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Green Finance in Europe – Strategy, Regulation and Instruments

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Green Finance in Europe – Strategy, Regulation and Instruments

Volker Brühl

Abstract:

The "European Green Deal" stipulates that the EU will become climate-neutral by 2050. This transformation requires enormous investments in all major sectors including energy, mobility, industrial manufacturing, real estate and farming. Although the EU Commission has announced that a total of EUR 1 trillion will be invested into the green transformation of the European economy over the next ten years, the majority of the investments must be financed by the private sector. Alongside many factors affecting a successful implementation of the Green Deal, a regulatory framework for the financial industry has to be established to facilitate the financing of sustainable investments. To that end, the European Sustainable Finance Strategy lays the foundation for a complex set of different measures that have been launched in recent years.

This article provides a comprehensive overview of key regulatory initiatives such as the taxonomy regulation, the disclosure frameworks for both corporates and financial institutions and other aspects of financial market regulation that have already significantly improved the regulatory framework for sustainable finance. Nevertheless, some additional instruments could be considered, such as a reform of top management remuneration or the provision of tax incentives for green investments in the real economy, and these are briefly discussed.

JEL: G10, G20

1. Introduction and background

The publication of the 6th assessment report by the IPCC (Intergovernmental Panel on Climate Change) on 9 August was another wake-up call for policymakers around the world that there is an urgent need for action to fight climate change (IPCC 2021). The recent report delivers once more the scientific evidence that global warming of the atmosphere, oceans and land is to a large extent caused by human activities. The observed acceleration of climate change increases the pressure to implement greenhouse gas (GHG) reduction measures on a global scale. Human-induced climate change is already resulting in a higher frequency and intensity of hot extremes, heavy precipitation, agricultural droughts, tropical cyclones as well as reductions in arctic sea ice and permafrost. According to the IPCC, global surface temperature will continue to increase until at least the mid-century under every emissions scenario considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in carbon dioxide (CO_2) and other greenhouse gas emissions occur in the coming decades. Hence, to limit human-induced global warming, it is essential to at least reach net zero CO_2 emissions by 2050, accompanied by strong reductions in other greenhouse gas emissions, especially methane (CH_4) and nitrous oxide (N_2O).

Therefore, a green transformation of nearly all parts of our economy is necessary, including but not limited to energy production and consumption, mobility, manufacturing and agriculture. The enormous investment volume required is very hard to quantify due to the global, multisectoral nature of the problem and the lack of reliable data. Nevertheless, estimates of the investments required to achieve the low-carbon transition range from USD 1.6 trillion to USD 3.8 trillion annually between 2016 and 2050, for supply-side energy system investments alone (IPCC 2018, p154). Although climate finance has reached record levels, funding still falls far short of what is needed under a 1.5°C scenario (CPI 2019). Of the global climate finance

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volume of USD 579 bn (two-year average 2017/2018), about USD 326 bn was provided by the private and USD 253 bn by the public sector. In light of this, the financial sector plays an important role for a successful sustainable transformation of the global economy.

This article illustrates firstly the interdependence between the various climate protection programmes and the sustainable finance activities so far established in the European Union. Key regulatory initiatives such as the Taxonomy Regulation as well as disclosure frameworks and other aspects of financial market regulation are explained in the context of the European Sustainable Finance Strategy. Finally, some missing elements that could help to further mobilise capital to finance the European Green Deal are discussed.

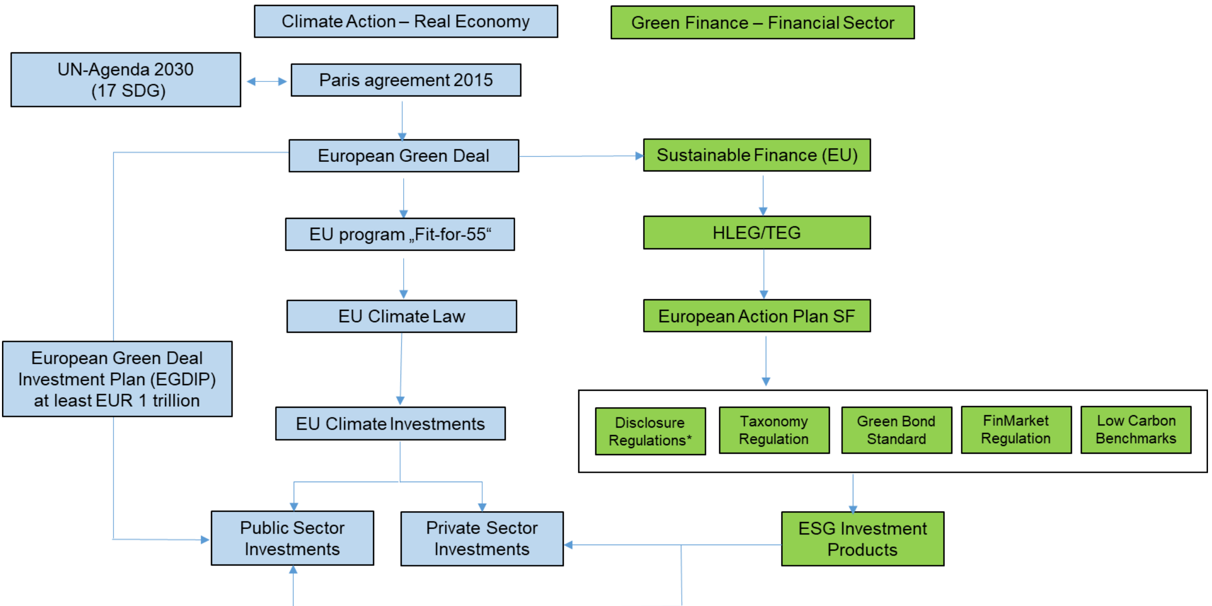
2. Climate protection and green finance

The "Paris Agreement" was adopted on 12 December 2015 as an extension of the United Nations Framework Convention on Climate Change (UNFCCC) and entered into force on 4 November 2016 (UN 2015a). As of July 2021, 191 members of the UNFCCC are parties to the agreement. Its goal is to limit global warming to well below 2°C – preferably to 1.5°C – compared to pre-industrial levels. It is the first binding multinational agreement under which nearly all nations commit to undertake ambitious efforts to stop global warming and mitigate the effects of climate change. Countries are obliged to submit their plans to reduce greenhouse gas emissions (nationally determined contributions, NDCs).

In parallel, the "Agenda 2030" (UN 2015b) was set up and adopted by all United Nations Member States in 2015. The agenda consists of 17 interlinked global sustainable development goals (SDGs) that should be accomplished through global partnership between developed and developing countries.

Figure 1 illustrates the development of and interdependencies between the climate protection initiatives in the EU and the corresponding key elements of the European Sustainable Finance Strategy to ensure that the required green financing can be generated.

Figure 1: The interaction between climate protection and green finance in Europe



Source: Own illustration; SF= Sustainable Finance, HLEG = High Level Expert Group, TEG = Technical Expert Group, *Sustainable Finance Disclosure Regulation (SFDR), Non-Financial Disclosure Regulation (NFDR), Corporate Sustainability Reporting Directive (CSRD)

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3. The European initiatives for climate protection – important milestones

In order to ensure that the EU complies with the requirements of the Paris agreement, the EU Commission presented the European Green Deal (EGD) in 2019, which aims to achieve climate neutrality by 2050. It builds on the vision of a climate-neutral European economy that was formulated by the EU Commission in November 2018 (European Commission 2018a). The major cornerstones of the EGD are (European Commission 2019a):

- Reduction of GHG emissions of at least 50% by 2030 compared to 1990
- Decarbonisation of the energy system
- Transformation of industry towards a resource efficient circular economy
- Energy- and resource-efficient housing and renovation
- Zero pollution action plan for air, water and land
- Transition to a smarter, more sustainable mobility system
- Development of a fair, healthy and environmentally friendly food system
- Preservation and regeneration of ecosystems and biodiversity

However, recent developments suggest that there is a high probability that the current policy framework in the EU will not be sufficient to achieve climate neutrality by 2050 and hence to meet the commitments under the Paris Agreement. Therefore, the European Commission proposed in 2020 to further raise the GHG emission reduction targets from 50% to 55% compared to 1990 (European Commission 2020a and 2020b). The new 2030 target should be incorporated into the EU Climate Law and forms the overall objective of the "Fit For 55" legislative package which was published by the European Commission on 14 July (European Commission 2021a).

"Fit for 55" legislative package

A comprehensive set of measures shall ensure the achievement of the ambitious GHG reduction target of 55%. The main components of this "55% package" are:

- Application of emissions trading to new sectors and a tightening of the existing EU Emissions Trading System
- Increased use of renewable energy: the Renewable Energy Directive will set a target to produce 40% of the energy consumed in the EU from renewable sources by 2030.
- Greater energy efficiency: the Energy Efficiency Directive will set a more ambitious binding target for reducing energy use at EU level.
- A faster roll-out of low-emission transport modes
- Stronger CO_2 emissions standards: by 2030 the average emissions of new cars will have to be reduced by 55% compared to 2021 targets. The reduction requirement rises to 100% from 2035, meaning that new cars registered from 2035 will be zero-emission.
- The tax system for energy products will be aligned with climate policies by revising the Energy Taxation Directive to promote clean technologies
- Preservation and growth of natural carbon sinks, with an intended EU target for carbon removals by natural sinks equivalent to 310 million tonnes of CO_2 emissions by 2030.
- A new Carbon Border Adjustment Mechanism. A carbon price on imports for selected products will prevent "carbon leakage", e.g. by reallocating production facilities.
- A new Social Climate Fund will be established to provide financial support for citizens investing in energy efficiency, new heating and cooling systems, and cleaner mobility.

Beyond these manifold initiatives, the implementation of a European Climate Law has been of particular importance as it forms the legal basis for the EU-wide commitment to become climate-neutral by 2050. The final regulation was published in the Official Journal on 9 July

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2021 and entered into force on 29 July 2021 (Regulation (EU) 2021/1119). The agreement sets a 55% net GHG emission reduction target for 2030 and an EU-wide climate neutrality target for 2050. The Member States are obliged to take the necessary measures to meet this target. Furthermore, they must implement adaptation strategies to strengthen resilience to the impacts of climate change. Progress will be monitored in line with the review process under the Paris Agreement every five years to ensure that any necessary additional measures can be adopted in time.

4. Financing the European Green Deal – the trillion-euro commitment

The intended transformation of the European Union will require enormous investments from both the public and the private sector. The EU estimates that approximately EUR 350 bn of additional investment is required in the energy system alone each year up to 2030 in order to meet the 55% emission reduction target (European Commission 2021b).

To finance the Green Deal, the EU Commission has announced that a total of EUR 1 trillion will be invested into the green transformation of the European Economy. The funds will inter alia be generated under the 2021-2027 Multiannual Financial Framework (MFF) and Next-Generation-EU fund with a total volume of EUR 750 bn. Although this is a large sum, a huge gap of at least EUR 2.5 trillion remains to be financed predominantly by the private sector, for which appropriate regulatory framework conditions and incentives are needed to further promote ESG investments.

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5. The EU's Sustainable Finance Strategy

In light of the critical role of the financial sector for providing sufficient capital, "sustainable finance" is receiving more attention both in academic research and the financial sector. Leading asset managers and investment firms offer ESG (environmental, social, governance) financial products that claim to take sustainability factors into account throughout the entire investment process. However, while they are often used interchangeably, one needs to differentiate precisely between sustainable finance and green finance or climate finance.

Sustainable finance refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in the financial sector. Environmental considerations might include climate change mitigation and adaptation, as well as the preservation of biodiversity, pollution prevention and the circular economy (European Commission 2021, Berrou et al 2019).

Within the context of sustainability, there are manifold ways of defining "green finance" (European Commission 2017). For the purpose of this paper, we define green finance as the financing of investments that provide environmental benefits such as reductions in air, water and land pollution, reductions in GHG emissions, improved energy efficiency and mitigation of and adaptation to climate change. This definition is in line with the Taxonomy Regulation and the targets of the European Green Deal and is also close to the definition provided by the G20 Green Finance Study Group (G20 2016), as we understand green finance as a subset of sustainable finance. In that context, "climate finance" refers to the financing of public and private investments that seek to support mitigation of and adaptation to climate change and can therefore be considered as a subset of green finance (Hong et al 2020).

The EU Commission has established a High Level Expert Group on Sustainable Finance, which presented its final report in 2018 (HLEG 2018) and subsequently a Technical Expert Group (TEG) that has elaborated detailed recommendations on certain aspects (TEG 2020). These recommendations form the basis of the European Action Plan on Sustainable Finance (European Commission 2018b), which has been refined through the Renewed Sustainable

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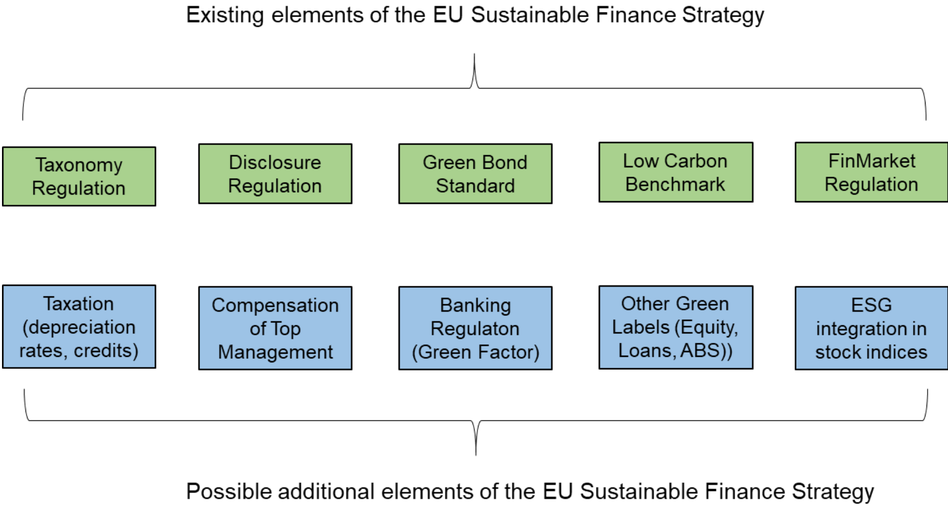
Finance Strategy (European Commission 2021c) and the "April package" presented earlier this year (European Commission 2021d).

Figure 2 gives an overview of the most important areas a sustainable finance strategy should cover. In the following it is explained where the EU currently stands with regard to sustainable finance and which elements are already covered (green boxes in Figure 2). Finally, some additional components that could complement the existing strategy are introduced (blue boxes in Figure 2).

Figure 2: Sustainable Finance Strategy in Europe



Source: Own illustration

Establishing an EU classification system (taxonomy) for sustainable activities

A precise classification system is needed to exactly define the criteria that have to be fulfilled by sustainable or green investment products. Such a taxonomy should support investor decisions, avoid greenwashing and help to channel capital flows into sustainable investments (Figure 3). The EU Regulation on the Establishment of a Framework to Facilitate Sustainable Investments (Regulation (EU) 2020/852, "Taxonomy Regulation") came into force on 12 July 2020, but many details are established through Delegated Acts.

The Taxonomy Regulation distinguishes six environmental objectives by which economic activities can be classified as sustainable. Firstly, "climate change mitigation" covers activities that contribute to a reduction of greenhouse gas emissions in line with the goals of the Paris Agreement, e.g. through greater use of renewable energies. Secondly, "climate change adaptation" refers to activities that substantially reduce the adverse impacts of current and expected future climate change on people or nature (e.g. reforestation). The other environmental objectives set out in the Taxonomy Regulation concern the sustainable use and protection of water and marine resources, the transition to a circular economy, the prevention of pollution and the protection of biodiversity and ecosystems.

For an economic activity to qualify as sustainable, it needs to make a substantial contribution to at least one of the defined environmental objectives while at the same time doing no significant harm (DNSH) to any of the other objectives (Figure 3). Furthermore, detailed technical screening criteria (defined by Delegated Acts) need to be fulfilled in order to ensure that a measurable positive impact on the respective target is achieved. Finally, minimum

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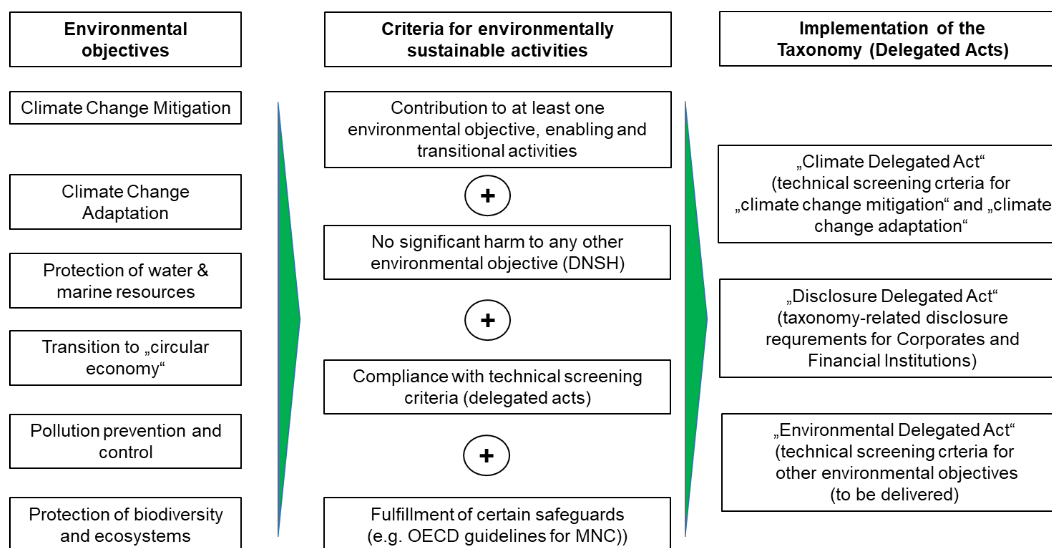
requirements on responsible management (e.g. OECD Guidelines on Multinational Enterprises and the UN Guiding Principles on Business and Human Rights) have to be met by the respective market participants.

According to the taxonomy regulation, three types of economic activity can be classified as sustainable: activities that directly contribute to the defined sustainability goals, “enabling activities” that facilitate the achievement of such goals by providing enabling technologies or services, and “transitional activities” that support the transition to a CO_2-neutral economy as long as technological alternatives are not available. The Taxonomy Regulation applies from 1 January 2022 for the objectives “climate change mitigation” and “climate change adaptation” and for the other environmental objectives from 1 January 2023 onwards.

The first Delegated Act has established the technical screening criteria for activities that substantially contribute to climate change mitigation or climate change adaptation (Brussels, 4.6.2021 C(2021) 2800 final, the “Climate Delegated Act”). It will apply from 1 January 2022 and will cover sectors that are responsible for almost 80% of direct greenhouse gas emissions in Europe. It includes sectors such as energy, forestry, manufacturing, transport and buildings. The Delegated Act on the remaining four environmental objectives (the “Environmental Delegated Act”) is required to be adopted by the Commission by 31 December 2021 and shall apply as of 1 January 2023.

Figure 3: Cornerstones of the Taxonomy



Source: Own illustration

The taxonomy is a pivotal element of the European Sustainable Finance Strategy as it affects the disclosure regulation of both financial institutions and corporates as well as the Green Bond Standard. In light of the granularity and the preciseness of definitions for sustainable activities and the technical criteria to be met, the EU taxonomy is by far the most advanced taxonomy compared to other alternatives in the market (OECD 2020).

The second pillar of a sustainable finance strategy refers to the disclosure requirements of financial institutions and corporates that enable investors to make informed investment decisions and to provide other stakeholders with sustainability-related information. We can already observe that portfolio managers from large asset management firms and investment funds are challenging the boards of listed companies regarding sustainability issues, especially as the demand for ESG investment products has been increasing in recent years. According to a recent survey (Blackrock 2020), many investors are planning to double their sustainable assets under management in the next five years with the “environmental factor” clearly seen

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as the top priority for most investors (88%). However, 53% of participating investors mentioned that the poor quality of ESG data so far is one of the biggest barriers to larger ESG investments. Therefore, a proper regulatory framework for non-financial reporting of both corporates and financial institutions is important in terms of turning the increasing investor appetite into actual investment decisions. Hence the Sustainable Finance Disclosure Regulation (SFDR), the Non-Financial Reporting Directive (NFRD) and the new Corporate Sustainability Reporting Directive (CSRD) are important components of a successful sustainable finance ecosystem.

The Sustainable Finance Disclosure Regulation (SFDR)

The SFDR, which in general applies as of 10 March 2021, imposes mandatory ESG disclosure obligations for asset managers and other financial market participants (Regulation (EU) 2019/2088). The SFDR is a directly applicable regulation extending the already existing disclosure requirements of financial market participants according to relevant sectoral legislation (AIFMD, UCITS, Solvency II, IDD and MiFID II). The SFDR requires asset managers and financial advisors to disclose how they consider sustainability risks in their investment process. Furthermore, they have to disclose principal adverse impacts (PAIs) on sustainability factors that an investment decision or advice might have. The regulation sets forth sustainability disclosure obligations for financial products and financial advisers both on an entity and product level. At the entity level, the SFDR requires firms to disclose information on how an entity integrates sustainability risks in its investment decision-making process or financial advice. At the product level, the SFDR requires firms to disclose further information depending on the objectives of a given financial product. This applies to all the firm's products, whether they are intended to meet sustainability goals or not. For products that promote "environmental" or "social" characteristics, there must be additional information on how these are met, including disclosure on the degree of taxonomy alignment of underlying economic activities ("Article 8" products). For products that have sustainable investment as an objective, there must be an explanation on how the objective is achieved as well as additional disclosure on alignment with the Taxonomy Regulation ("Article 9" products). While the requirements in the SFDR relating to the entity-level disclosure apply from 10 March 2021 on a comply or explain basis, the additional detailed entity and product level disclosures apply from 1 January 2022.

Based on Article 8 of the Taxonomy Regulation, the Disclosures Delegated Act (C(2021) 4987 final) specifies the content, methodology and presentation of information to be disclosed by large financial and non-financial companies on the share of their business, investments or lending activities that are aligned with the EU taxonomy. This applies to certain large institutions that are required to publish non-financial information under the Non-Financial Reporting Directive (NFRD). If the NFRD were to be amended by the proposed Corporate Sustainability Reporting Directive (CSRD), the scope of institutions covered by Article 8 of the Taxonomy Regulation would be expanded. The Taxonomy Regulation specifies the key performance indicators (KPIs) related to turnover, capital expenditures and operational expenditures that non-financial companies have to disclose. The Disclosures Delegated Act provides precise definitions, calculation methods and reporting requirements for each KPI. However, the Taxonomy Regulation does not define similar indicators for financial institutions, as meaningful KPIs depend largely on the underlying business model.

Therefore, the Disclosures Delegated Act sets forth specific sustainability-related KPIs for banks, asset managers, investment firms, insurance and reinsurance firms in order to enable investors and other stakeholders to assess the proportion of taxonomy-aligned economic activities performed by the respective financial institution. Asset managers and investment firms should therefore disclose the proportion of investments they have made in taxonomy-aligned economic activities resulting from both their collective and individual portfolio management activities. The main performance indicator for credit institutions will be the green asset ratio (GAR), which shows the proportion of exposures related to taxonomy-aligned activities compared to the total assets. Furthermore, banks have to disclose the allocation of

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their trading book and the proportion of their fees and commission income derived from taxonomy-aligned activities of their clients. Similar obligations apply to insurance and reinsurance companies, for example to disclose the taxonomy-aligned proportion of their underwriting and investment activities.

Due to the extensive additional reporting requirements, financial and non-financial firms have to implement them gradually. From 1 January 2022 to 31 December 2022 non-financial firms shall only disclose the proportion of taxonomy-aligned economic activities in their total turnover, capital and operational expenditure supplemented by some additional qualitative information relevant to this disclosure. More granular information shall be disclosed from 1 January 2023. In a similar way, financial institutions have to disclose the taxonomy-aligned proportion of their business from 1 January 2022 to 31 December 2023. More detailed disclosure obligations apply from 1 January 2024 or, for some parts, from 1 January 2026.

Non-Financial Reporting Directive (NFRD)

The SFDR and the Taxonomy Regulation, including their Delegated Acts, have to be viewed in conjunction with the already established non-financial reporting requirements. Since 2017 larger capital-market oriented European companies and financial institutions have been obliged to report certain non-financial aspects of their business activities. The Non-Financial Reporting Directive (NFRD, Directive 2014/95/EU) has established rules for the disclosure of non-financial information for certain large companies in order to enhance their transparency on sustainability-related issues. Capital market-oriented companies, banks, insurance companies and other larger non-listed firms with more than 500 employees have to report in particular on matters regarding the environment, employees, respect of human rights and anti-corruption issues. Companies have to disclose the impact of their business activities on such matters and how they work towards achieving non-financial targets in each of these areas. Furthermore, the risks imposed by the company's business on the environment and, vice versa, the risks the company is exposed to, are important reporting areas. Many companies use guidelines provided by the Global Reporting Initiative (GRI) and the recommendations from the UN Global Compact. The Commission has published legally non-binding guidelines to help companies implement the disclosure requirements in a clear, consistent and comparable way both for climate-related information (C(2019) 4490 final) that are broadly in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) (FSB 2017) and for other non-financial aspects (C(2017) 4234 final).

Corporate Sustainability Reporting Directive (CSRD)

There has been criticism that only a small proportion of firms need to comply with the requirements of the NFRD and that the disclosed information is often not relevant or detailed enough for investors to integrate sustainability information into their investment process (e.g. Umweltbundesamt 2021). On 21 April 2021, the Commission adopted a proposal for a Corporate Sustainability Reporting Directive (CSRD) (European Commission 2021e), which will extend the scope of sustainability reporting to all larger companies. Furthermore, it is intended to broaden and deepen the content of sustainability reporting, which will be harmonised and aligned with the requirements set out in the Taxonomy Regulation and the SFDR. The structure, content and format of sustainability reporting will be standardised and more detailed to facilitate comparability and external assessment of sustainability risks. As the reported information will be part of the management report, at least a limited assurance (audit) by a third party will be mandatory. The draft standards will be developed by the European Financial Reporting Advisory Group (EFRAG) based on the work of established initiatives such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Council (IIRC) or the Climate Disclosure

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Standards Board (CDSB). If the legislation is finalised in the first half of 2022, the new set of reporting standards for companies could apply to reports published in 2024, covering financial year 2023.

Standards and labels for green financial products

The aforementioned regulatory initiatives to improve the disclosure of sustainability information pave the way for building the bridge between business activities in the "real economy" and products/services in the financial sector. The development of standards for "green" financial products can support the further development of ESG-oriented financial market segments by helping investors to identify products that comply with low-carbon criteria, for instance. If investor confidence in the credibility of such standards increases over time, barriers to investments and transaction costs could be reduced. In order to credibly fight greenwashing, strict supervision of the asset management industry by the responsible authorities is vital to ensure that green product features and reporting requirements are constantly fulfilled. An important example is the European Green Bond Standard, which is a first step toward a broader spectrum of green financial products (European Commission 2021f). The project to create an EU Ecolabel for Retail Financial Products could especially facilitate sustainable investment decisions for retail investors (European Commission 2021g).

The European Green Bond Standard (EUGBS)

The market for green bonds continues to experience strong growth, especially over the last five years, with an estimated total issue volume of USD 270 bn representing a CAGR of 60% p.a. since 2015 (Climate Bonds Initiatives 2021). In order to avoid greenwashing, several market standards have been established, of which the Green Bonds Principles (GBP) formulated by the International Capital Market Association (ICMA) have so far been widely used in Europe. However, rather than a precise classification scheme, these guidelines provide more of an exemplary list of green activities suitable for financing via green bonds.

Hence the European Green Bond Standard (EUGBS) (COM (2021) 391 final)) is supposed to create a voluntary European high-quality standard available to all issuers (private and sovereign within or outside the EU) to help finance sustainable investments. To overcome the weaknesses of existing market labels, bonds qualified as "green" according to the European standard have to fulfil inter alia the following criteria: The funds raised by the bond have to be fully allocated to economic activities that are sustainable according to the Taxonomy Regulation. In addition, the use of the funds has to be reported annually by the issuer in a European Green Bond Allocation Report. Compliance with the standards has to be monitored by external reviewers that are registered and supervised by the European Securities and Markets Authority (ESMA). External reviewers shall publish "pre-issuance reviews" and "post-issuance reviews" of the use of proceeds. Furthermore, a European Green Bond Impact Report on the positive and potentially negative environmental effects of the activities has to be prepared at least once during the maturity of the bond. These strict criteria are designed to foster market integrity by avoiding greenwashing, enhancing investor confidence and issuer transparency.

EU Low Carbon Benchmark Regulation

Benchmarks perform an important role in financial markets, as they serve as a reference point for pricing financial instruments and transactions, e.g. in credit markets, equity and debt capital markets and derivative markets in various asset classes. Benchmarks are also used to measure the performance of financial instruments and determine the financial obligations arising from financial contracts. Therefore, a high level of transparency and quality regarding the underlying methodologies and data are crucial for benchmarks to function efficiently. In the EU the Benchmarks Regulation that has been applicable since 1 January 2018 (Regulation (EU) 2016/1011) provides the regulatory framework for benchmark administrators.

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The regulation requires the publication of benchmark statements to help users understand the benchmark's field of application and calculation method as well as the reliability of input data and its susceptibility to manipulation. Furthermore, appropriate governance and control processes need to be implemented to avoid conflicts of interest and to ensure the protection of consumers and investors. As many institutional and retail investors invest in benchmark portfolios, it is important to establish regulated sustainable investment benchmarks to attract further capital flows to green investments.

On 27 November 2019, the Benchmarks Regulation was amended to introduce EU Climate Transition Benchmarks (EU CTB), EU Paris-aligned Benchmarks (EU PAB) and sustainability-related disclosures for benchmarks (Regulation (EU) 2019/2089), which entered into force on 10 December 2019. The Delegated Regulations ((EU) 2020/1816 and (EU) 2020/1817) for ESG disclosure came into effect on 23 December 2020. The introduction of such benchmarks is supposed to facilitate investments into diversified ESG portfolios with assets from issuers committed to a pathway of decarbonisation by enhancing transparency and comparability.

An "EU Climate Transition Benchmark" is a benchmark where the underlying assets are selected, weighted or excluded in such a manner that the resulting benchmark portfolio is on a decarbonisation trajectory. An "EU Paris-aligned Benchmark" denotes a benchmark portfolio whose carbon emissions are aligned with the objectives of the Paris Agreement without doing significant harm to other ESG objectives. To that end, a "decarbonisation trajectory" means a measurable, science-based and time-bound trajectory towards alignment with the objectives of the Paris Agreement. It should be noted that decarbonisation entails carbon emissions directly generated from the respective entity (scope1), emissions from the consumption of purchased electricity, steam, or other sources of energy (scope 2) and all indirect emissions that occur along the value chain of the reporting company (scope 3)

Administrators of such low carbon benchmarks have to disclose the calculation method of the respective benchmark as well as the methodology for selecting, weighting and excluding the underlying assets. Moreover, it must be disclosed how the carbon emissions of the underlying assets were measured, their respective values, the total carbon footprint of the benchmark and the type and source of the data used. Administrators of ESG benchmarks have to provide in their benchmark statements detailed information about whether and how ESG factors are reflected in each benchmark. In addition, the Delegated Regulations prescribe the use of specific disclosure templates to ensure standardised formats and facilitate comparability for investors. Included is a forward-looking, year-on-year decarbonisation trajectory and the degree to which the IPCC decarbonisation trajectory (1.5°C with no or limited overshoot) has been achieved on average per year since creation.

Amendments to financial market regulations

On 21 April 2021 (the "April package") several amendments to financial market regulations were adopted in order to ensure that client preferences for sustainable investment products are discussed by investment advisors, to clarify the obligations of financial firms when assessing sustainability risks of investments and the need to consider sustainability factors when designing financial products. These measures are expected to help prevent greenwashing of financial products. Therefore, important financial market regulations have been amended, such as the UCITS Directive, the Alternative Investment Management Directive (AIMD), the Insurance Distribution Directive (IDD), Solvency II and the MiFID II. These changes are expected to come into force by October 2022 (European Commission 2021d).

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6. Additional instruments

The EU's Sustainable Finance Strategy has significantly improved the regulatory framework for ESG financial products by establishing a precise taxonomy, enhancing transparency for both corporates and financial institutions and amending financial market regulations. However, in light of the apparent necessity to accelerate the implementation of the European Green Deal, additional financial incentives to foster green investments should be discussed (Figure 2). One aspect could be the establishment of tax incentives for green investments in the corporate sector. These could be provided by, for example, allowing accelerated depreciation schedules for green capital expenditures in the industrial sector.

Another component in efforts to align business activities more effectively with climate protection targets could be to require that the remuneration of top management is linked to concrete reduction targets for GHG emissions. Although ESG criteria already play a role in the remuneration of board members at a number of larger, predominantly publicly listed, companies, target-setting is often very vague, only of qualitative nature and of minor overall importance compared to KPIs measuring the financial performance of a company. Therefore, a rebalancing of the relative importance of financial and non-financial (ESG) targets should be considered, with the latter having a clear focus on environmental objectives. One possibility could be to use the technical screening criteria of the taxonomy to clearly define targets and corresponding metrics to measure the environmental performance of the management.

A highly controversial element concerns the introduction of a "green supporting factor" into banking regulation so that banks have to commit relatively less capital when granting green loans. Promoters of such an initiative hope that bank lending would contribute more than before to accelerating the transition to a climate-neutral economy. Consequently, green loans would be treated as less risky than other more carbon-intensive "brown" loans, which could ultimately lead to reduced financing costs for green investments. However, such a green supporting factor would essentially imply a departure from the fundamentally risk-based regulation of capital requirements for banks and other financial institutions that was established in the aftermath of the financial crisis. Over the last ten years various regulatory initiatives have contributed to a much more robust and resilient financial sector, and this progress should not be put at stake. Nevertheless, it would be beneficial to learn more about the impact of climate risk on the default risk of companies from different sectors and geographies and how to integrate climate risk into current models that measure credit, market and operational risks. So far there is no empirical evidence that green exposures are less risky than others. In addition, it is questionable whether such a supporting factor would have a substantial impact on banks' lending decisions (Dankert et al 2018).

The idea of a "green branding" could be applied not only to bonds but also other financial products such as stocks, loans or asset-backed securities. Finally, the integration of ESG factors into the architecture of major stock-market benchmarks should also be considered (Bruehl 2020).

Frankfurt am Main, 28 September 2021

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