in reducing GHG emissions(Nerlich et. al. (2025), European Commission, 2023). Additional investments of over €620 billion annually will be needed to meet the objectives of the Green Deal and RepowerEU, as presented in European Commission (2023).[8]

Accurate corporate sustainability disclosures and effective use of the EU Taxonomy Regulation are a cornerstone to limit greenwashing and facilitate the adequate development of sustainable finance. These high investment needs mean that capital will need to be directed effectively to these causes and legislation to prevent greenwashing can help to make sure that investments go where they are most needed.

Monasterolo et al. (2024) assess the investment gap between the EU investment needs presented above and available public funding, whose measure is distorted by the inclusion of climate adaptation needs and the cost of natural disasters. Assuming this important limitation and others related to uncertainties around the climate mitigation scenarios designed by the European Commission (i.e. emission pathways, different model runs, degree of national policy implementation), the authors conclude that the investment gap is in the range of €370 billion to €912 billion per year during this decade.[9] This gap would therefore need to be covered by private investment. Chart 2 shows the reduction path for government carbon tax revenue in the EU compared with other world regions for a scenario of net-zero emissions by 2050. Indeed, the successful decarbonisation of the EU economy will go hand in hand with the reduction of this type of government revenue as a source of investment in mitigation. See Nieto (2022) for an assessment of the investment needs of the world's largest economies.

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[7] The Council adopted its general approach on the environment-related proposals of the Fit for 55 package on 29 June 2022.

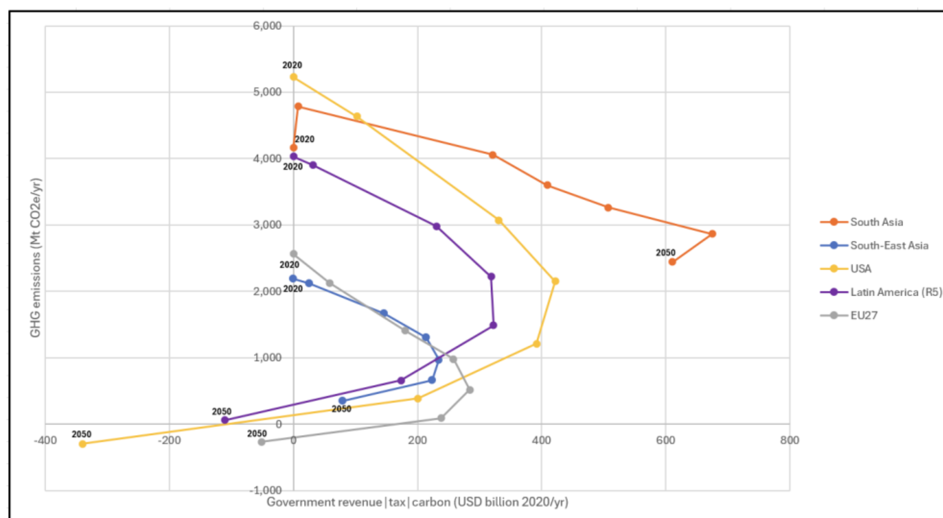
[8] The REPowerEU plan aims to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition. See the corresponding press release from 18 May 2022.

[9] See European Commission (2023), "Investment needs assessment and funding availabilities to strengthen EU's Net-Zero technology manufacturing capacity", March. These estimates are based on SWD(2021)621.

Chart 2

Net-zero GHG emissions by 2050 and carbon tax revenue

(USD billions 2010/year)



Source: GCAM 6.0.
Notes: The EU is expected to reach net-zero emissions by around 2045. Comparability with the European Commission's estimates is limited due to methodological reasons.

Although the new EU fiscal governance will be more favourable towards climate mitigation investments than the previous framework and existing EU resources will also contribute to reducing this gap, it will be insufficient as highlighted recently by Bouabdallah et al. (2024).[10] Moreover, fiscal positions are different across the EU, so Member States have different degrees of leeway.

[10] Bouabdallah et al. (2024) include the following existing EU resources: (i) the EU budget, which is assumed to be extended beyond 2027 and to remain constant; (ii) the Recovery and Resilience Facility (until the end of 2026) of Next Generation EU (NGEU); (ii) the European Investment Bank; and (iv) other EU funding initiatives such as InvestEU.

3 Literature review demonstrates the need for disclosure requirements

There is ample literature discussing the economic effects of greenwashing on the financing of the transition to a low-carbon economy (Di Norcia, 1996; Dahlmann et al., 2019; Tuhkanen and Vulturius, 2022) and the extent to which markets can on their own identify and penalise this behaviour. Indeed, the lack of a harmonised and internationally accepted classification system for green investments (Trexler and Schendler, 2015; Aragón-Correa et al., 2016; Cochu et al., 2016; Sartzetakis, 2020; Primec and Belak, 2022; Pietsch and Salakhova, 2022) means that the definition of green investment and bonds is somewhat opaque and some issuers are subject to additional transaction costs in order to dispel concerns of greenwashing. Moreover, markets seem to be able to observe and penalise some greenwashing behaviour, reducing the probability of reissuance and making it costlier for greenwashing firms to reissue (Leung et al., 2023). Market penalisation via larger premiums and reputational risk from lawsuits (Benjamin et al., 2022; Di Maio et al., 2023; Randazzo and Perozzi, 2023; Setzer and Higham, 2023) would substantially increase financing costs. Hence, it is important that markets make use of third-party verification to reduce information asymmetries (Kirchhoff, 2000; Laufer, 2003; Cherry and Sneirson, 2012; Huang and Chen, 2015; Marquis et al., 2016; Bachelet et al., 2019). The above research results underpin the requirement provided in the CSDDD for third-party verification.

In addition, the lack of standardised and enforced classifications of green and non-green activities can lead to confusion among investors and other stakeholders. Using as a sample the European stock market, De Angelis and Monasterolo (2024) conclude that the EU taxonomy is better able to capture transition risk than other classifications, such as ESG and firms' carbon footprint based on greenhouse gas (GHG) emission intensity. Moreover, the authors find no evidence of a "greenium" for the green portfolios classified using the EU taxonomy. Although the taxonomy represents an important benchmark in the standardisation and definition of green economic activities, Möllers (2022) emphasises the room for improvement regarding the all-or-nothing approach, reducing sustainability to a binary classification (?) and not using smart parameters to reflect the complexity of value chains or the life cycle of products.

Following this line of argument, Janke and Weiss (2024) examine the impact of overestimating and underestimating the true proportion of clean and dirty firms in banks' capital requirements, return on equity and the number of funded firms. The authors conclude that these estimation errors can have significant consequences for the allocation of funding and environmental outcomes. Furthermore, without an effective regulation of greenwashing, the authors highlight the limitations and potential adverse effects of implementing green capital requirements, because such requirements can inadvertently incentivise dirty firms to manipulate their green-friendliness to benefit from lower capital requirements. Furthermore, clean firms may

engage in greenwashing to increase their chances of obtaining funding with less equity. There is a consensus that jurisdictions with taxonomy and disclosure regulations experience less greenwashing (Alessi et al., 2021b); Ferguson and Sparr, 2022; Leung et al., 2023). Hence, it is important that authorities first employ these tools to stop greenwashing before considering prudential regulatory requirements for non-taxonomy-aligned economic activities.

Kirchhoff (2000), Laufer (2003), Cherry and Sneirson (2012), Huang and Chen (2015), Marquis et al. (2016) and Bachelet et al. (2019) highlight the importance of third-party verifications in helping markets to reduce information symmetries. Against the backdrop of the development of GHG emission targets by corporate climate action organisations such as the Science Based Targets initiative (SBTi), Robiou du Pont et al. (2024) make a clear distinction between companies as agents of innovation and market regulators and supervisors as either definers or enforcers of market-wide objectives for sustainability. Reisinger et al. (2024) show that companies using these climate mitigation targets are overwhelmingly located in advanced economies.

In 2021 it was widely expected that climate-related litigation would rise owing to international developments, the enactment of domestic laws as well as heightened public awareness (NGFS, 2021). Financial institutions in particular were expected to increasingly face claims relating to disclosures under taxonomies for green financial products, as well as potentially contractual liability relating to such products (NGFS, 2021). A survey of litigation from publicly available databases[11] corroborates these expectations. For example, in France, a law on the duty of diligence was enacted requiring corporates to develop a vigilance plan demonstrating measures to prevent any human rights violations and environmental harm caused by their activities. In 2023 BNP Paribas was sued in Paris based on alleged violations of this law, namely that its vigilance plan was not precise, giving vague definitions of the risks to which BNP was exposed and lacking clarity concerning information on investments and loans. Finally, greenwashing was depicted as a source of litigation owing to stricter legislation enacted worldwide, which could lead to more frequent administrative enforcement actions (NGFS, 2024). In that regard, strengthening the standardisation of sustainability reporting requirements can mitigate litigation risks for banks.

[11] See Climate Change Litigation Database and the Sabin Center for Climate Change Law.

4 Disclosure rules: are they effective in limiting greenwashing?

Greenwashing is a risk that has an impact on the confidence of investors and other stakeholders to invest in financing the transition to a green economy and may lead to sector and activity-wide outflows, diminish available funds, delay transition efforts and lead to a system-wide build-up of climate risk (ECB, 2023; ESMA, 2023). The ESAs' all-encompassing high-level understanding of greenwashing covers the banking, insurance and securities sectors (EBA, 2023) to avoid the emergence of green projects that are artificially designed and packaged to meet green standards. Greenwashing erodes investor confidence in sustainable finance products, misleads consumers and other market participants, raises reputational and litigation risk and can affect the governance of alleged wrongdoers (EBA, 2023). Recommendations for large banks have been proposed that focus on improving their disclosures and transition plans (Di Maio et al., 2023).

The awareness surrounding greenwashing has grown significantly in recent years but the risk is expected to remain high as long as there is no internationally applicable definition or effective corporate sustainability reporting requirements that prevent misrepresentations. Causes of greenwashing have been attributed to (i) methodological limitations (i.e. climate risks being classified as forward-looking risks associated with uncertainty regarding the transition paths to net zero by 2050) as well as the limited reliability and comparability of key variables; (ii) rapid regulatory developments aimed at reorienting capital flows towards sustainable investments under the European Commission's 2018 action plan, coupled with insufficient progress in the regulation of due diligence process requirements, including third-party verifiers; and (iii) a lack of knowledge and experience among market participants that are in the process of establishing adequate governance processes. To date, national supervisory authorities have detected only limited occurrences of actual or potential greenwashing (ESMA, 2024).

This section focuses on corporate disclosure as a lever against greenwashing. The paper assesses the EU sustainability disclosure framework, which constitutes a significant step towards barring greenwashing and is relevant for both market conduct and prudential supervision. The main EU legislative tools aimed at precluding greenwashing are the EU taxonomy, the CSRD and the CSDDD, as we concluded from our literature review section.

4.1 Taxonomy

Taxonomy: a common language for sustainability

The EU Taxonomy Regulation was designed to institute a market transparency tool, enabling a common language for "environmental sustainability" and defining "green

investments" in the EU (European Commission, 2021).[12] The EU taxonomy addresses one of the shortcomings of the widely used ESG ratings (Chen et al., 2021; Berg et al., 2022)[13] by requiring ESG rating agencies to map their data to a common taxonomy. These aims are consistent with limiting greenwashing practices. Large corporates are required to report on the EU Taxonomy Regulation and define EU taxonomy performance indicators.

Bassen et al. (2022) and the Platform on Sustainable Finance (2022) argue that the EU taxonomy can help to assess climate risk mitigation, including by helping identify potential stranded assets ex-ante. Indeed, one of the greatest challenges faced by introducing the EU taxonomy is that it requires access to high-quality data, including historical data. The economic activities included in the classification system are still work in progress. The EU taxonomy, when fully developed, will facilitate data comparability across time and among firms, providing a common language of environmental sustainability. In this regard, the expansion of the list of economic activities (Delegated Regulations (EU) 2023/2485 and (EU)2023/2486) goes in the right direction, although Lucarelli et al. (2023) argue that the staggered expansion is causing firms to postpone investments in response to the regulatory uncertainty. Nevertheless, the EU taxonomy is not intended to encompass all available business activities of corporates in the EU. In spite of these limitations, Alessi et al. (2021a) are highlight that there has been an increase in taxonomy-aligned assets under management, while Cochu et al. (2022) conclude that the EU taxonomy is more likely to be considered an additional key performance indicator (KPI). The full effect of the EU taxonomy arises in conjunction with two other regulations: the CSRD and CSDD.

[12] The EU Taxonomy Regulation in the broad sense includes not only Taxonomy Regulation (EU) 2020/852, but also the associated Delegated Regulations (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives; (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation; (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (OJ L 188, 15.7.2022, p.1); (EU) 2023/2485 of 27 June 2023 amending Delegated Regulation (EU) 2021/2139 establishing additional technical screening criteria for determining the conditions under which certain economic activities qualify as contributing substantially to climate change mitigation or climate change adaptation and for determining whether those activities cause no significant harm to any of the other environmental objectives (OJ L 2023/2485, 21.11.2023); and (EU) 2023/2486 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to the sustainable use and protection of water and marine resources, to the transition to a circular economy, to pollution prevention and control, or to the protection and restoration of biodiversity and ecosystems and for determining whether that economic activity causes no significant harm to any of the other environmental objectives and amending Commission Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (OJ L 2023/2486, 21.11.2023).

[13] Indeed, the first regulatory action is harmonising ESG disclosure by firms, which would provide a foundation of reliable and freely accessible data for all ESG ratings. See Regulation of the European Parliament and of the Council of 27 November 2024 on the transparency and integrity of Environmental, Social and Governance (ESG) rating activities, and amending Regulations (EU) 2019/2088 and (EU) 2023/2859 (OJ L 2024/3005, 12.12.2024).

4.2 Corporate Sustainability Reporting Directive

CSRD: disclosure reflects the need for transparency corresponding to sustainability as 'European public good'

The EU makes the corporate sustainability reporting standards in the CSRD mandatory for large financial and non-financial companies, including non-EU[14] branches or subsidiaries[15] that meet certain conditions, and listed companies, including small and medium-sized enterprises (SMEs) (Annex 2). The anticipated simplification to be provided for in the upcoming Omnibus package on sustainability is expected to ensure better alignment of the requirements with the needs of investors, proportionate timelines, financial metrics that do not discourage investments in smaller companies in transition, and obligations proportionate to the scale of activities of different companies. It will notably address the trickle-down effect to prevent smaller companies along the supply chains from being subjected in practice to excessive reporting requests that were never intended by the legislators.

A differentiating aspect worldwide of this EU regulation is the "double materiality" approach, as well as that sustainability information, material from an impact perspective[16], should be clearly differentiated from other information included in the management report. Data and assumptions should be consistent to the extent possible with the corresponding data and assumptions used in financial reporting, and corporates are obliged to disclose estimates and outcome uncertainty. This obligation is further extended to the "actual and potential" adverse impacts connected with the corporate's entire value chain.[17]

Furthermore, the CSRD materiality assessment is linked to the Taxonomy[18]; however, the CSRD affects the entire corporation and not particular economic activities. The impact assessment should be subject to a due diligence process in line with the CSDDD.

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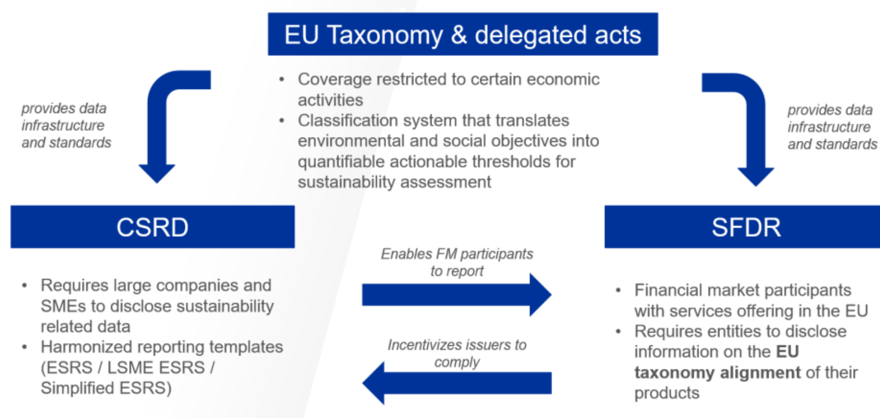
[14] Non-EU branches have separate standards not covering all reporting areas with a focus on environmental impact. Sector-specific standards and general standards for non-EU companies are to be adopted in 2026.

[15] Credit institutions and insurance companies independent of their legal form, while non-financial companies include public corporations and limited partnerships. Exception at the company/subgroup level if necessary information is included in the group management report (Article 19a) and this has been audited and disclosed accordingly. Until 2027, fictitious consolidated sustainability report for EU subsidiaries of third-country companies (Article 48) but no exception for large listed companies/subgroups (Article 19a). Non-EU companies and groups that meet two conditions: EU turnover in the EU of more than €150 million and one or more EU subsidies or an EU branch with over €40 million in turnover in the EU (Article 40a). Article 5 refers to the timeline according to the differences in scope.

[16] The management report should include "information necessary to understand the undertaking's impacts on sustainability matters, and information necessary to understand how sustainability matters affect the undertaking's development, performance and position" (Art. 19a).

[17] For three years, if the company cannot obtain value chain information, it should explain (a) its efforts made, (b) why information could not be obtained, and (c) its plans to get information in the future.

[18] The European Financial Advisory Group (EFRAG) was created under the auspices of the European Commission and provides technical advice to the European Commission in the form of draft European Sustainability Reporting Standards (ESRS) and/or draft amendments to these standards. Disclosures related to environmental information under Article 8 of the taxonomy are (i) climate change (ESRS E1), (ii) pollution (ESRS E2), and (iii) resource use and circular economy (ESRS E5). The relationship between the list of data points and the ESRS XBRLS taxonomy is debated in EFRAG IG 3. Corporates will need to report according to the European Single Electronic Format (ESEF) (Article 29d CSRD).



Nieto and Papathanassiou (2023) argue that the broad scope of the CSRD's application reflects the need for transparency, corresponding to environmental sustainability as a "European public good". Thus, greenwashing is not merely an action against transparency, but a threat to this public good because it distorts the picture of the funds that are available and necessary for the transition to a low-carbon economy. If corporations engage in greenwashing, they not only deceive investors, which would not have made the funds available otherwise and would have redirected them to other truly green activities, but also put at risk the EU climate objectives because green activities are inflated giving the false impression that they serve the EU's orderly transition to a green economy, while, in fact, they do not.

The above explains why the CSRD includes a new requirement to disclose "implementing actions and related financial and investment plans" (transition plans) in line with the ECL and, where relevant, exposures to coal, oil and gas-related activities.[19] Mandatory transition plans for climate mitigation must be "time-bound" and include information on absolute GHG emission reduction targets from 2030 to 2050 in line with the ECL (Annex 2).[20] Transition plans should be based on the latest scientific research, while information disclosed under Article 8 of the Taxonomy Regulation about the amount of capital expenditure (CapEx) or operating expenditure (OpEx) associated with taxonomy-aligned activities could support financial and investment plans.

Transition plans include information about the entire value chain (Scope 3), a company's own operations, products and services, business relationships and supply chain, within EU and non-EU countries if the undertaking's value chain extends outside the EU (Article 19a (2) Directive 2013/34/EU as amended by the

[19] ESRS E1 intends to (a) identify positive/negative impacts, financial risks and opportunities; (b) introduce climate-relevant measures; and (c) report on the adaptation of the business strategy towards net zero. CO2e footprint provides the basis for assessing the impact (Scope 1, 2 and 3). The European Commission recommends the GHG protocol for calculation (Scope 1, 2 and 3).

[20] In 2024 Flying Blind by Carbon Tracker analysed the financial statements and audits of 140 publicly traded Climate Action 100+ target companies worldwide and concluded that only one audit report was found to have provided all the climate-related information required. The report found discrepancies which could be evidence of errors, poor corporate governance or potential greenwashing.

CSRD). From this definition, the value chain is understood as both upstream and downstream. By contrast, for financial institutions, the obligation is limited to the upstream value chain (Article 3 CSDDD).

Mandatory transition plans leave open the possibility of using different scenario providers with different methodologies (Recital 30 CSRD), which will hamper comparability for investors and regulators. It should be noted that Environmental Sustainability Reporting Standard E1 (ESRS E1) recognises the Science Based Targets initiative (SBTi Corporate Net-Zero Standard). The SBTi has been subject to criticism, including for its excessive use of emission removals. Trexler and Schendler (2015), Chan et al. (2016), Robiou du Pont et al. (2024) and Reisinger et al. (2024) challenge the claim that the corporate emissions targets of the SBTi are aligned with the Paris Agreement and call for government intervention to address corporate lack of ambition in the absence of incentives or regulations. Hence, the importance of official providers of climate risk scenarios.[21] For banks, this is ensured at least in Pillar 3, as detailed below.

Moreover, a number of authors (Robiou du Pont et al., 2024) argue that, conceptually, the absence of a quantitative approach to determine Paris-aligned corporate emissions reflects the fact that we do not know what is needed from individual companies in the transition and that emission targets are insufficient to capture the role of individual companies' ambition in the transition. Moreover, there is a lack of clear sector-specific transition pathways. Consequently, the results of this research underpin the need for consistent and reliable disclosures.

The CSRD imposes environmental, social, employee and human rights reporting by amending Directive 2013/34/EU[22] regarding financial reporting and expanding the non-financial reporting requirements introduced by Directive 2014/95/EU.[23] It requires the collective responsibility of the members of management, administrative and supervisory board including the audit committee, and an external assurance review of the sustainability reporting by (a) an approved audit firm of financial statements, (b) statutory auditors, i.e. natural persons approved by the competent authorities of a Member State to carry out statutory audits and, where applicable, the assurance of sustainability reporting; or (c) independent assurance service providers

[21] Other net zero by 2050 climate risk scenarios exist; see Monasterolo et al. (2023) for a comparison of the NGFS, IEA and IPCC net-zero climate risk scenarios.

[22] Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC (OJ L 182, 29.6.2013, p. 19).

[23] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups (OJ L 330, 15.11.2014, p. 1).

(Member State option) (Article 34 Directive 2013/34/EU).[24] For undertakings subject to the Transparency Directive, ESMA issued Guidelines on Enforcement of Sustainability Information applicable to national competent authorities that enforce sustainability information in a converged manner throughout the EU (Article 28d).

This not only improves the reliability of the corporate impact assessment, but also levels the playing field of external auditors' assessment benchmarks in the EU. Differences still exist concerning financial institutions since the Commission is empowered within a maximum period of two years to lay down additional sustainability due diligence requirements tailored to them and the options for such due diligence requirements as well as their impacts, in line with CSDDD objectives. To this end, the Commission will take into account other Union legislative acts that apply to regulated financial undertakings with respect to the provision of financial services and, if necessary, make a legislative proposal (Article 36 CSDDD).

4.3 Banking regulation

ESG is embedded in banking regulation

Regarding banks, the CRD VI/CRR III sets out prudential requirements for ESG risks. Annex 2 compares the CRD VI/CRR III with the CSRD and the CSDDD. Financial risks arising from ESG factors that affect banks in the short to medium term are reflected in the prudential reporting framework, which is a specific barrier for banks committing greenwashing. For environmental factors with a long-term impact, banks are expected to take appropriate mitigating actions through transition plans (Article 76(2) CRD VI). Transition plans may overlap with those required by the CSRD. When this happens, there should be consistency across plans with respect to the due diligence and governance processes and the business model and strategy to achieve the EU climate targets. Inaccurate claims regarding the bank's alignment with the taxonomy affect the accuracy of the transition plans in addition to being a reputational and legal risk.

The CRD VI does not mention environmental KPIs or a particular climate risk scenario provider, but it requires the implementation of specific transition plans and quantifiable targets to monitor and address the ESG-related financial risks in the short, medium and long term (Dikau et al., 2024) in line with the ECL and, where relevant, the climate laws of non-EU countries (Article 76(2)).

The introduction of mandatory and enforceable requirements foreseeing non-public transition plans is an ongoing effort by prudential regulators to ensure that banks closely monitor financial risk associated with the transition in the short and medium

[23] Regarding the audit of the sustainability reports, auditors should express an opinion on (i) compliance with the CSRD and relevant standards (e.g. ESRS), with the relevant reporting requirements of Article 8 of the taxonomy and with the requirements of the mark-up (xhtml/xrbl-Tagging); and (ii) the process of the materiality assessment (Article 34 Directive 2013/34/EU). Member States shall ensure that there are effective systems of investigations and sanctions to detect, correct and prevent inadequate execution of the statutory audit and the assurance of sustainability reporting. Furthermore, Member States may decide not to lay down rules for administrative sanctions for infringements which are already subject to national criminal law.

term.[25] In the context of Pillar 3, banks are obliged to use the net-zero emissions by 2050 climate risk scenario (NZE2050) of the IEA[26].[27]

The supervisory powers in CRD VI, as interpreted by the EBA Guidelines for the management of environmental, social and governance (ESG) risks, concerning requirements for transition plans are potentially intrusive and wide-ranging and accompanied by a mandate for supervisors to assess banks' business model sustainability over a longer time horizon in the Supervisory Review and Evaluation Process (SREP). As opposed to corporates under the CSRD, banks will not disclose their transition plans because these are not subject to Pillar 3 disclosure under CRR III. Banks admitted to trading in a regulated market are obliged to disclose information on ESG physical and transition risks biannually (Article 449a CRR III), including, but not limited to, the total amount of exposures to fossil fuel sector entities and how the institution integrates the identified ESG risks in its business strategy and processes, and governance and risk management.

Double standards in the disclosure of targets for financed and facilitated emissions lead to a potentially flawed representation of a bank's contribution to climate change. Targets for financed emissions do not apply to facilitated emissions linked to funding activities where banks play an advisory role which is off-balance sheet. The policy response should be that emission targets also cover facilitated emissions (Di Maio et al., 2023).

Further developments may be expected internationally on climate-related financial disclosures (Basel Committee on Banking Supervision, 2023; Financial Stability Board, 2023).

4.4 Corporate Sustainability Due Diligence Directive

Due diligence covers both the upstream and downstream value chain for corporate activities, while only the upstream value chain for financial institutions.

The CSDDD harmonises national corporate sustainability due diligence processes related to sustainability to the highest standard. It is a cornerstone to avoid misleading claims regarding corporate misalignments with the ECL and to limit greenwashing and fossil fuel expansion. Due diligence is the "process that undertakings carry out to identify, monitor, prevent, mitigate, remediate or bring an end to the principal actual and potential adverse impacts connected with their activities and identifies how undertakings address those adverse impacts. Impacts connected with an undertaking's activities include impacts directly caused by the undertaking, impacts to which the undertaking contributes, and impacts which are

[25] At the time of writing, the European Banking Authority was planning to issue guidance on prudential transition plans. Guidance will focus on climate risk scenarios to be considered and scenario providers as well as governance, among other topics.

[26] The IEA provides scenarios at global level and some specific metrics at European level. Institutions are to measure the distance from the IEA scenario benchmarks at global level and, where the specific European level metrics are available, at European level.

[27] Commission Implementing Regulation (EU) 2021/637 of 15 March 2021 laying down implementing technical standards with regard to public disclosures by institutions of the information referred to in Titles II and III of Part Eight of Regulation (EU) No 575/2013 of the European Parliament and of the Council and repealing Commission Implementing Regulation (EU) No 1423/2013, Commission Delegated Regulation (EU) 2015/1555, Commission Implementing Regulation (EU) 2016/200; Commission Delegated Regulation (EU) 2017/2295 (OJ L 136, 21.4.2021, p. 1).

otherwise linked to the undertaking's value chain" (recital 31). Harmonisation promotes uniform compliance, which is desirable for investors and consumers, since EU Member States currently have their own varying laws addressing environmental and human rights violations in value chains.[28]

The CSDDD's scope is narrower than that of the CSRD (Annex 2). SMEs do not fall directly under the CSDDD's scope, but only indirectly if they are contractors or subcontractors to any companies within its scope.[29] The CSDDD extends its obligations beyond a company's primary operations, encompassing its subsidiaries and entities throughout its value chain, including those with whom they maintain direct or indirect business relationships (Recital 41).[30] Both upstream and downstream activities are encompassed, but downstream is restricted to business partners conducting activities for or on behalf of the company (Recital 25).[31] In the case of financial corporates, the scope is only upstream (ECB, 2023). As with the CSRD, the financial sector will only have to check whether there are environmental harms in their own operations. Financial institutions are expected "to consider adverse impacts and to use their so-called 'leverage' to influence companies" (Recital 51). Hence, the importance of transition plans.

The CSDDD will override existing corporate transition plans and will require corporates under its scope to align emissions with the ECL and the Paris Agreement. Transition plans should be made public in the annual report, containing a description of the progress the company has made towards achieving net zero by 2050, including intermediate targets for 2030. If companies report transition plans under the CSRD, they are deemed to have complied with it, and they only need to put the plan into effect and update it annually. At the time of writing this article, the European Financial Reporting Advisory Group (EFRAG) has issued draft implementation guidance on transition plans in line with the CSRD, CSDDD and the EU taxonomy.[32] This guidance is expected to increase scrutiny on targets, timeliness and accountability. The guidance aligns closely with other international standards, thus promoting interoperability.

Obligations under the CSDDD are obligations of means: "through best efforts" companies plan how to mitigate their environmental impact (Article 22(1)) with time-bound targets and verifying compliance with them (Recital 73).

Companies may use independent third-party verifiers. The Commission, in collaboration with Member States, will issue guidance with fitness criteria, a

[28] France's Loi de Vigilance and Germany's Lieferkettensorgfaltspflichtengesetz set up a regulatory framework requiring documentation for the supply chain. The main difference is that the French law provides for civil liability, while the German law excludes civil liability and provides for fines.

[29] Companies whose business partner is an SME are also encouraged to support them to comply with due diligence measures and use fair, reasonable, non-discriminatory and proportionate requirements vis-à-vis the SMEs (Recital 39).

[30] The assessment should be made at the inception of the contract and at regular periods of at least 12 months and whenever there are reasonable grounds to believe that new risks could arise.

[31] Companies must draft new contractual provisions with suppliers and third parties to envisage the right to request information to fulfil the CSDDD, remedies in cases where information is not disclosed and contractual guarantees of compliance with a code of conduct.

[32] See EFRAG (2024), "Implementation Guidance (draft): Transition Plan for Climate Change Mitigation", November.

methodology for companies to assess the fitness of third-party verifiers and guidance for monitoring the accuracy, effectiveness and integrity of third-party verification (Recital 52). Such guidance aims to ensure a level playing field in the EU.

In the case of financial undertakings, the Commission will submit a report to the European Parliament and to the Council on the necessity to lay down additional sustainability due diligence requirements tailored to financial services and investment activities, the options for such due diligence requirements and their impacts (Article 36). The results of the verification process should trigger prompt corrective action by the firm to strengthen internal controls on environmental targets.

Breaches and penalties

An intuitive and common recommendation based on Becker's (1968) rational choice theory is to increase deterrence by raising the probability of being caught and the associated punishments (e.g. fines, naming and shaming). One of the limitations of this approach applies when greenwashing is unconscious and involuntary, whereby greenwashers are unlikely to correct their behaviour, even if the punishment is severe. This limitation has been taken into consideration in the corporate sustainability reporting framework. The obligations thereunder are obligations of means, rather than results.

Similarly, if the punishment remains too weak, it is unlikely to deter greenwashers (Frey, 2009). Under the CSRD, sustainability reporting must be included in the management report (Article19a Directive 2013/34/EU as amended by the CSRD) and in consolidated financial statements and reports (Articles 29a and 29d). If a company breaches these sustainability reporting obligations, national legislation determines the penalties applicable to the infringements of the national transposition (Article 51 Directive 2013/34/EU), since these penalties have not been harmonised.

By contrast, penalties for prudential infringements by banks, including ESG, have been harmonised in the CRR III/CRD VI (Articles 67(1)(d) and 74 CRD VI). In addition to published administrative sanctions (naming and shaming), periodic penalty payments (PPPs) are foreseen as an enforcement measure for up to 5% of the average daily net turnover of a legal person or up to €50,000 for natural persons and are imposed daily until compliance is restored for up to six months (Article 67(2) CRD VI). In 2023 PPPs were considered as available tools to compel significant institutions to comply with the supervisory expectations to include climate and environmental risks in their governance, strategy and risk management.[33] Other measures include cease and desist orders, public statements and a temporary ban of the member of the management body responsible for the infringement.

The CSDDD, with its narrower scope of application than the CSRD, also envisages enforcement measures. Inspections and investigations (Article 25 CSDDD) are foreseen to impose penalties on non-compliant companies. Harmonised penalties

[33] See Elderson, F. (2023), "Climate-related and environmental risks – a vital part of the ECB's supervisory agenda to keep banks safe and sound", speech at the panel on green finance policy and the role of Europe organised by the Federal Working Group Europe of the German Greens, 23 June.

range from administrative penalties (naming and shaming for at least five years; Article 27(5)) for up to 5% of the corporate net worldwide turnover (Article 27(3) and (4)) and public statements for failure to comply with a pecuniary penalty decision (Article 27(3)(b)). The signalling effect of the two Directives would be enhanced if they included provisions to publish a centralised list of non-compliance (‘name and shame’) as opposed to public display at national level.

A novelty in the CSDDD is civil compensation under national law for damage occurred (Article 29) when a company intentionally or negligently fails to comply with the obligations in Articles 10 and 11, mainly preventing and putting an end to adverse impacts, provided that the obligation is designed to protect the natural or legal person, the person suffers a damage and there is causal link between the failure to comply and the damage caused. This is consistent with the ESAs’ definition of “greenwashing”, which is agnostic as to whether this constitutes wilful misconduct or not. A company cannot be held liable for damage caused only by its business partners in the chain of activities (Article 29(1)). Nevertheless, the concept of environmental damages is elusive in the CSDDD.

5 Conclusions

Against the background of the significant need for private, in addition to public, sources of sustainability financing in order to meet the objectives of the ECL, EU corporate sustainability reporting and due diligence as well as the EU taxonomy are an ambitious legislative framework aimed at establishing harmonised and comparable sustainability corporate data among firms and across time. This sustainability reporting framework is a cornerstone for combating greenwashing because it standardises the regulatory requirements for sustainable disclosure to which the undertakings need to adhere. The success of the regulatory framework will rely heavily on its credible implementation, including penalties, that will contribute to anchoring the expectations of economic agents.

What the EU has done to limit greenwashing

The EU Taxonomy Regulation, although still a work in progress, defines sustainable economic activities and provides an anchor for the EU sustainability disclosure framework.

Corporate reporting takes the "double materiality" approach, namely that sustainability information, material from an environmental impact perspective, should be clearly differentiated from other information included in a company's management report. Corporates are obliged to disclose estimates and outcome uncertainty. Interoperability with international standards is a laudable objective considering that the CSRD applies to non-EU branches and subsidiaries.

Since the goal is to combat climate change, not merely support sustainability (which is part of the objectives of the reporting), climate change goals are linked with the ECL. The annual disclosure of corporate climate scenario-based transition plans with targets for 2030 and 2050 takes an all-encompassing view of the value chain. The CSRD materiality assessment is linked to the taxonomy, and the impact assessment is subject to the due diligence process under the CSDDD for companies falling within the CSDDD's scope. Harmonised mandatory external assurance to the highest standard ensures the credibility and reliability of sustainability reporting. Penalties entail significant discretion across Member States; however, they have been harmonised in the CSDDD.

In the case of banks, only the upstream activities in the value chain should be considered for reporting purposes and all credit institutions and financial holding companies covered by the CRD VI/CRR III will prepare annual transition plans addressed only to supervisors. Penalties have been harmonised in the CRD VI.

What would be desirable in the future

Supervision and enforcement actions are key for the credibility of the regulatory package. Coordination across national competent authorities for the implementation of the CSRD and CSDDD (including prudential supervisors for relevant CRD VI/CRR

III ESG requirements) is key to ensuring a level playing field. The scope of application of the CSRD and of the CSDDD should ideally overlap, even if transitional periods are envisaged. All mandatory transition plans for climate mitigation should be science-based according to the definition of an international/EU scenario provider (i.e. IEA, Network for Greening the Financial System (NGFS)). Moreover, scenarios to be compared should also be defined. The reason is that regulatory definition would facilitate their comparability and reliability, as in the case of banks' reporting (IEA).

Banks' prudential transition plans should be consistent with those prepared under the CSRD/CSDDD even though their objective is to assess the safety and soundness of the short-term and medium-term transition path. Targets for financed emissions by banks should cover facilitated emissions (off-balance sheet).

Any future legal framework for greenwashing should be linked to the existing sustainability disclosure framework (CSRD, CSDDD, CRD VI/CRR III requirements on ESG risks for banks). The above recommendations focus on greenwashing and do not prejudice in any way the ongoing work concerning the omnibus package on sustainability. While there is merit in simplifying and streamlining the legislative framework in the CSRD, CSDDD and EU taxonomy, it is equally important to preserve and, where possible, improve the elements of the above-referenced legal acts that prevent greenwashing.

Table

Comparison of ESG disclosure requirements in three EU legal acts

CRD VI/CRR III	CSRD	CSDD
General: Articles 73, 74, 76(2) CRD VI introduce ESG requirements. **Monitoring:** Prudential supervisors enjoy enforcement and sanction powers under Articles 64 ff. and 104 CRD VI. ESG reporting is provided for in Article 71 CRD VI.	The ESAs are empowered to draft regulatory technical standards. ESMA is empowered to issue guidelines on the supervision of corporate sustainability reporting by national competent authorities (Article 28d). Same supervisory authorities as in the Non-Financial Reporting Directive (2014/95/EU).	The CSDDD's due diligence obligations are **obligations of means**, rather than results. This means breaches will not come in the form of failing to achieve certain goals, but rather of not taking the measures to plan and try through best efforts to prevent adverse outcomes. Member States will designate an authority to supervise; at the European level, there will be a European Network of Supervisory Authorities.
Scope: credit institutions, (mixed) financial holding companies.	**EU and non-EU corporations subject to certain thresholds**	**EU and non-EU corporations subject to certain thresholds**
Transition plans (TPs): under Article 76(b) CRD VI TPs must be consistent with CRD VI and the CSRD. No environmental KPIs are provided for in Article 76(b) CRD VI. Article 449a CRR III does not extend the disclosure requirements to TPs.	TPs under **Articles 19a and 29a CSRD** provide information about ESG to stakeholders, establish a sustainability due diligence process, and report on actions to prevent, mitigate, remediate or end adverse impacts. TPs should be **disclosed** for each financial year (Article 11(1)) and provide information based on the latest science (the European Scientific Advisory Board on Climate Change). Article 19a(2): Specific targets for GHG emission reductions for 2030 until 2050. Information about the value chain is understood as both upstream and downstream (Scope 3), as it includes the supply chain (i.e. before the product reaches the undertaking) and the product, where we interpret that this includes its use by consumers. TPs in Articles 19a and 29a CSRD do not define specific environmental performance indicators but refer specifically to the taxonomy,	TPs aim at establishing due diligence to identify, prevent, address and put an end to adverse ESG impacts, combating climate change. They include targets starting for 2030 in five-year steps before achieving climate neutrality in 2050 and are updated annually (Article 22). The annual statement will be public and contain a description of the progress towards the targets set. According to Article 22(1), undertakings will plan to mitigate their environmental impact through best efforts. TPs take into account the latest scientific evidence and the recommendations of the European Scientific Advisory Board on Climate Change, but do not define specific environmental performance indicators. If the undertaking is reporting under the CSRD, they are deemed to have complied with the CSDDD TP obligation, while they still have to put the plan into effect and assess progress every 12 months. (Article 22 (3)).
ESG obligations: Article 73 CRD VI requires ESG to be taken into account in own funds; Article 76(b) requires ESG to be taken into account in governance arrangements and remuneration policies.	**Article 19a:** Business model and strategy; resilience, opportunities; TP for a sustainable economy; targets for GHG emission reduction; policies in relation to ESG; due diligence process with regard to ESG; description of actual or potential adverse impacts; description of principal risks and these risks are managed.	**Article 5:** Due diligence is an obligation of means. Supervisory bodies will ensure that undertakings fulfil the obligations to inter alia (i) integrate risk management, (ii) identify and assess actual or potential adverse impacts, (iii) prevent and mitigate adverse impacts; and (iv) put an end to adverse impacts. **Article 22:** Combat climate change; adopt and put into effect a transition plan for climate change mitigation; update TP annually.
Breaches related to risk management requirements are sanctioned under Article 67(1)(d) CRD VI; **to ESG disclosure** under Article 67(1)(m) CRD VI in conjunction with Article 449a CRR III and Article 438 related to disclosure of own funds and Article 435 related to disclosure of risk management; **members of the management body** are subject to enforcement and sanction powers under Article 67(1) (p) CRD VI in conjunction with Articles 91(2b) and 91(7) CRD VI; **breaches related to data collection** are sanctionable in line with Article 67(1) (z) and (aa).	Breaches are subject to enforcement and sanction powers under the national laws transposing the CSRD. There is no harmonisation.	Breaches of national laws transposing Articles 7-16 and 22 CSDDD and civil liability (Article 29) of companies for intentional or negligent failure to put in place measures to prevent or mitigate the adverse impact (Articles 10 and 11) if a causal link exists between the failure to prevent the adverse impact and the damage caused. Civil liability only extends to own operations; statute of limitations: at least five years after the damage was caused. Deterrence through overcompensation should be prohibited. Also applies also to human rights violations. National transposition will determine if consumer associations may bring an action for damages.
Penalties: Article 67(6) (2) CRD VI harmonised supervisory enforcement and sanction powers. Administrative pecuniary penalties for legal persons up to 10% of total annual net turnover; for natural persons max. €5 million. **Periodic penalty payments:** up to 5% of average daily net turnover, or €50,000 for a natural person. **"Naming and shaming":** Public statement identifying the person responsible for and the nature of the breach. **Cease and desist orders.**	Under Article 51 Directive 2013/34/EU, penalties are **heterogeneous** across Member States. Penalties may range from pecuniary penalties in Spain (Anteproyecto de Ley por la que se regula el marco de Información corporativa sobre cuestiones medioambientales, sociales y de gobernanza) to imprisonment for up to five years plus a fine for managers in France (Ordonnance nº 2023-1142 du 6 décembre 2023).	Penalties (Article 27) for violations of Articles 7-16 and Article 22. Supervisory authorities may impose as a minimum administrative pecuniary penalties of up to 5% of net worldwide turnover (Articles 27(3)(a)) and 27(4)). **"Naming and shaming"**: any penalties adopted will be published and be publicly available for at least five years (Article 27(3)(b)).

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Acknowledgements
The authors thank Irene Heemserk, Klaus Düllmann, Andreas Beyer, Beatriz Sotomayor, Simon-Pierre Dulherm, Daniel Gybas and the participants of the ECB Banking Supervision Research Seminar (30 October 2024) for their valuable comments. The authors thank Guillermo Asenjo Larrosa and Alexandros Puente Parmar for their valuable research assistance.
This publication should not be reported as representing the views of the European Central Bank (ECB) or the Banco de España.

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PDF ISBN 978-92-899-6998-7, ISSN 1725-6534, doi:10.2866/6861120, QB-01-25-014-EN-N