



**PLATFORM ON
SUSTAINABLE FINANCE**

**Monitoring Capital Flows
to Sustainable Investments:**

Intermediate report

April 2024

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The inclusion of KPIs in this report cannot be construed as their endorsement or validation, particularly for the purpose of assessing Taxonomy-alignment of exposures or use of proceeds by the PSF, the ESAs, nor the European Commission.

Abbreviations

CapEx	Capital Expenditure
CSRD	Corporate Sustainability Reporting Directive
CSDDD	Corporate Sustainability Due Diligence Directive
EBA	European Banking Authority
ECB	European Central Bank
ESAP	European Single Access Point
ESG	Environmental, Social & Governance
ESMA	European Securities & Markets Authority
ESRS	European Sustainability Reporting Standard
EU GBS	European Green Bond Standard
EUA	European Union Allowances (emissions)
GHG	Greenhouse Gases
ICMA	The International Capital Market Association
IEA	International Energy Agency
IPO	Initial Public Offering
KPI	Key Performance Indicator
NFRD	Non-Financial Reporting Directive
NZAOA	Net Zero Asset Owner Alliance
NZBA	Net Zero Banking Alliance
PAI	Principal Adverse Impact
SBTi	Science-based Targets Initiative
SFDR	Sustainable Finance Disclosure Regulation
SLB	Sustainability Linked Bond
SLL	Sustainability Linked Loan

Definitions

Capital flows	Movement of money for the purpose of investment, trade or business operations.
Capital stock	Historic accumulation of net capital flows.
Companies, Enterprises, Corporates	Non-financial undertakings.
Entities	A financial or non-financial undertaking.
Environmentally Sustainable Bond (Green bond)	<p>Regulatory definition: Bond marketed as <i>environmentally sustainable</i> means a bond whose issuer provides investors with a commitment or any form of pre-contractual claim that the bond proceeds are allocated to economic activities that contribute to an environmental objective as per Art. 2 of the EU GBS regulation (OJ, 2023a).</p> <p>Market definition: Bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects (ICMA, 2022). The greenness of the bond is self-defined.</p>
Green loan	The regulatory definition of green loans is in the making. Loan instruments and/or contingent facilities (such as bonding lines, guarantee lines or letters of credit) made available exclusively to finance, re-finance or guarantee, in whole or in part, new and/or existing (allegedly) eligible Green Projects (Loan Market Association). <i>See further discussion on regulatory developments in Financial Markets chapter.</i>
Gross flows	Total capital flows in a sense of direction within a defined time period.
Net flows	Total capital flows in one sense of direction netted against flows in the opposite direction within a defined time period.
Primary markets	The issuance of a new financial instrument.
Public sector entities (& expenditure)	Public bodies that are not registered companies (and expenditure of such undertakings).
Sustainability-linked bond	Sustainability-linked bond refer to a bond whose financial or structural characteristics vary depending on the achievement by the issuer of predefined environmental sustainability objectives as per Art. 2 of the EU GBS regulation (OJ, 2023a).

Sustainable finance	Finance to support economic growth while reducing pressures on the environment to help reach the climate- and environmental objectives of the European Green Deal, taking into account social and governance aspects.
Sustainable investment	Sustainable investments as per Art. 2 (17) of the SFDR (OJ, 2019). Sustainability-related disclosure in the financial services sector.
Environmentally sustainable investment	Investment in one or several economic activities that qualify as environmentally sustainable under the EU Regulation (OJ, 2020).
Secondary markets	The trade of financial products after first issuance.
Transition	Transition from current climate and environmental performance levels towards a climate-neutral, climate-resilient and environmentally sustainable economy, in a time frame compatible with EU's climate and other environmental objectives, in line with the Paris Agreement as per Art. 2.2 of the European Commission's June Recommendation (OJ, 2023b).
Transition finance	Financing of investments compatible with and contributing to the transition that avoids lock-ins as per Art. 2.2 of the European Commission's June Recommendation (OJ, 2023b). Transition finance differs from general finance and green finance.

Sources: All regulatory references listed above are reported in the Reference list, Introduction section.

Note: Definitions are as far as possible based on regulations. Beyond the scope of regulatory definitions, market practice terminology is referenced. As the regulatory frameworks on sustainable finance evolve, reliance by the methodology on regulatory definitions and standards is expected to increase.

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Executive summary

In light of the European Union climate and environmental targets, such as reducing greenhouse gas emissions by 55% by 2030, as well as open strategic autonomy objectives, **the EU needs to scale up its investments by at least two-thirds by 2030**, relative to average levels mobilised during the last decade. **The lion's share of financing is expected to come from private financial markets.** The sustainable finance regulatory framework aims to facilitate the flow of capital into sustainable investments. While it may take some years to gauge its full impact, now is the right time to establish a monitoring framework, take stock of ongoing market reorientations and inform policy making. **A methodological framework to monitor the flow of private capital to fill the investment gap is needed.**

The methodology proposed in this report mainly rests on capital flows. Two types of flows are considered. First, **capital expenditures in real economy entities**, which shed light on progress towards filling the investment gap. Second, **flows in and from financial markets**, as this represents an important source of capital in support of real economy investments. **Regulatory definitions and disclosures are default data sources where available. They are complemented by market definitions and data until the regulatory frameworks are fully developed.** In its first iteration, the methodology encompasses EU-based entities chiefly reporting under the CSRD. Public expenditure is excluded. **Finance and investment flows are analysed in relation to companies in transition.** ESRS indicators will be used to identify such companies.

Financial sector flows will in a first instance focus on loans; bonds; equity; and investment funds. On the one hand, instruments claiming certain sustainability features will be measured, such as green bonds as well as funds disclosing their sustainable investments under the SFDR. On the other, general-purpose financing (bonds and equity) will be characterised based on activities of the underlying entity. Loans are analysed using aggregate data from banks. For the transition of banks, the Green Asset Ratio and ESG Pillar 3 data will be used on inter alia financed emissions and targets.

As regulatory-demanded reporting expands to encompass more entities and financial instruments, the Platform aims to refine its methodology over time. Progress in data collection and other areas will also facilitate extending the methodology, for example to cover some public sector funding and capital flows from beyond the EU.

The [Platform](#) will release a final report at the end of its mandate which will include methodological refinements, an analysis of preliminary data and a proposal for operationalising the periodical monitoring.

PREAMBLE

The European Green Deal sets the blueprint for the deep economic transformation needed in response to the climate emergency and global environmental degradation. Against this backdrop, the European Union has made a number of ambitious commitments, including a minimum 55% reduction of its greenhouse gas emissions by 2030 compared to 1990 levels. A 90% emission cut by 2040 is under consideration. The bloc has affirmed its goal to restore nature and enable a thriving biodiversity. The bloc has also initiated a green industrial revolution.

To achieve the objectives of the EU Green Deal requires investments in new technologies and business models. Overall, the European Union will need to scale up its investments by two-thirds (about EUR 620 billion more each year until 2030), relative to average levels over the 2011-2020 period, to pave the way for climate neutrality and a resilient economy by 2050 with the bulk of funding to be mobilised by private entities. However, when assessing the overall investment needs, albeit significant, they should be compared with the cost of inaction which is of much greater magnitude.

The EU developed its Sustainable Finance Action Plan to steer the reallocation of capital and enable private investments towards green technologies and business models. A framework of disclosures and tools has been established to assist investors in better identifying and assessing projects that can make a positive environmental impact. Several aspects of the EU's sustainable finance framework have been in operation for several years, with regular upgrades from the European Commission.

It is time to begin monitoring the extent to which capital flows are actually being redirected towards sustainable investments, and then assessing overall progress towards the objectives of the European Green Deal. Developing a methodological framework is the first step. The methodological work presented in this report is an important step to understand and compare capital flows with the existing Commission estimations regarding the contribution of private financing needed to close the Green Deal investment gap. In other words, this work should provide insights as to whether 1) sustainable finance policy has been sufficiently mainstreamed in financing and investment strategies of financial firms 2) the necessary investments to transform the EU economy are happening in the real economy 3) relevant entities have access to finance for sustainable investments. The work should also inform the work of the Platform in data quality and availability.

More broadly, and in the absence of an established international framework for the monitoring of capital flows into sustainable investments, this work should also contribute to fostering international cooperation in developing minimum standards for monitoring sustainable finance and transitioning finance towards sustainable societies.

There are limitations on what this endeavour aims to achieve. The methodological work will not go as far as measuring the overall alignment of the European financial system with the Green Deal goals. This work primarily focuses on monitoring capital flows into sustainable investments, defined here as being 'green' flows or those flows relating to transition finance. The scope of analysis could be broadened in future iterations of the monitoring methodology, pending upgrades in disclosures and reporting. Wider considerations could include e.g., so-called 'brown flows', the destination of public provisions and flows dedicated to specific environmental objectives.

INTRODUCTION

The EU Action Plan on Financing Sustainable Growth¹ and the strategy to finance the transition to a sustainable economy² revolve around three objectives – Transparency, Risk Management and supporting Capital Reallocation – to mobilise investments necessary to the EU Green Deal implementation.

The Taxonomy Regulation³ establishes the basis for the work on monitoring capital flows into sustainable investments by the Platform on Sustainable Finance (hereafter the Platform), where Article 20(2), (e) provides the Platform with a direct mandate to “monitor and regularly report to the Commission on trends at Union and Member State level regarding capital flows into sustainable investment”. This mandate is further specified and placed in a broader strategic context in Action 5(b) of the Commission’s Sustainable Finance Strategy of July 2021,⁴ where the Commission has made a commitment related to monitoring of an orderly transition of the EU financial system and as part of this work, in collaboration with the Platform, to develop a robust monitoring framework and a set of indicators that will allow an assessment of the alignment of capital flows in the EU’s financial sector with the Union’s net zero targets.

The Platform has been tasked with developing a methodology to monitor financial flows into sustainable investments, examining trends, particularly between financial and non-financial entities, and conducting and publishing a first analysis based on this methodology and available data.

The purpose of this intermediate report is to propose an architecture to measure the effective contribution of finance towards the objectives of the European Green Deal.⁵ The systematic stocktake will allow the fleshing out of the early practices documented in the Platform’s [Compendium of Market Practices](#) that market participants are employing to transition their business models and investments to a net zero and more resilient model.

¹ European Commission (2018).

² European Commission (2021).

³ OJ (2020).

⁴ European Commission (2021).

⁵ It is worth noting, however, that multiple barriers to investments exist beyond the sole availability (or lack thereof) of adequate financing options. Chief among them is the availability of staff with the right skills. High energy costs impeding the competitiveness of European firms, too complex a regulatory environment and uncertainty regarding the future are among other key hurdles (EIB, 2023).

The comprehensive monitoring framework relies on a rigorous methodology, a data structure, and the mapping of data sources and gaps. The proposed framework integrates a bottom-up representation of the real economy based on entity- and activity-level data, along with financial sector instruments available from primary and secondary markets. Additionally, it considers transition plans for both financial and non-financial undertakings.

The methodology is primarily based on EU sustainable finance regulatory data and definitions, with market standards and definitions complementing the analysis where appropriate. Financing flows to, and investments by, EU economic actors make up the scope for the real economy. CapEx data forms the core of the methodology as the key metric that captures corporate investments made that can contribute to the EU environmental objectives. Financial market flows originating from outside the EU are included; however, for entity-level indicators only EU financial institutions are in scope. Public expenditure is outside the mandate's scope, as is the monitoring of flows inconsistent with the Green Deal objectives.

The initial flexibility inherent in the framework will be refined as regulatory requirements transform into increased data availability and improved quality, coupled with standardisation of the underlying concepts. Once implemented, the monitoring of capital flows will provide an overview of the sustainable investment landscape in the European Union and enable measuring progress towards narrowing the investment gap. In future iterations, the methodology could be further developed to reflect the social objectives of the green deal and EU commitments to a just transition under the Paris Agreement which are not yet integrated.

The report is composed of three chapters. The first chapter outlines the conceptual framework underpinning the methodology, whereas the subsequent two are devoted to the real economy and the financial sector respectively.

An analysis of the Green Deal investment gap is laid out in Annex 1 and will serve as a reference for the implementation of the proposed framework.

CONCEPTUAL FRAMEWORK

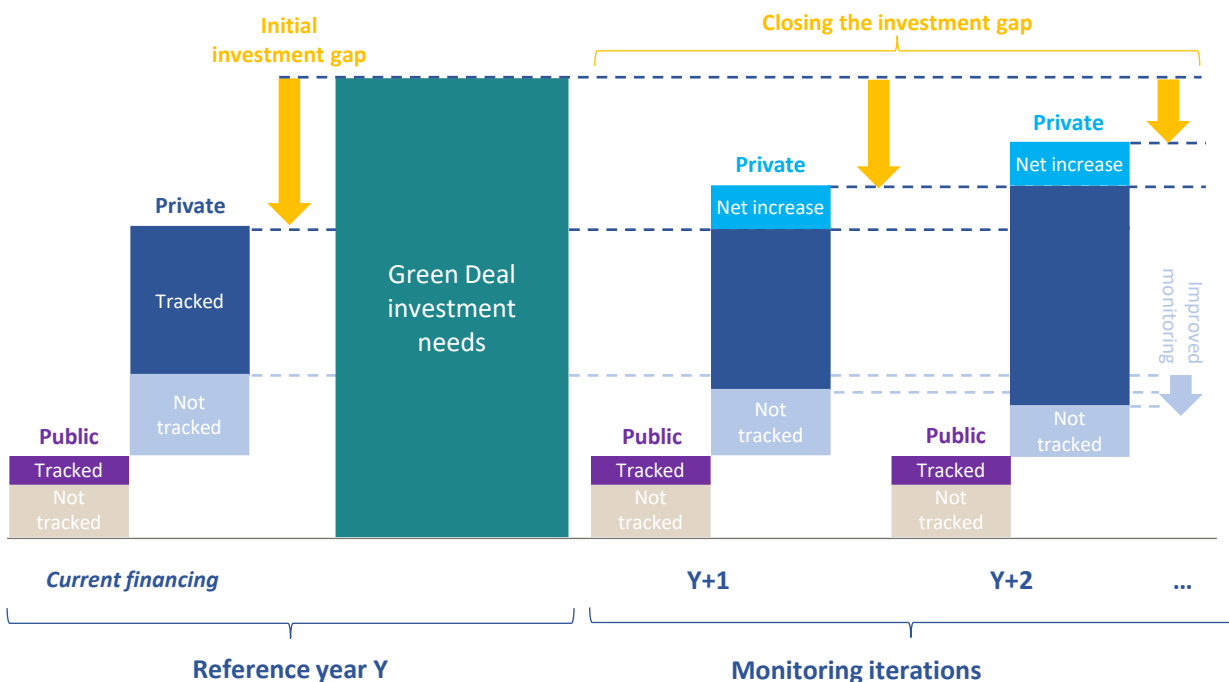
Introduction

This chapter introduces the principles and approaches that underpin the proposed framework to monitor capital flows and fill the investment gap towards EU Green Deal objectives.

The methodology aims at measuring investments into sectors and technologies where progress in capital flows can be measured and analysed against the investment gap. It should be noted that some parts of the economy are better suited for this than others, due to for example corporate reporting, and this is where initial findings will focus. The schematic representation in

Figure 1. illustrates how the monitoring framework aims at capturing the dynamics of private capital flows towards the objectives of the EU Green Deal. Only a portion of private investments will be tracked, offering a good representation of capital flows for a selection of sectors. Chief among them are sectors conducting Taxonomy-eligible activities. Some private spending, such as households' purchase of electric cars, is included in estimated Green Deal investment needs. The first monitoring iteration, however, will not fully capture this spending as only the car loans provided by banks (reported via the Green Asset Ratio) are included in the model, not the total household expenditures on those purchases. Nonetheless, the ramp-up in investments from car manufacturers to increase their production capacities and address this and other dynamic market segments will be included. The same approach is applied to household renovation measures and acquisitions of green homes.

Figure 1. Measuring private sector contributions against overall investment needs



Note: Public investment levels are held constant for illustrative purposes only.

Overall key design Principles

Capital flows in focus

The conceptual framework provides an approach to monitor how capital flows are being allocated to investments supporting the objectives of the Green Deal. This primarily refers to investments in environmentally sustainable economic activities or activities which contribute significantly to the Green Deal objectives. Investments supporting the development of EU's strategic autonomy are also included in the framework. These include investments related to strategic technologies and commodities identified in the Net Zero Industry Act and the Critical Raw Materials Act regulatory packages, which are not necessarily part of the Taxonomy itself.⁶ In addition, the methodology considers capital flows relating to entities in transition (see page 30).

Whenever regulatory data is unavailable, non-regulatory data will be used instead. As a result, the methodology may not always capture whether investments contributing to Green Deal objectives also fulfil *do-no-significant-harm* and *minimum safeguards* criteria. Furthermore, always environmentally harmful activities, and negative social impacts are beyond the scope of this initial report. These however represent possible avenues for future methodological developments to reflect the existing environmental and social objectives of the Green Deal more thoroughly.

Since the conceptual framework's main objective is to measure overall capital flows towards the objectives of the EU Green Deal, the methodology will encapsulate both regulatory data and other market data until the sustainable finance regulatory framework's implementation is fully completed. This implies the use of both regulatory definitions and market standards throughout this document.

Capital flows refer to the movement of money for the purpose of investment, trade or business operations. Inside a firm, these include the flow of funds in the form of investment capital, capital spending on operations, and research and development (R&D). Capital flows occur at nearly every level of society, from individuals to firms to national governments.

⁶ The European Union has placed sustainability at the heart of its open strategic autonomy objective (European Commission, 2023a, b&c). Demertzis *et al.* (2024) also argue in favour of support towards critical industries to enhance economic security and resilience. The aspiration to develop the manufacturing capacity of EU producers of net-zero technologies and the reduction of EU's dependence on imported critical raw materials fall in this category. According to the Net Zero Industry Act, 40% of EU's domestic needs in terms of clean technologies should be produced domestically. This may entail specific investments, including the skills enhancement of existing EU workforce and the development and diversification of EU's supply chains, beyond activities related to production capacities of clean technologies or close-to-market research and innovation that are already included in the Taxonomy.

This framework will focus on two main areas of capital flows:

First, the investments that happen in the real economy by public and private entities to support the environmental objectives of the Green Deal. Examples could be wastewater treatment plants to improve water quality, green hydrogen production facilities for climate mitigation or investments supporting material reuse and recycling to support the development of a circular economy.

Second, the financing provided by the financial sector through different asset classes such as debt through bonds and loans, as well as public and private equity.

Currently the framework focuses on all sources of capital except capital directly stemming from public expenditure. Approaches for blended finance are still being examined with the purpose of including as much as possible at a later stage.⁷

Stock vs flows

The conceptual framework will be monitoring a combination of stocks and flows as well as net and gross capital flows based on the most appropriate level of analysis as well as data availability. All components of the framework cannot be analysed together due to conceptual or methodological reasons. Analysing capital flows and stocks together involves considering both the dynamic aspects of financial movements (flows) and the static or accumulated aspects (stocks). These two elements serve different purposes and are often analysed separately for clarity and precision in understanding different aspects of an economic system.

Capital stock is the total amount of capital goods such as plant, offices, machinery and equipment available to an entity at a single point in time to produce goods and services. For financial institutions capital stock indicates what their balance sheet is financing. The Green Asset Ratio⁸, further described in the *Financial Markets* chapter, is an example of a stock-based measurement for financial institutions. Capital stock is useful to understand the point in time progress of the accumulated assets in the economy towards, for instance, an environmental investment gap. However, the development in capital stock is slow due to the large existing asset base.

Capital flows describe the capital flowing to an entity or to an investment during a defined period of time. Flows provide a better picture of new investments and consequently the sense of direction for

⁷ According to the [OECD Blended Finance Principles](#), blended finance is the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries. An example is a credit guarantee by a development institution of a private sector loan.

⁸ The Green Asset Ratio under the EU Taxonomy Delegated Disclosures Delegated Act is a KPI capturing the proportion of a credit institution's assets that finance and are invested in EU Taxonomy-aligned economic activities as a proportion of the total covered asset.

the capital stock as a whole. It is a helpful metric to monitor the impact of recent developments, such as policies or new trends.

Capital flows can be divided into gross and net capital flows. Gross capital flows refer to total in- or outflows for a certain indicator, while net flows are the residual when both in- and outflows are netted. Examples of gross and net capital flows are respectively the amount of green bonds issued during one year and the net in/outflows to/from an investment fund during one year.

For the real economy, the main principle is to focus on gross capital flows to understand year on year changes to relevant activities and technologies. For the financial sector, a pragmatic approach is taken depending on the nature of the instrument and the availability of data. For primary market instruments, a gross flow perspective is preferred as it provides the best indication of new capital to the real economy (with the caveat that refinancing complicates this analysis). For the secondary market, the framework mainly relies on net flows and stock indicators to avoid double-counting.

Detailed description of applications of stocks and flows are defined in each sub chapter.

The role of regulations and labels

The primary objective behind the establishment of this framework is to offer a more comprehensive insight into the dynamics of capital flows that facilitate the transition towards an environmentally sustainable economy. This initiative closely aligns with the overarching goals outlined in the EU Green Deal.

As its main focus, the framework will develop measurements of capital flows based on EU regulatory definitions summarised in Box 1. This approach is aimed at improving comparability and facilitating the assessment of EU Sustainable Finance policy initiatives. As a secondary priority, the framework will incorporate established market standards utilised in the EU.⁹ With the implementation of additional regulations, there will be a growing reliance on regulatory data within the framework.

Public sector

Public sector investments have an important role to play in the transition. Where these report under the CSRD, the investments by such entities will be captured by the framework. Where this is not the case however, these entities will not be accounted for in the first iteration of the methodology. The framework may consider the inclusion of further public entities in subsequent stages. Public expenditure is excluded from the framework for the time being.

⁹ e.g., the International Capital Markets Association's standards for Green Bonds, the Loan Market Association's standard for green loans.

Box 1. Policy framework on sustainable finance underpinning the monitoring

- **EU Taxonomy regulation:** Article 8 requires large and listed financial and non-financial undertakings to disclose how and to what extent their activities qualify as environmentally sustainable while meeting minimum safeguards. Non-financial undertakings within the scope of the Accounting Directive (as amended by the CSRD) started disclosing Taxonomy alignment data in 2023. The respective reporting for financial institutions is implemented with one year's delay. In addition, manufacturers of financial products disclosing under SFDR Article 8 and Article 9 started reporting Taxonomy-related information for such products in 2023.
- **Corporate Sustainability Reporting Directive (CSRD)** will expand the scope of application of the NFRD to a broader set of large companies as well as listed SMEs and introduces new European Sustainability Reporting Standards (ESRS). Companies in scope will have to publish detailed, audited information on environmental, social and governance issues. There will be phased-in reporting, starting with large, listed companies from 2025, followed by large non-listed companies and listed SMEs. Among the sustainability reporting, undertakings will have to disclose their transition plan or report the non-existence of a transition plan.
- **Corporate Sustainability Due Diligence Directive (CSDDD)**, as currently proposed, will set obligations for large companies regarding actual and potential adverse impacts on human rights and the environment, with respect to their own operations, those of their subsidiaries, and those carried out by their business partners. The proposal requires very large companies (more than 1000 employees and EUR 450 million turnover), including regulated financial undertakings, to adopt a Paris-aligned climate transition plan that includes emission reduction objectives if climate change is a principal risk for, or a principal impact of, that company's operations.
- **Capital Requirements Regulation (CRR)** the EBA has developed Pillar 3 ESG disclosure templates to create uniform formats for the information to be disclosed as per CRR Article 449a. The Pillar 3 implementing standards on ESG were adopted by the Commission Implementing Regulation (OJ, 2022). They apply to large and listed credit institutions and include qualitative information on ESG, as well as quantitative information on climate related aspects (including inter alia the GAR and Taxonomy alignment of exposures towards counterparties not in the scope of NFRD, net zero alignment, exposures subject to physical risk). First disclosures in 2023 (end-December 2022 reference date) onwards. Later phase-in for some indicators (e.g., financed emissions, BTAR).
- **EU Green Bond Regulation (EUGB)** sets out minimum requirements for a voluntary European Green Bond label, also known as the EU Green Bond Standard (EU GBS). EU GBS issuers will face specific disclosure requirements in their prospectuses, while external reviewers will have to publish on their website pre- and post-issuance review reports, allocation reports and an impact report.
- **Sustainable Finance Disclosure Regulation (SFDR)** applies to financial market participants and credit institutions that provide portfolio management and investment advice services. Financial products promoting environmental or social characteristics (Article 8 products) and those with a sustainable investment objective (Article 9 products) must disclose information on the share of Taxonomy-aligned investments (and of environmental and social objectives beyond the EU Taxonomy) developed by the ESAs under SFDR Article 10 and 11.
- **European Single Access Point (ESAP)** will create a unique data source which will allow for the automated, centralised access to all ESG disclosures in machine-readable format. Until the ESAP is established, centralised access to ESG disclosures will have to rely on third-party data providers. The ESAP platform is expected to become available from mid-2027.

Geographical scope

Since the focus of the framework is on capital flows derived from regulatory data, the focus will be on financing flows to, and investments by, EU economic actors.¹⁰ This includes measuring investments inside and outside of the EU by companies domiciled in the EU. The same applies for financial institutions domiciled in the EU and providing finance and investments both inside and outside the EU. Investments by non-EU companies outside of the EU may play an important role in the value chains of EU companies but are excluded from the framework. Tracking might be disaggregated at EU country-level, wherever possible, to follow differences across Member States.

Schematic representation of the conceptual framework

A schematic overview of the methodology is provided in Figure 2. The diagram combines the various elements measured in the real economy, financial sector, and transition chapters respectively, their channels of interaction, as well as their relation to Green Deal objectives underpinning the investment gap analysis.¹¹

- The real economy lies at the centre of the proposed framework and is depicted with the following components:
 - Taxonomy aligned capital expenditures (CapEx).
 - CapEx contributing to environmental objectives, not examined or included in the Taxonomy.
 - An assessment of entities in transition.
 - CapEx by entities in transition.
- Financial sector entities and instruments are analysed through the following lens:

Primary market

- General purpose financing (bonds and equity) will be characterised based on green CapEx of the real economy entity.
- Use of proceeds financing (bonds) will be measured based on the labelling of the financing.
- Loans will be measured based on banks' own green criteria as well as the Green Asset Ratio.

Secondary market

- Secondary market instrument analysis will rely on disclosures and labels to assess market appetite for assets (funds) with sustainability features.

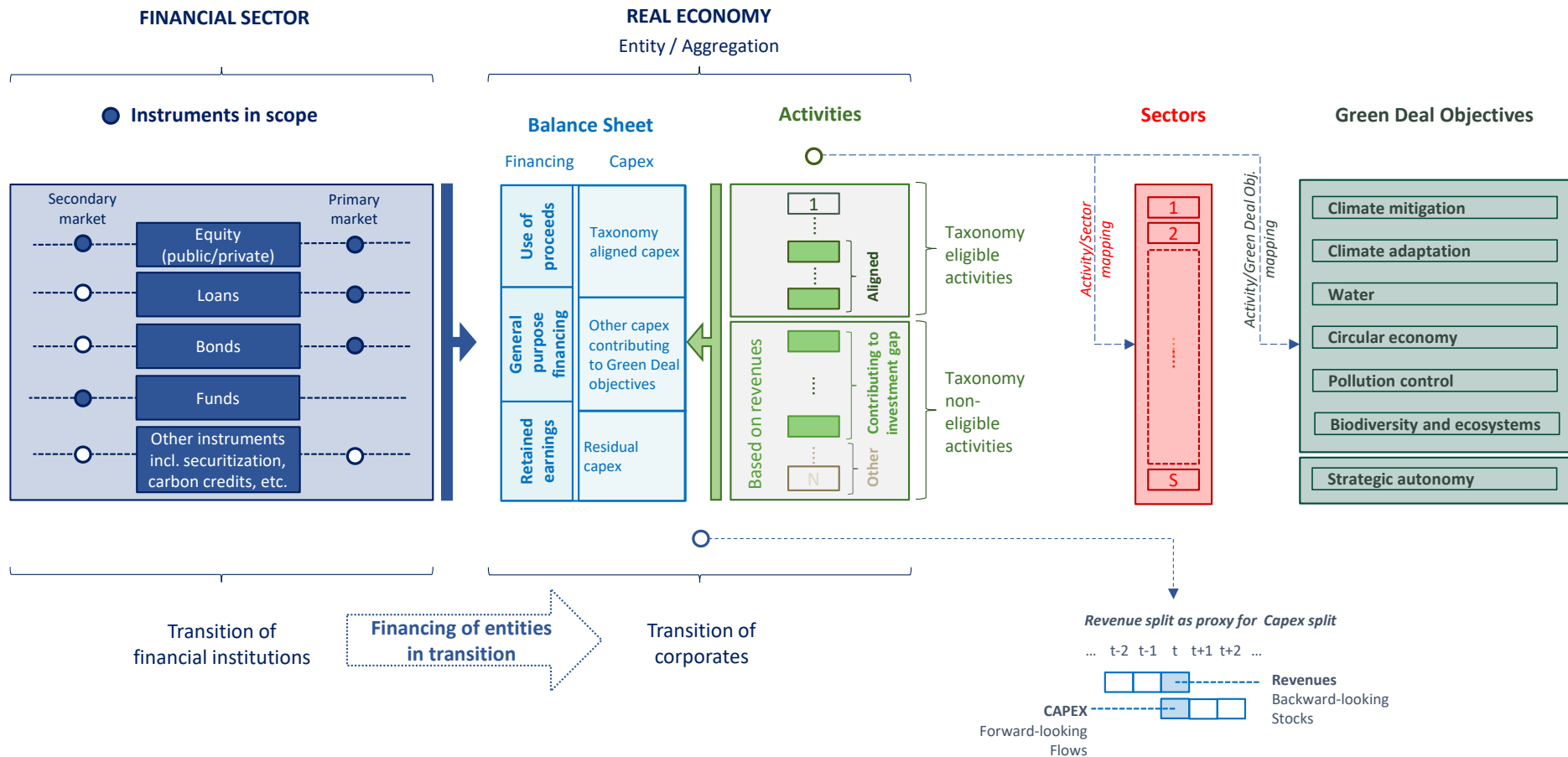
Transition

- Financing instruments of corporates in transition.
- Transition of financial institutions.

¹⁰ In line with article 20 of the Taxonomy Regulation and consistent with mandate of the Platform on Sustainable Finance.

¹¹ The capital flows at each building block of the conceptual framework cannot be added up as they reflect the same flow at different stages of the investment process.

Figure 2. Schematic representation of the conceptual framework



Out of scope concepts and data in the first iteration of the framework

Below are the most important concepts and data that are not captured by the proposed framework. Many of them are areas for further methodological development as the framework develops.

Share of finance used for CapEx

As confirmed by a survey of literature and other expert elicitation, reconciling capital flows on primary financial markets and the details of liabilities in corporate balance sheets may be beyond reach, at least in the first iteration of capital flows monitoring (See for instance Jachnik *et al.*, 2019). Three pilot studies were conducted by Noels and Jachnik (2022) in the context of the UK, Latvia and Norway in 2020 – 2021 to illustrate applications of the EU taxonomy criteria (along with other reference points such as scenarios) to real economy investments at national level. The studies highlighted the methodological difficulties and the inherent resource intensity required to link underlying sources to financial markets. Based on these illustrations, extending this type of analysis to broader and more diverse jurisdictions (e.g., at the EU level) seems particularly challenging. Methodological attempts will be made for the final report though.

Impact

The proposed framework can be seen as an accounting framework. It focuses on measuring capital flows, through financing or investments. However, this first framework does not aim at measuring impact in terms of GHG reductions or the like.

Causality and correlation

The framework aims to provide insights on the direction of capital flows. It will not provide explanations as to the magnitude of such capital flows, such as causalities or correlations with various potentially explaining factors. However, the framework will provide important areas for further research.

Non NFRD/CSRD reporting entities

Public sector entities that are not in scope of the CSRD will not be captured in the framework (see further discussion above).

Household expenditures are only captured in the framework when financed by a bank and reported in the credit institution's GAR. There is currently no reliable and consistent EU data available to measure overall household expenditures in sustainable goods and services, such as electric vehicles, energy efficiency renovations, or rooftop solar panels.

REAL ECONOMY

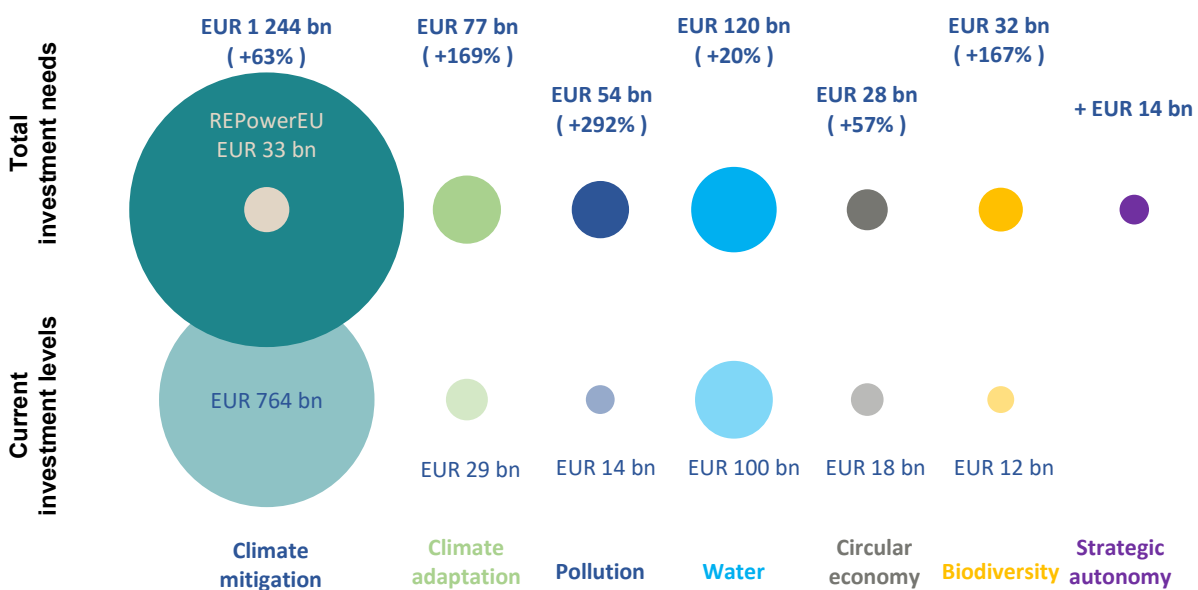
Introduction

This chapter introduces the conceptual framework proposed to characterise and measure capital flows into investments in activities, products, technologies, and sectors that contribute to the environmental and strategic autonomy objectives of the EU Green Deal.

The investment gap to reach all Green Deal objectives is significant. Current investment levels are in the order of EUR 940 billion, with more than 80% for climate change mitigation alone (Figure 3). Total investment needs to meet the Green Deal environmental objectives lie around EUR 1.6 trillion per annum until 2030 (or 40% of total investments in the EU in 2022). Hence an investment gap of about EUR 620 billion, including EUR 480 billion for climate change mitigation, on top of which EUR 14 billion per annum on average until 2030 are needed to enhance domestic production capacities of selected net zero technologies. The Green Deal investment gap is detailed in Annex 1. The corporate sector, at the heart of the monitoring framework, is expected to deliver at least three quarters of overall investments. These amounts should still be considered as lower bounds as vast uncertainties remain around the means to achieve the various objectives and their related costs. However, overall investment needs, albeit significant, should be compared with the cost of inaction of much greater magnitude, with losses up to 18% of global GDP by 2100 in a hot house world (NGFS, 2022).

Figure 3. Current investment levels vs total investment needs to meet Green Deal objectives to 2030 (annual averages)

Total investment gap \approx EUR 620 billion per annum until 2030 to meet Green Deal environmental objectives and EUR 14 billion per annum until 2030 for EU strategic autonomy



Sources: European Commission (2021, 2023a&b), OECD (2020, 2022), Eurostat, European Structural and Investment Funds.

Note: The current levels of investment and future needs consolidated in this figure stem from a variety of sources and methodological approaches. They can be subject to large uncertainties and should thus be considered as indicative. This is notably the case for climate adaptation, circular economy and biodiversity.

Analytical scope

Overall structure of the EU Economy

In 2022, 32 million enterprises operated in the European Union, employing 160 million people and generating a net turnover of EUR 38 trillion (Eurostat, 2023), out of which 53 000 enterprises were considered large (i.e. employing 250 persons or more). Large companies accounted for only 0.2% of the total number of enterprises but employed more than a third of the total labour force (56.5 million people). Large corporates alone generated half (50%) of the net turnover (EUR 19.2 trillion) in 2022.

Insights from structural investment patterns at sectoral level

The sectoral representation of the sustainable finance landscape is an integral part of the monitoring and reporting of capital flows into green investments. Also, many policy instruments and regulations are designed to target specific sectors. The sectoral lens will thus allow for a deeper understanding of existing structural challenges and identify possible avenues to unlock investments.

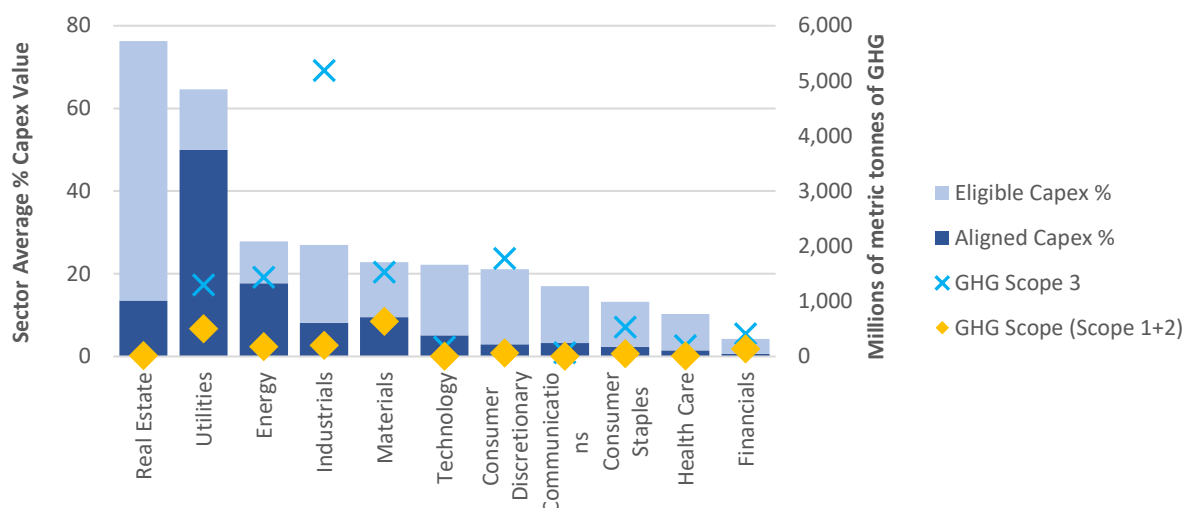
The initial reports on Taxonomy-aligned revenues and CapEx from non-financial undertakings within the scope of the NFRD are readily available. They can be used to gain preliminary insights on the sectoral implementation of the Taxonomy and infer on untapped potential for CapEx redirections. The shares of eligible and aligned CapEx are displayed in Figure 4. The average level of CapEx alignment with the EU Taxonomy is 18% based on a sample of 711 companies, which includes zero values.¹² In most sectors, companies have initiated the process of aligning their CapEx to the Taxonomy, albeit to different degrees. Increasing CapEx alignment should be prioritised in the next years. The shift from eligibility to alignment could represent a threefold expansion of current aligned CapEx. Sectors such as utilities, industrials, technology and consumer discretionary are well positioned to invest in Taxonomy-aligned CapEx.

More insights can be obtained by looking into the details of sectoral capital structure and its evolution of time, as well as other indicators such as debt-to-asset ratios. Preliminary insights point to the limited capacity for firms to leverage further through debt in the coming years, particularly in a context

¹² Morningstar, September 2023 (data as of August 2023)

of subdued economic activity as forecast by market observers. Companies may have to dedicate a larger portion of their revenues to green investments, potentially at the expense of retained earnings or dividends.¹³

Figure 4. Eligible and aligned CapEx % vs GHG Emissions per BICS sector



Source: Bloomberg, based on NFRD Scope as of November 2023, determined by employee count over 500. Country of incorporation: EU27. 69% of universe have reported FY 2022 under the EU Taxonomy. Financials includes voluntary reporting, as mandatory alignment starts from Jan 2024.

Note: BICS = Bloomberg Industry Classification Standard. Scope 3 Greenhouse Gas (GHG) Emissions as reported by the company, excluding the Real Estate sector with low comparability in reporting. This will not provide an accurate overview of Scope 3 Emissions as different contexts are applied by disclosing companies. Real Estate Scope 3 has not been included in this graph.

The levels of GHG emissions in some sectors (Figure 4) also illustrate the need to accelerate the shift towards lower-carbon investments.¹⁴ The need to foster green investments is particularly acute in sectors with significant divergence between sectoral CapEx alignment and eligible CapEx, before emission reductions can materialise, and business efficiency can improve appreciably. Maintaining high-emission levels could put the overall profitability of some sectors at risk, in the face of large carbon and other taxation penalties.

The share of Taxonomy-revenue alignment and direct GHG emissions intensity are not correlated to one another but rather complement each other as insights (CDP and Clarity AI, 2023). This could be due to activities out of Taxonomy eligibility scope. Companies with higher eligibility might show higher alignment without necessarily being less carbon intensive.

¹³ Surveys, both on green and general investment, confirm that retained earnings are one of the major sources of funding for investment projects. See e.g., the results of ECB's Survey on the Access to Finance of Enterprises (ECB, 2023).

¹⁴ Scope 2 emissions from utilities and materials are well represented, contrary to other sectors such as industrials and consumer discretionary in which scope 3 emissions account for the bulk of carbon footprint.

Further analysis will be developed in these directions and will be integrated in the final report.

The CSRD defines the universe of entities in scope

Companies under the Corporate Sustainability Reporting Directive (CSRD) scope will be required to report standardised and audited sustainability data in accordance with the ESRS. Gradual phase-in of reporting is scheduled according to company size, activity and domiciliation. The first companies to report are those previously targeted by the NFRD, excluding any national transposition (almost 2,000 companies)¹⁵ and will have to publish the first reports in 2025. The scope of corporates covered by reporting obligations under the CSRD will be gradually expanded over time (see Figure 16 for a timeline of data disclosures). In total, JP Morgan estimate that more than 49,000 companies will be subject to CSRD (Table 1). Other estimates point to a broader set of companies (in the order 60,000) potentially part of CSRD supply chains. A sectoral decomposition of the CSRD universe (covering large caps and listed SMEs) is provided in Annex 2, highlighting notably the role of the manufacturing sector at large.

Table 1. Breakdown of companies in scope of CSRD, by type

Scope	Number of companies	Share of total	Entry into force
Listed EU companies with more than 500 employees (1,604 from real economy)	1,956	4%	2024
Other companies due to national transposition	9,697	20%	2024
Total (existing NFRD)	11,653	24%	2024
Large public interest entities below 500 employees	1,157	2%	2025
Large non-EU (*) undertakings listed in the EU	86	<1%	2025
Large non-listed EU undertakings	35,184	72%	2025
EU listed SMEs	1,059	2%	2028
Total New	37,486	76%	
Total CSRD	49,139	100%	2028

Source: Reproduced from J.P. Morgan (2023).

(*) Note: Non-listed foreign entities that generate a net turnover of EUR 150 million in the Union and have a subsidiary undertaking or a branch on the territory of the EU that generates at least turnover of EUR 40 million. Entry into force refers to reference year. Reporting for listed SMEs is mandatory from 2028 onwards.

¹⁵ The NFRD universe is documented extensively in European Commission, DG FISMA, Groen *et al.* (2021).

Methodology

Activities and the EU Taxonomy as foundations

The EU sustainable finance framework has a strong inclination towards activity-based structures, with the EU Taxonomy (OJ, 2019a) as the most prominent example. This methodology follows such activity-based approaches, relying on the EU Taxonomy as a starting point to match activities to environmental objectives. Activities not yet in the EU Taxonomy, but assessed as contributing to environmental sustainability, are added for completeness. There is currently little information beyond the Taxonomy regarding the disclosures on the purpose of CapEx by non-financial undertakings. Hence, until the EU Taxonomy covers all relevant activities, the methodology needs to rely on data providers' assessments of how these remaining activities contribute to objectives and ultimately the investment gap.

As per the approach above, the methodology will distinguish between two categories of investments that contribute to the objectives. First, that which is Taxonomy aligned. Second, *additional investment gap flows* ("gap flows") that are considered to contribute to the investment gap based on the non-regulatory mapping of activities to objectives.

Using activities to match CapEx to environmental objectives

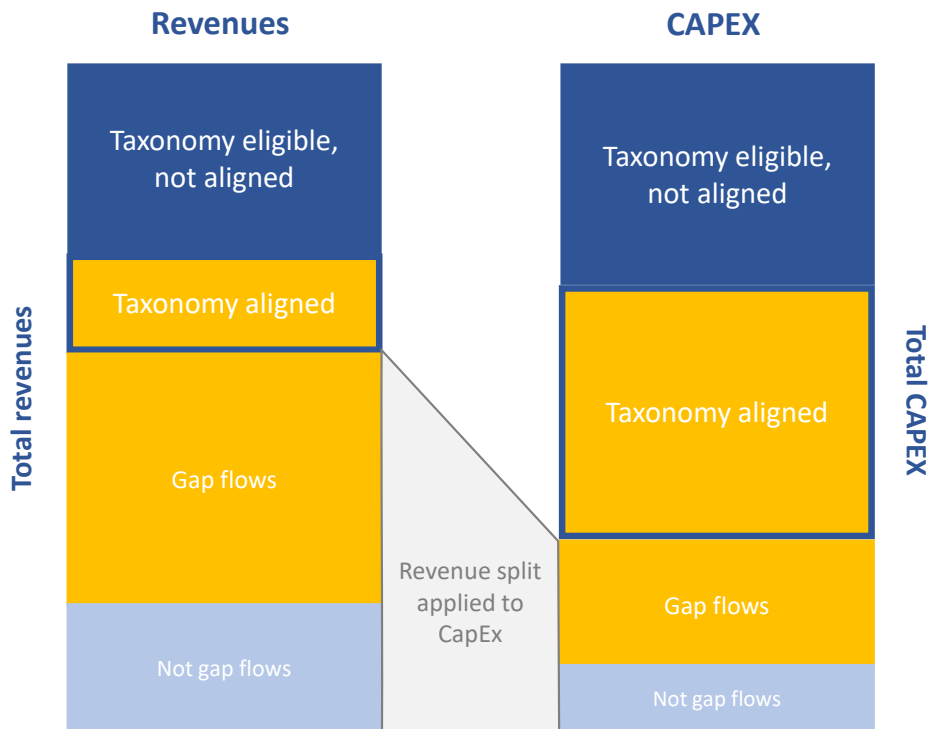
CapEx into Taxonomy eligible activities will be extracted from corporate reported data, based on regulatory standards that will be subject to an audit requirement (limited assurance audit initially foreseen). This will generate a split between Taxonomy aligned and Taxonomy eligible but not aligned activities. Only the former are considered environmentally sustainable following the European definition of environmentally sustainable activities, and to contribute significantly to the Green Deal objectives.

Non-Taxonomy eligible CapEx¹⁶ will be characterised using undertakings' revenues as a proxy for the CapEx activity breakdown, as CapEx per activity data is not generally available (Figure 5).¹⁷ In turn activities are mapped against Green Deal objectives based on data providers' assessment, as outlined in Box 2. Such data has a lower degree of robustness, as the assessment is not based on a regulatory definition and is conducted by a third party. The data may also not be audited. This will generate a simulation of the destination of investment flows, assuming a business-as-usual situation.

¹⁶ All undertakings will have to report total CapEx as part of the Taxonomy reporting templates.

¹⁷ This draws on the principle approach of GAR calculation for general purpose financing.

Figure 5. From revenue split to CapEx data



Using activities to match CapEx to strategic autonomy objectives

The same approach, using a breakdown of undertakings' revenues as proxies to CapEx, will be applied to CapEx contributing to strategic autonomy objectives. However, the revenue split will be applied to the full CapEx as strategic autonomy and Taxonomy activities may overlap. The two flow estimates can thus not be added up.

A drawback with the revenue metric lies in its backward-looking nature which provides fewer insights on projected investments. For entities in transition, this is particularly challenging. These are more likely than other entities to invest into activities different from those they conduct today, in order to align business models with a more sustainable economy. Nevertheless, given current data limitations, it provides relevant insights in a global analysis of real economy investment decisions.

Relying on Taxonomy reported data is the preferred option, as the definitions are standardised, and the reporting will be audited with the CSRD (OJ, 2022). One limitation exists however, where an activity significantly contributes to an environmental objective but does not meet significant harm criteria or minimum safeguards. Here it is not possible to include such contributions, as this is not separately reported. If such investments are later reported as part of material topics under the ESRS, the methodology could include them in the future.

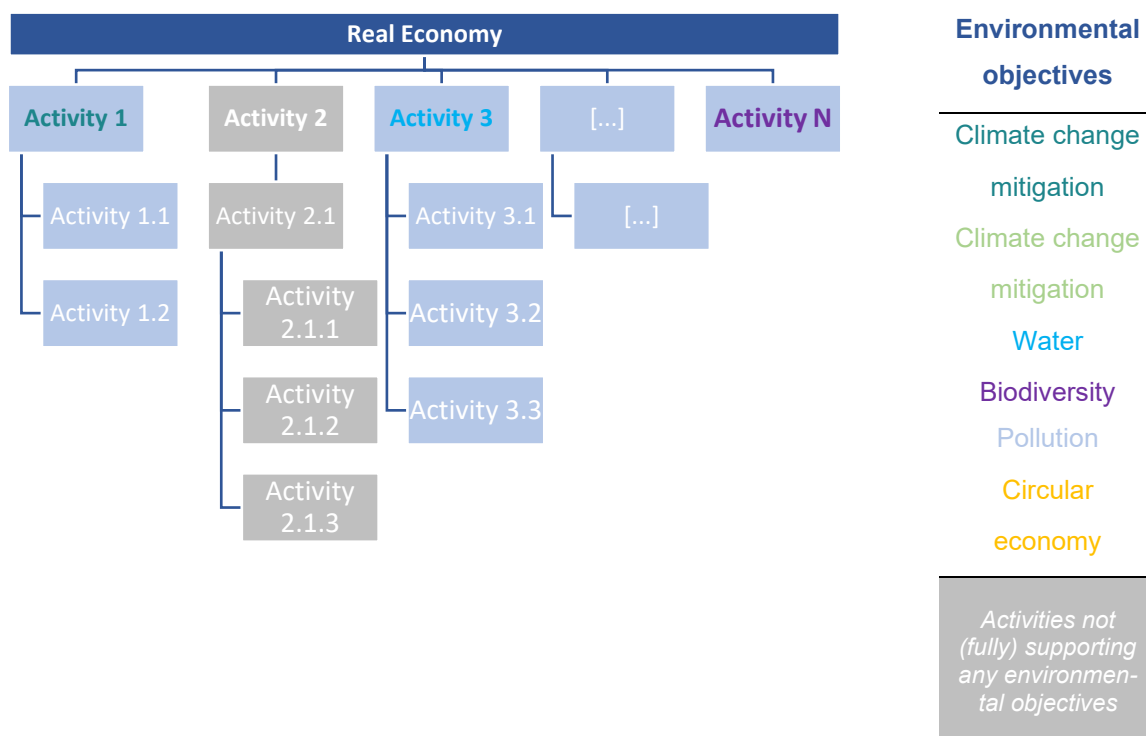
Box 2. Identifying activities which contribute to the Green Deal beyond the EU Taxonomy

Exploratory work has been conducted by the Platform’s Data Science Hub to understand data availability and approaches taken by data providers to match activities with environmental objectives (the same approach can be applied to e.g., sectors/technologies). The matching is currently based on revenues, which allows for a more granular activity split than CapEx, until CapEx disclosures become more widespread.

An activity tree will be created by the Platform’s Data Science Hub to generate a preliminary mapping of the real economy. The activity tree will draw on activity and technology mappings in policy initiatives and regulatory frameworks such as EEA data on investments for environmental protection, and activities and materials considered strategic in the context of the Net Zero Industrial Act. The activity tree, a consolidation of individual trees used by data providers, will evolve in collaboration with all stakeholders.

Once established, the preliminary activity tree will be used to integrate activity-based flows of data across data vendors and map them against environmental objectives and sectors. In addition, the tool is expected to provide insights on the current orientation of the data marketplace.

The approach works best for “pure play” type of entities (i.e., with unambiguous scope) but can be extended depending on the level of granularity in revenue reporting. A conceptual activity tree is shown below.

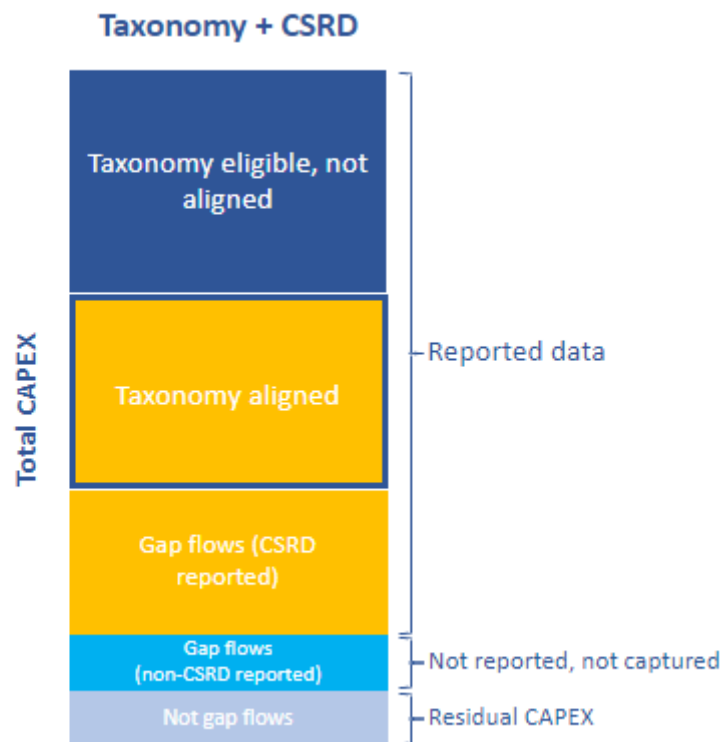


Integrating ESRS CapEx in the model

As the ESRS data becomes available, taxonomy eligible and aligned CapEx data will be complemented with other reported data on CapEx contributing to environmental objectives. Such data will

be audited, thus increasing the reliability of the results. CSRD data and the revenue proxy will be run in parallel until CSRD data reporting is sufficiently available to fully replace the temporary proxy solution. Figure 6 shows how CSRD data on CapEx contributing to Green Deal objectives, as defined in the ESRS, can be used as a proxy to complement Taxonomy CapEx data.

Figure 6. Characterisation of non-Taxonomy eligible CapEx in the final methodology



Draft indicators

The indicators listed in Table 2 will be analysed through different lenses such as:

- Sector and sub sector
- Risk level
- Geography
- Size

Table 2. Real economy reporting indicators (preliminary)

Indicator	Details
Total CapEx	Amount expressed in Euro
Taxonomy eligible CapEx	Amount expressed in Euro
Taxonomy aligned CapEx per environmental objective	Amount expressed in Euro
Other CapEx	Amount expressed in Euro
Revenue breakdown on environmental objectives beyond Taxonomy	% of total revenues of a single activity contributing to each Green Deal objective
CapEx breakdown on environmental objective beyond Taxonomy	% of total CapEx of undertakings in scope contributing to each Green Deal objective
Reported CapEx according to environmental objectives in ESRS reporting	Amount expressed in Euro
Revenue breakdown on strategic autonomy objectives	% of total revenues of a single activity contributing to each strategic autonomy objective
CapEx breakdown on strategic autonomy objectives	% of total CapEx of undertakings in scope contributing to each strategic autonomy objective
CapEx share of Green Deal investment gap	Identified CapEx flows over Green Deal objective investment needs

Transition in the real economy

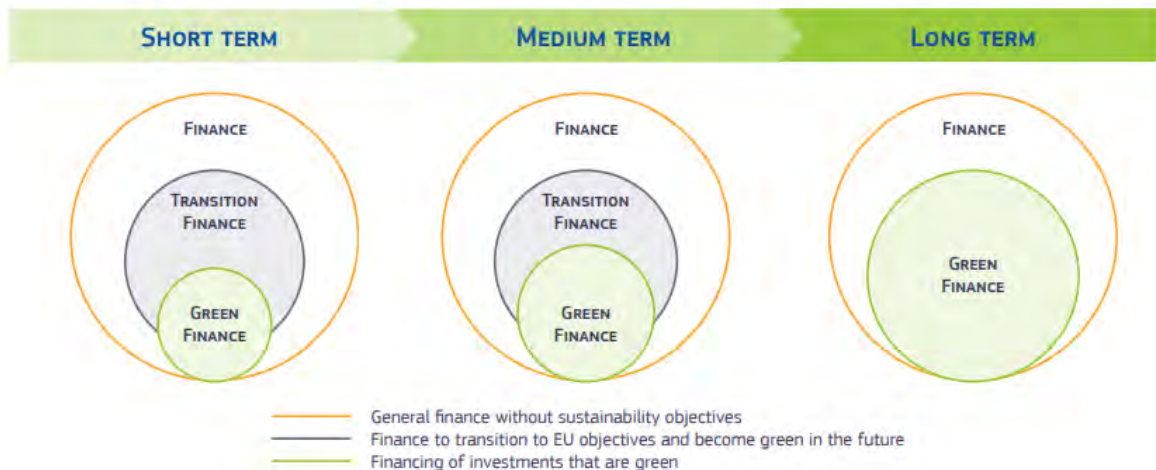
A dedicated approach

Financing solely the development of environmentally sustainable or green activities will fall short of delivering on the net-zero objective by 2050 (Figure 7). The financing of corporates during their net zero transitions is essential to achieve the full transformation of European economies.

Investments dedicated to companies in transition – and under CSRD scope – are thus at the heart of the monitoring framework and require a dedicated approach. The approach is articulated around the climate mitigation objective and will be extended and adapted to other Green Deal objectives at a later stage. The approach measures companies in transition and their investments in Taxonomy-aligned activities as per the Taxonomy Regulation as well as other CapEx that is not Taxonomy aligned but still relevant for transition and reported under the ESRS. The transition of financial entities, for which portfolio-related financed emissions are paramount, is addressed differently and is introduced in the financial markets chapter.

The methodology will need to be revised periodically to reflect the latest regulatory developments, scientific and public debates around the composition of credible transition plans and increasing availability of relevant data.

Figure 7. Relationship between green and transition finance today and over time



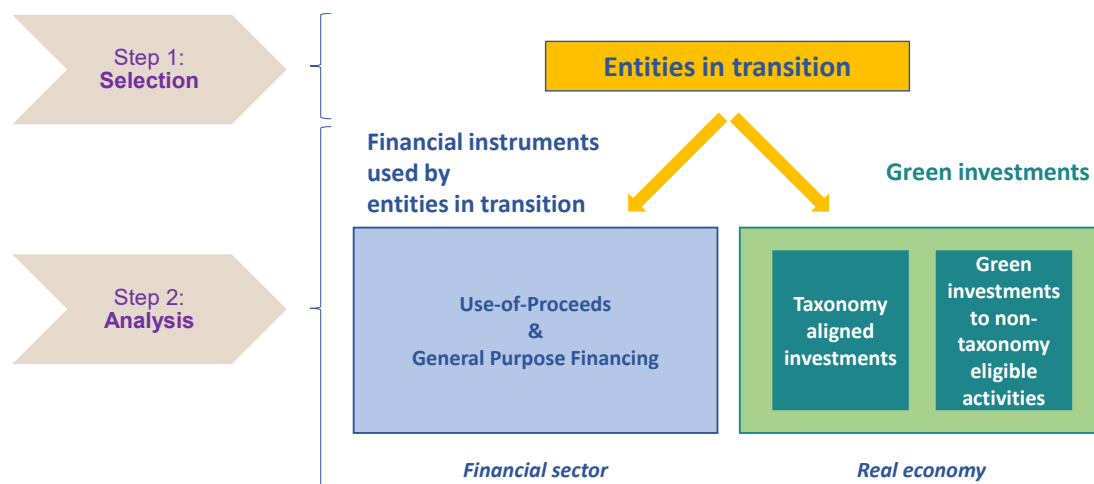
Source: Reproduced from OJ (2023).

Note: Sustainable finance is about financing both what is already environment-friendly (green finance) and what is transitioning to such performance levels over time (transition finance) (OJ, 2023).

Selection of entities in transition

Entity-level data serves as a starting-point to monitor financial flows and investments related to transition (often referred to as *transition finance*). Selection of entities in transition will be conducted taking into account the transition frameworks listed below. Once entities in transition are identified, an analysis of their investments and the sources of their financing will be undertaken (Figure 8).

Figure 8. Transition finance: A two-step process for non-financial entities



ESRS disclosures as foundation

Several ESRS disclosure requirements relate to transition plans. These indicators cover data points related to governance, strategy with target setting (both final and interim ones), financial planning, as well as climate and biodiversity-related targets. A preliminary selection of indicators that appear relevant to assess transition of entities, based on the analysis of international frameworks outlined

in Box 3, is provided in Annex 2. With the obligation to produce a transition plan for entities within the scope of the CSDDD, the availability and quality of transition plan data is expected to improve.

Many indicators, such as governance, strategy and risk management, can be used to characterise the transition status for both financial and non-financial entities. Other indicators are applicable to both types but entail different complexities and calculations such as GHG emissions-related metrics and targets.

Box 3. International frameworks on transition plans

The strong momentum behind transition finance and transition plans has resulted in multiple recent conceptualisations. The following monitoring frameworks serve as references for the proposed methodology:

- [IPSF report on transition finance](#) (November 2022)
- [UNHLEG report on the net zero emissions commitments of non-State entities](#) (November 2023)
- [OECD guidance on transition finance](#) (October 2022)
- [CDP Technical Note: Reporting on Climate Transition Plans](#) (February 2023)

IPSF, UNHLEG and OECD guidelines are the result of broad consultations, reflecting initiatives conducted worldwide on transition plans. The CDP methodology leverages on metrics reported by companies on an annual basis. More details on transition assessment can be found in Annex 2. The table below lists the indicators common to the four reference frameworks in the context of climate change mitigation.

Elements common to key international frameworks (IPSF, UNHLEG, OECD, CDP)

Element	Sub element
Strategic ambition	Use of climate scenario analysis
Governance	Oversight and reporting of climate related issues
Financial planning	CapEx
Climate-related metrics	Scope 1 emissions
	Scope 2 emissions
	Scope 3 emissions
Climate-related targets	Interim GHG emission reduction targets
	Net-zero target
Engagement	Engagement with supply/value chain

Climate only transition plans vs. combination with other environmental objectives

Drawing on international frameworks, ESRS disclosures encompass five environmental objectives beyond climate change mitigation. Therefore, the proposed monitoring methodology will be flexible enough to accommodate the integration of further objectives as data and scenario availability improve.

Analysis of capital flows of entities in transition

Real economy flows (Investments)

In line with the approach set out in the real economy chapter, CapEx will be characterised through their contribution to environmental objectives. This is particularly relevant in the context of transition plans for entities in transition. The characterisation of CapEx will be conducted by first looking at Taxonomy eligible- and aligned- CapEx. Second, residual CapEx will be characterised by the best available information. Initially, a proxy will be based on a breakdown of revenues per activity.

At a later stage, CapEx allocated to a transition plan and available from ESRS disclosures will become the principal source of data.

Since the transition assessment is conducted at entity level, it is not possible to identify specific activities as transitional from entity-level information (the exception being transitional activities in the Taxonomy, as defined by the regulation). Therefore, achieving a comprehensive perspective makes the distinction between "green" and "transitional" activities neither feasible nor appropriate. Additionally, the European Commission's June Recommendation (OJ, 2023) recognises that taxonomy aligned and aligning activities can play an important role in transition plans, which gives further ground to integrate that which is already green in this transition framework. This means that, to avoid double-counting, transition investments cannot be added to total green investments, and instead must be displayed separately. CapEx that improves environmental performance of Taxonomy eligible activities beyond significant harm, but not achieving substantial contribution¹⁸ are not reported. These contributions will thus not be captured by the framework. This data limitation makes the resulting assessment of investments by entities in transition a conservative estimate. With the entry into force of the ESRS, these investments could be integrated into the framework where these are reported as part of material topics stemming from the Double Materiality Analysis. EFRAG's voluntary ESRS SME standard under development contains simplified disclosures on transition plans and may in the future provide data beyond the CSRD scope.

Financial flows (Financing)

As first mentioned in the conceptual framework chapter, the methodology does not allow the establishing of a direct connection between a financial instrument and a given investment. This remains the case for entities in transition. The volume of financing directed towards the transition process depends greatly on which stage an entity is at in its transition. Assuming that all financing directed

¹⁸ See PSF (2022) report on an extended Taxonomy.

towards an entity in transition contributes to the transition would thus be too strong an assumption. For instance, in the case of a high-emitting company in the early stages of its transition, most of the financing received may actually serve to prolong its polluting activities. Another challenge arises concerning the certainty that the entity will effectively transition to net zero by 2050, and consequently, whether the financial flows will genuinely contribute to this transition.

Following the coming Platform's proposal to address transition finance, one can analyse the specific financing channels of entities in transition that support their investments. In the context of this proposed framework, this translates into monitoring the type of financing received by entities in transition specifically. See the chapter on "Financial markets" for further details as to the characterisation of general-purpose financing (debt and equity) and use of proceeds financing (debt through bonds and loans) for entities in transition.

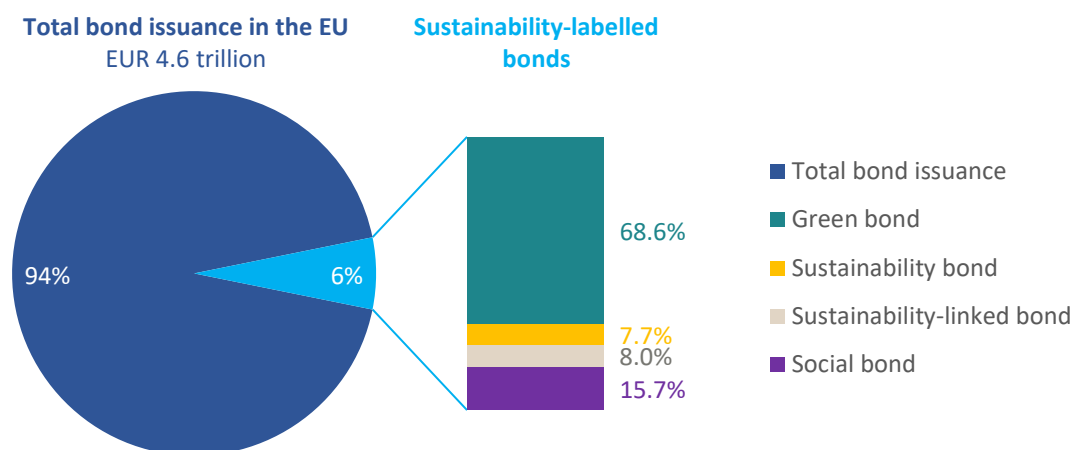
FINANCIAL MARKETS

Introduction

The objective of this section is to characterise the main sources of capital and the types of instruments through which the activities described in the previous chapter are financed.

The emergence of financing instruments with sustainability characteristics have increased significantly in the past years. In November 2023, sustainability-labelled bonds alone accounted for 6% of total bond issuance in the EU (Figure 9). Some projects, however, do not come to fruition due to lack of adequate financing. This chapter will provide a methodology that enables a better understanding of how financial instruments can be linked to activities contributing to the objectives of the EU Green Deal as well provide data that will enable analysis of where the lack of financing is most prominent.

Figure 9. Bond issuance in the EU



Source: Bloomberg (2023) as of November 30, 2023.

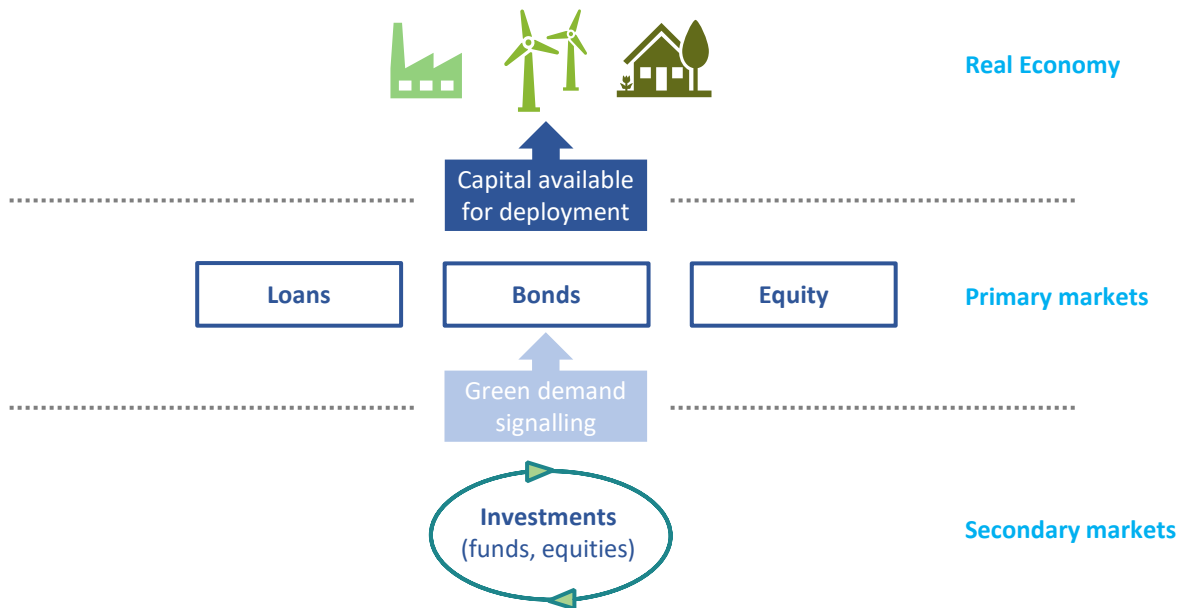
Four types of instruments have been prioritised for the first iteration of the methodology: loans, bonds, equity and investment funds. For each type of instrument, a set of indicators is proposed (see Annex 3 for further details, including the rationale and methodological details for their computation). Other instruments of less immediate relevance are also subsequently discussed. However, the latter indicators have not been proposed at this stage, reflecting either conceptual issues or severe data limitations (see end of chapter). This means that the entirety of financial markets will not be reflected in the methodology.

Methodology

Financial sector flows will be assessed either by applying the corporate's activity composition to characterise the link of instruments to environmental objectives, or by relying on sustainability-related

disclosures pertaining to the instrument itself (see further detail below). Instruments are split between primary and secondary markets and generally interact with the real economy in different ways (Figure 10). Shedding light on financing available for investments in support of the Green Deal objectives in the real economy is the main objective. The focus is thus placed on primary market instruments from which capital flows reach the real economy more directly.

Figure 10. Linkage between the real economy and financial sector instruments covered in the framework



Secondary markets do not directly finance investments in the real economy, although primary and secondary market instruments are inherently connected. Analysis of the secondary markets remains of interest, however, to indicate appetite for investing in various activities and the resulting impact on cost of capital. In addition, secondary markets are important to free up capital for new investments in primary markets.

Ideally, the methodology would be able to derive the share of each instrument that is invested into activities contributing to the Green Deal objectives, as described in the Real Economy chapter. Unfortunately, making this connection with real economy investments is currently complex and hardly scalable due to data-related and methodological challenges. In the absence of a robust methodology to connect financial sector flows with real economy flows, the framework for financial instruments should be used separately to indicate appetite for assets marketed as green (see further details under indicators).

Transition & financing

Entities in transition are critical to the greening of the economy and many of them face significant investment needs. In addition to the indicators relating to undertakings irrespective of their transition

profile, this framework proposes to separately monitor the flows to entities in transition. This approach aims to provide valuable insights to the discourse on their access to finance.

The Platform proposes a carve-out for most indicators for entities in transition for bonds and equity. In line with the June 2023 Recommendation on Transition Finance (OJ, 2023), this will cover use-of-proceeds and sustainability-linked bonds. In the absence of a common or unique definition for ‘transition funds’, funds tracking EU climate benchmarks (Paris-aligned benchmarks and Climate transition benchmarks) and Taxonomy-aligning benchmarks (TABs in PSF, 2024) are highlighted given their decarbonisation objectives.

Primary market instruments

Loans

Bank¹⁹ loans constitute a major share of companies’ financing in the EU.²⁰ Loan financing amounted to almost triple that of bond financing for euro area NFCs in 2022 (ECB, 2023a). Loans therefore present a crucial indicator when it comes to measuring financial flows into green projects and are vital for increasing sustainable financing in the EU.

Availability of loan-level data is limited to-date, while existing loan level data such as the ECB's AnaCredit database is subject to strict confidentiality constraints. A lack of data reliability, common definitions and comparability issues are among the challenges in tracking green lending. For now, the selection of proposed indicators focuses on Pillar 3 disclosure templates developed for credit institutions’ environmental, social and governance risk (OJ, 2022).²¹ Some potential additional information sources are also forthcoming.²² Using information disclosed at bank level to estimate green finance in the form of loans, this portfolio-based approach differs somewhat from the approach taken for indicators on equity and bond funding, where funding is measured at instrument level. This approach has been chosen since using loan market data (available on different sub-categories such as syndicated loans) poses several uncertainties regarding data quality and representativeness, including questions related to the sample of public loan market data (selection and sector bias).

¹⁹ Banks are credit institutions as defined in [CRR](#) Article 4.

²⁰ In June 2023, outstanding lending by EU banks to non-financial corporates exceeded EUR 6.3 trillion (of which close to 80% was to EU counterparties) Loans to SMEs stood at more than EUR 2.5 trillion (EBA 2023a).

²¹ Sustainability linked loans are not explicitly covered as a separate category.

²² Some potential additional information sources are also forthcoming. Together with footnote 21: Taxonomy Art. 8 disclosure templates, EBA work with Commission on green loans and potentially the ECB's Integrated Reporting Framework (IReF) (ECB, 2021).

Proposed indicators (Table 3) cover credit institutions' green assets (loans) and energy efficient mortgages, capturing lending originated from within the EU. The platform proposes looking at loan stocks as well as flows, however flows can only be measured on a net basis (reflecting new funding, but also loans due, write-offs, etc.). Until the regulatory definition of green loans currently being developed is available²³, indicators are currently based on banks' own criteria as well as the Green Asset Ratio.²⁴ Large, listed banks are in scope of the Pillar 3 disclosure templates, although it must be noted that data quality issues are also of concern for these data.²⁵

Beyond the banking sector, credit to the private sector can be supplied by non-bank financial intermediaries. Estimates of the relative importance of the sector vary, reflecting differences in national regulatory frameworks, instruments as well as measurement issues. According to the European Systemic Risk Board, in 2022 non-bank credit amounted to around 20% of total external debt funding of non-financial corporations in the EU (ESRB, 2023). However, this overlaps to some extent with other financial instruments covered in this section (in particular, investment funds), while the lack of granular information hampers the ability to conduct a comprehensive assessment of the amount of non-bank credit used to finance Green Deal investments. For these reasons, non-bank credit instruments are not explicitly covered in the monitoring framework.

Bonds

Bonds constitute an important source of funding for European companies, financial institutions, and public sector entities.²⁶ ESG bond issuances (which include use-of-proceeds bonds such as Green or Social bonds, and Sustainability-Linked bonds) have increased significantly over the past years as companies are aiming to expand their green projects and investors have a greater appetite for ESG labelled investments (see Figure 9 above).

The Platform proposes to focus its analysis on green bonds as they aim at funding projects contributing to environmental objectives (Figure 11). Other types of ESG bonds can have several ESG

²³ Work on this is ongoing. See the (EBA, 2023b) in response to the Call for Advice from the European Commission on green loans and mortgages.

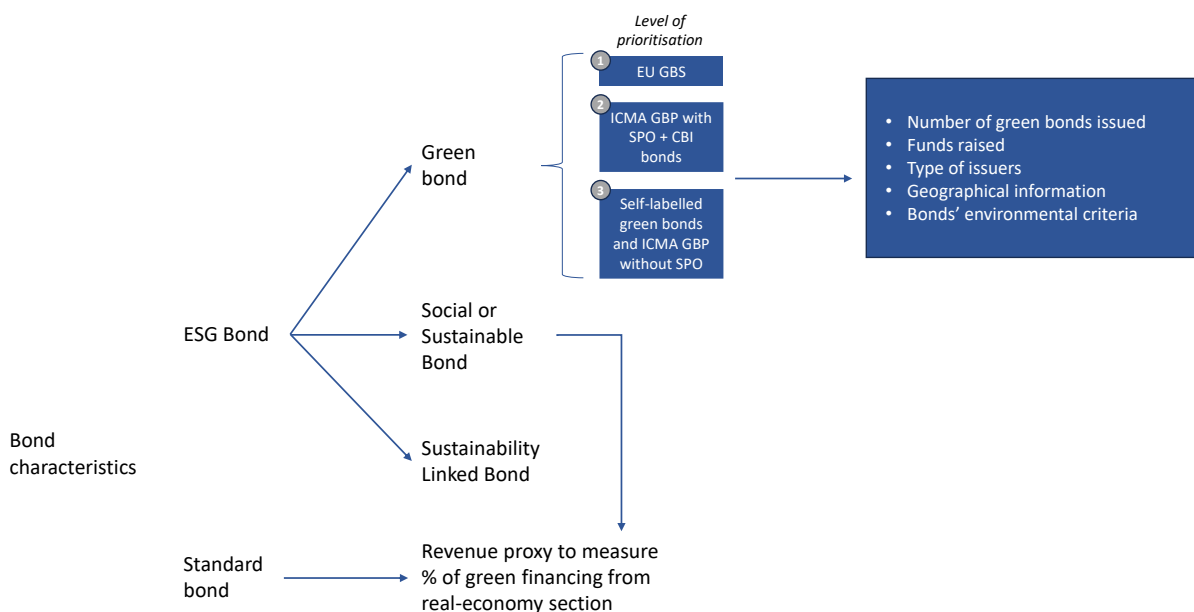
²⁴ Templates apply to large and listed institutions. Simplified templates are to be developed by regulators going forward applying also to smaller institutions (European Commission, 2021). Some indicators are available on banks' websites from 2023 onwards, though data challenges may exist in the first disclosure iterations e.g., comparability, consistency (ECB, 2023b). Full Pillar 3 information will be part of ESAP from 2028-2030. Once the EBA Pillar 3 data hub is implemented however, it will already provide the information from 2026 (EBA, 2023c). EBA is also performing an ad-hoc data collection on the P3 ESG templates in June 2024. See the [EBA decision](#) from 18 July 2023.

²⁵ See ECB (2023b).

²⁶ In 2022, the total value of corporate bonds issued was EUR 644 billion (PWC, 2022).

purposes which are not necessarily environmental-related and, therefore, do not contribute to the environmental objectives in scope. Regarding Sustainability-Linked Bonds (SLBs), the Platform decided not to include them yet in this sub-section as they raise several methodological issues. Integrating these instruments would require an in-depth assessment of the materiality and ambition of SLB targets, in light of criticism of some SLBs in the market. In the absence of this assessment, it is not possible to ascertain the share of SLBs that should be considered as supporting the transition. In addition, SLBs often mix environmental and social KPIs which raises several data granularity issues to monitor these instruments. SLBs are instead analysed like any general-purpose bond, as well as specifically for entities in transition. Given data availability it will not be possible to measure whether issued bonds are refinancing existing debt or financing new debt.

Figure 11. Decision tree for bonds



Green bonds have been divided into 3 levels, based on the standard they align with:

- Level 1: EU Green Bond Standard (GBS);
- Level 2: Climate Bond Standards/ ICMA Green Bond Principles with Second Party Opinion;
- Level 3: Self-labelled green bonds (including for example, green bonds relying on frameworks essentially used within domestic borders, such as the Chinese green bond framework) and ICMA Green Bond Principles without Second Party Opinion.

EU GBS issuances are anticipated to emerge as the most reliable source of information on green financing. This expectation is rooted in the stipulation that they must exhibit a minimum of 85% alignment with the EU Taxonomy, coupled with the mandatory external review conducted by third-party

entities authorised by ESMA. Additionally, issuers are mandated to outline how the funding is connected to the issuer's taxonomy Key Performance Indicators (KPIs) and their overall transition plan.

On the other hand, the EUGBS market is still developing and therefore other types of green bonds (in particular those using industry labels or principles) remain essential to ensure that the majority of green flows are indeed captured. However, the absence of common definitions and the uneven quality of second-party opinion providers active in the market imply a degree of variability in the greenness of the projects financed.

Lastly, general-purpose bonds including SLBs will be monitored based on the entity characterisation as per the methodology outlined in the Real Economy section. This will generate a percentage matching of the bond towards Green Deal objectives. As mentioned in the introduction, this will not generate a figure which with confidence can be considered to represent the contribution of the instrument to the Green Deal investment gap. It does, however, inform the picture of general-purpose bond issuance depending on the underlying CapEx characteristics of the entity.

One limitation is the varying level of data granularity from one data provider to another. This is particularly challenging for data on the types of projects use of proceeds bonds are financing. Information on NACE codes by project might not be systematically available and data providers might have a different assessment of project financed by the proceeds. In addition, only a few specialised data providers report whether there is an SPO associated to the bond or if it has been certified.

Equity (public and private)

Unlike bonds or loans, in the absence of recognised labelling schemes the identification of 'green' equity is not straightforward. The proposed approach for equity is to rely on the activity-based methodology set out in Real Economy section (like for general purpose bonds).

There are key differences between public (listed) and private equity. Reflecting this, the two types of instruments are described separately below. Although they present some similarities, the proposed indicators have been split given substantial data limitations for private equity instruments.

Private Equity

Private equity in all its forms²⁷ channels capital flows to privately owned companies within and outside the EU.²⁸ It provides capital that is willing to accept a higher level of risk. As such, it plays a

²⁷ Such as Venture Capital, Growth Capital, Mezzanine, Generalist, Buyout, etc.

²⁸ Private equity firms seek opportunities to earn better returns than what can be achieved in public equity markets. Investment managers buy shares of companies with growth potential and bring in their expertise and financing to boost their development with the objective of selling within 4-7 years.

crucial role in financing investments in new green technologies and business models. Primary market private equity relates to new equity issuance by privately-owned companies. Private equity and venture capital are the standout growth markets in the EU. This growth is driven by activity in mainly France, Sweden, and Germany. However, in relation to comparable markets, the EU is lagging behind (see e.g., Breen *et al.*, 2022).²⁹

Green labels or marks do not yet exist for private equity and the readiness of information is highly dependent on its availability at the investee company level, for any type of data (financial or non-financial). Most private equity firms will remain out of the CSRD reporting scope, implying that granular data will remain largely unavailable.

Public equity

Public (listed) equity markets represent a significant share of capital flows as public companies can reach high market values.³⁰ For the past years, public equity markets have allowed the funding of several high-growth companies with green profiles e.g., manufacturers of low-carbon technologies, as they enable access to larger amounts of financing compared to private equity markets.

Some stock exchanges have developed so-called “green equity marks/designations” for companies issuing equity on their markets. However, these are based on the exchanges' own definition of “green revenues”, which varies from label to label. For the time being, the Platform will not base its approach to defining green equity on these labels but will closely monitor future developments.

The selection of proposed metrics is performed based on the current limited data availability. For public equity, the Platform defines “primary market” as all newly issued shares made available or already existing shares on public markets by a company going public for the first time or already listed.³¹ However, it should be noted that not all the money raised through such offerings will constitute new funding, to the extent that some of the shares may already have been held privately.

In the absence of green labelling for equity, the methodology refers back to the approach outlined in the Real Economy section of this report, which assesses companies' share of activities that contribute to the Green Deal objectives. This approach will be implemented for all types of capital raises taking place on the primary market, encompassing both private and public equity. Therefore, this

²⁹ In 2022, private equity funds closed, raised a total of USD 940 billion globally according to Bloomberg data, with 38.5% of total funds at least partly targeting Europe.

³⁰ The total market cap of listed companies domiciled in the EU exceeds EUR 11.3 trillion according to Bloomberg data.

³¹ Primary market operations for public equity include Initial Public Offerings, Private Placements, Follow-on offerings and direct listings (i.e., when a company goes public but does not issue new shares).

would exclude direct listings and non-diluted follow-on offerings where companies do not raise additional financing. The analysis focuses on EU companies (both listed and non-listed) and non-EU companies listed in EU marketplaces.

The approach described above has an important limitation. In addition to the limited availability of ESG data for private SMEs³², the green revenue proxy defined in the Real Economy section cannot be applied in all cases, particularly with certain early-stage companies (mainly start-ups) that do not generate any revenue.

Table 3. Summary table of indicators for primary market instruments

Instrument	Indicator	Transition application
Loans	Energy efficient mortgages (stocks and flows)	Data not available
	Green asset ratio (GAR) (loan component only, stocks and flows)	Carve out for ‘of which transitional’
	Assets not included in the GAR but in the Banking Book Taxonomy Alignment Ratio (BTAR) (loan component only, stocks and flows) (*)	
	Loans funding climate change activities not covered by the GAR or BTAR (stocks and flows)	Data not available
Bonds	Number of green bonds (**) issued	Carve out for “of which by entities in transition”
	Funds raised by green bonds	
	Type of green bond issuers	
	Geographical information on green bonds	
	Green Bonds’ environmental criteria	
	Share of green funds raised via general purpose bonds by companies based on the greenness of their activities ³³	Duplicating the general indicator, but applied to entities in transition only ³⁴
Equity (private and public)	Share of new green funds raised by companies based on the greenness of their activities	Carve out for “of which by entities in transition”

(*) Note: SMEs are excluded from the GAR numerator and are therefore assumed to be 0% Taxonomy-aligned. The BTAR includes the SMEs exposures in its numerator.

(**) Note: See p. 7 for green bond definition.

³² Although the voluntary ESRS SME standard under development should support, as should the Platform’s upcoming work on a simplified approach for SMEs.

³³ Green for the purposes of this table refer to all assessed contributions to the green deal objectives, as identified in the real economy chapter (i.e., taxonomy aligned as well as that based on an activity matching).

³⁴ This indicator cannot be compared to the one comprising all firms, as there will be double counting of entities in transition.

Secondary market instruments

Equity (public)

As highlighted in the previous subsection, the Platform defines public equity in the context of primary market as all newly issued shares or already existing shares made available on public markets by a company going public for the first time or already listed. Consequently, the secondary market for public equity refers to trades in publicly traded equity instruments. The volumes of public equity instruments traded are large and the markets are very liquid, with various types of investors taking part in the market (including, for example, both institutional and retail investors).³⁵

The Taxonomy is a measurement tool and acts as a proxy to measure environmental sustainability of the underlying entity. To date, there is no standardised “binary” green designation for equity instruments. As stock prices are inherently entity-based, the Platform aims to establish a link between companies’ taxonomy alignment and the way in which they are valued by investors in public markets. This would give an idea of equity securities’ valuation in relation to the percentage of taxonomy-aligned activities performed by the underlying company (See Box 4 below on the cost of capital and ESG characteristics). To do so, the Platform looks at market valuation indicators such as average price-earnings ratios and/or enterprise-value-to-EBITDA ratios for firms with a significant percentage of alignment with the Taxonomy versus companies with low percentage of alignment for key sectors.

One of the main limitations of using market indicators such as the PE ratio or the EV/EBITDA ratio is that the latter can be influenced by current market conditions and therefore may not reflect a causal link between a company's equity value and its alignment with the EU Taxonomy.

Investment funds

The asset management industry makes up for a substantial share of the EU financial system, with more than 65,000 investment funds in Europe managing almost EUR 20 trillion in assets (EFAMA, 2023). Around 70% of fund portfolio holdings are equity and bond instruments, meaning that the fund sector plays an important role in the market-based financing of the activities needed for the green transition. Over the last few years, the take up of sustainable finance in the fund industry has experienced a dramatic increase. As of Q3 2023, 53% of UCITS fund assets were managed by funds

³⁵ The average monthly value of transactions in equity securities on EU Lit markets was 107 billion euros between FY20 and FY22 according to Refinitiv data.

promoting environmental and/or social characteristics (SFDR Article 8 products), and a further 3.4% were managed by funds with a sustainable investment objective (SFDR Article 9; Morningstar, 2023).

Box 4. Cost of capital and ESG characteristics

A recurring topic in equity secondary markets is its interaction with the primary market. In the context of this framework, the question arises whether and how green financial flows on the primary market could be influenced by secondary market conditions.

Studies have shown that secondary market conditions can influence the primary market, regardless of the greenness of the financing or the company financed. The seminal work of Pastor and Veronesi (2005), followed more recently by De Jong and Legierse (2021) have shown, amongst others, that the volume of IPOs is positively related to recent positive capital market returns and negatively related to future capital market returns. This means that companies tend to go public when the discount rate (i.e., the cost of capital) is low and the stock market is highly valued. Similarly, IPOs are more frequent after a decline in market volatility, reflecting lower market uncertainty and a lower discount rate.

The link between secondary and primary markets through the environmental profile of companies has also been established. El Ghouli *et al* (2011) and El Ghouli *et al.* (2018) have shown that companies with higher ESG-ratings have lower cost of capital. More specifically, when ESG ratings are decomposed, higher environmental ratings are associated with lower cost of capital, unlike certain social factors. These studies are not exhaustive and call for further research. One specific area for exploration in the future is investigating the relationship between the cost of capital and the alignment of companies with the EU taxonomy.

It is beyond the scope of this report and the Platform's mandate to analyse and document the cost of capital extensively. The Platform will rest on directly observable secondary market indicators only.

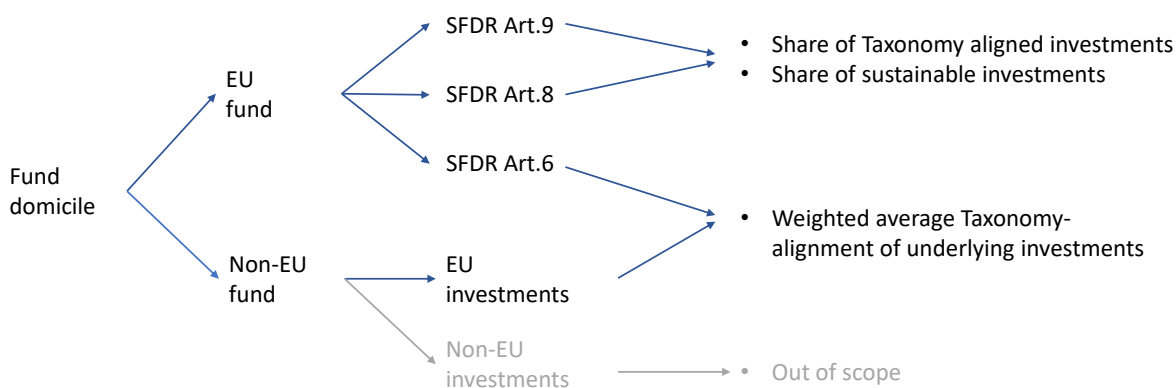
The proposed monitoring approach aims to leverage the existing SFDR disclosure framework without making any assumptions on the relative 'greenness' of investment products based on their disclosure classification under SFDR or any other framework.

Complementing this, ESG data estimates from specialised data providers have been available for some time and can be used to build a comprehensive monitoring framework providing insight on the investments of the sector. The proposed indicators include stock and flow measures combining (estimated or reported) sustainability-related information with assets under management and net fund flows from third-party data providers. These indicators will focus primarily on SFDR Article 8 and 9 funds given the more comprehensive Taxonomy and sustainability-related disclosure requirements applying to them under SFDR (Figure 12). However, it should be noted that the SFDR disclosures presently do not include a breakdown by Taxonomy objective, while there is no commonly agreed definition of sustainable investments (beyond Taxonomy alignment), implying a degree of variability in the reported information. In accordance with the Taxonomy Regulation (TR), an 'environmentally

sustainable investment' is defined as an investment in one or several economic activities that meet the criteria for environmental sustainability outlined in the EU Regulation 2020/852 (TR). On the other hand, sustainable investments, as per Article 2(17), permit environmental investments that contribute (albeit not significantly) to the objectives of the Green Deal, as individually defined by Financial Market Participants. The Platform has highlighted in previous reports that this approach, regarding activity-based investments, creates confusion and introduces distortions in the market. The absence of consensus on this matter implies a certain level of variability in the reported.

For investment funds that are not subject to the same disclosure requirements (i.e., SFDR Article 6 funds and non-EU funds), recourse to portfolio-level estimates from data providers on the portfolio share of sustainable investments remains an option where available, provided that the estimation methodologies and underlying data assumptions are sufficiently transparent. Alternatively, to ensure that all investment flows that contribute to meeting the Green Deal investment gap are captured in the framework, implementing a portfolio look-through approach to calculate value-weighted portfolio averages for EU investments using (actual or estimated) Taxonomy alignment of the portfolio investee companies would be required.

Figure 12. Scope of investment funds monitoring



There are several other important limitations to bear in mind for the investment fund indicators, starting with the necessary recourse to third-party data providers. First, the use of provider estimates to fill data gaps implies a degree of uncertainty to the extent that these are based on proprietary methodologies. Second, there tends to be sparse available information from the data providers on Alternative Investment Funds (which include private-equity funds), implying that the proposed monitoring framework will only cover around 63% of the total assets and investments of the industry in the EU (EFAMA, 2023). A special carve out for private-equity funds should be considered as it would provide useful insight into the secondary market activities in private equity markets but will similarly face potentially severe data limitations.

Table 4. Summary table of indicators for secondary market instruments

Instrument	Indicator	Transition application
Equity	Average P/E ratio for firms with high Taxonomy alignment metrics (Equity value indicator)	Duplicating the general indicator but applied to entities in transition only ³⁶ .
	Average EV/EBITDA ratio of firms with high Taxonomy alignment metrics (enterprise value indicator)	
Investment funds	Share of SFDR Art.8 and Art.9 funds	<i>Carve-out for PAB/CTBs.</i>
	Share of Taxonomy aligned investments of SFDR Art.8 and Art.9 funds	
	Share of other sustainable investments of SFDR Art.8 and Art.9 funds	
	Net fund flows into SFDR Art.8 and Art.9 funds	<i>Carve-out for PAB/CTBs/TABs</i>
	Net fund flows into Taxonomy-aligned investments	
Net fund flows into other sustainable investments		

Other Financial Instruments

Several other financial instruments may be of relevance but are not included in the monitoring framework, as they bear a less direct relationship with the activities in scope and tend to face severe data limitations. Moreover, the overall volumes of financing currently raised through several of these instruments (that are not already captured by the instruments covered in the framework) are expected to be somewhat limited. These instruments include:

- **Securitisations** are not further pursued due to limited availability of information on the instruments and underlying assets. Moreover, the absence of standardised framework for ESG or sustainable securitisations hampers potential assessments.³⁷
- **Derivatives** are not addressed for similar reasons. It should further be noted that, under the draft SFDR RTS (JC, 2023), exposures achieved through derivatives should not be included in the numerator to calculate the proportion of Taxonomy-aligned investments. In addition, any future outputs derived from the Platform’s work on derivatives working group will be monitored and integrated as appropriate.

³⁶ Note that this graph cannot be compared to the one comprising all firms, as there will be double counting of entities in transition.

³⁷ See for instance the ESAs and the ECB’s statement on the topic (ECB, 2023c).

- **Crypto assets** are excluded due to their low immediate relevance for monitoring capital flows to sustainable investments and a lack of available relevant information. Under the Markets in Crypto Assets Regulation (MiCA), information on principal adverse impacts on the climate and other environment-related impacts will be disclosed in the crypto-asset white paper and on the website of a crypto-asset service provider (ESMA, 2023).
- **Crowdfunding and micro-finance** are not addressed due to a lack of data.
- **Insurance investment products** are not included in the monitoring framework given the limited availability of information. The substantial overlap with investment funds for unit-linked products however means that these investments are, to some extent, indirectly covered.

While the **EU Emissions Trading System** plays an important role in the transition to a low-carbon economy, carbon-market based financial instruments have not been included yet in the monitoring framework. EU emission allowances (EUAs) are either freely allocated or auctioned, allowing firms under compliance obligation to surrender EUAs in proportion to their greenhouse gas emissions. In 2023, EUA spot prices traded around EUR 80 per tonne of CO₂. More recently, the price of EU allowances decreased to about EUR 60 per tonne, still higher than the price of carbon in other cap-and-trade mechanisms³⁸. While the sale of freely allocated EUAs allows firms outperforming their sectoral decarbonisation pathway to raise financing, the money can be used for any purpose and does not provide reliable information on investment flows. Meanwhile, proceeds from the auctioning of EUAs and used to finance environmental projects go to EU Member States, which are outside of the scope of the monitoring framework.

Carbon dioxide removal (CDR) involves capturing CO₂ from the atmosphere and storing it durably on land, in the ocean, in geological formations or in products. Between 3.5Gt to 5.3Gt of CDR are needed already by 2030 to meet the Paris Agreement (University of Oxford, 2023).³⁹ CDRs derive their credibility from independent standard setters such as the UN Secretary General’s High-level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities whose ten recommendations made in their report ‘Integrity matters’⁴⁰ have become the UN *Credibility and Accountability of Net-Zero Emissions Commitments of Non-State Entities* and NGOs (SBTi, 2023). These standards require corporations to neutralise hard-to-abate emissions to achieve net-zero emission targets. Meeting future demand for CDR requires a common regulatory framework for quality criteria and carbon accounting, enabling private companies to claim CDR credits against their voluntary target.

³⁸ Based on data from International Carbon Action Partnership Allowance Price Explorer <https://icapcarbonaction.com/en/ets-prices>.

³⁹ Virtually all IPCC scenarios consider that warming to 1.5°C or 2°C require durable CDR, such as Bioenergy Carbon Capture and Storage, biochar, Direct Air Carbon Capture and Storage than can store carbon permanents for thousands of years (IPCC, 2022).

⁴⁰ UNHLEG (2022).

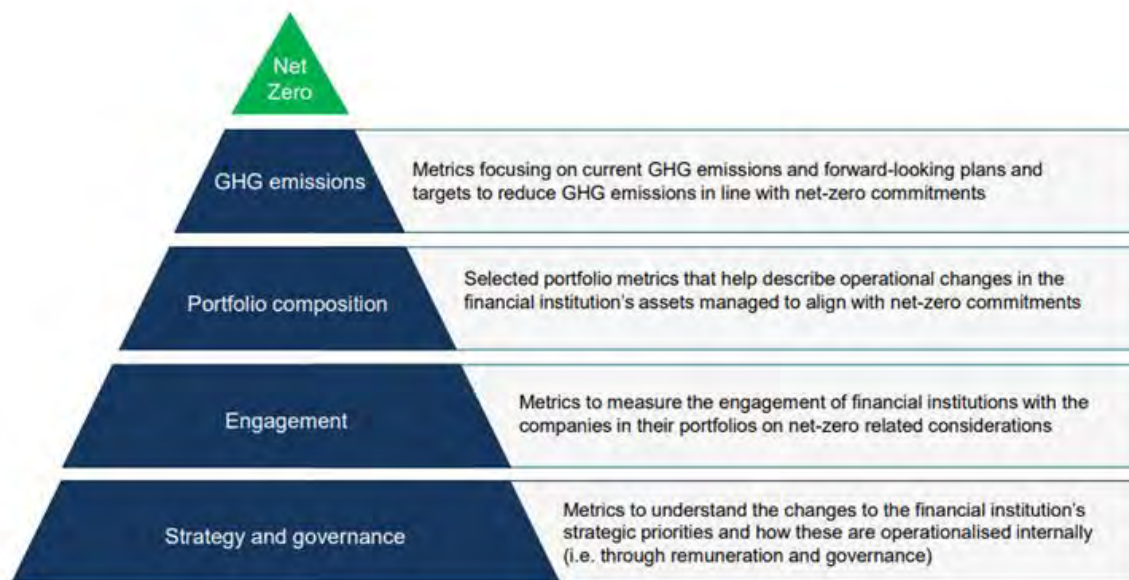
The *carbon removal certification framework* recently tabled in the EU Parliament is a step forward in that direction (European Commission, 2022). However, given the current data limitations and until a regulatory framework for CDRs is fully established in the EU, carbon credits are not included in the monitoring framework.

Transition & financial institutions

To complement the measuring of financial market flows and stocks, this section addresses the overall transition of financial institutions' portfolios. Understanding the strategies and performance of such portfolios can shed important light on what conditions for access to finance for corporates might look like in the future. Reporting on performance against targets furthermore provides a stock-take of the progress in redirecting capital flows towards EU policy objectives.

A growing number of international initiatives, including UNHLEG and GFANZ with various UN-convened net-zero initiatives for banks, asset owners, asset managers and insurers, have developed indicators and guidance specific to financial institutions. Four categories of metrics are pertinent to the assessment of net zero transition in this context (Figure 13) (OECD, 2023a).

Figure 13. Frameworks define information and metrics across four key categories



Source: OECD, 2023

Some of the key metrics of a transition plan towards net-zero, i.e., strategy and governance indicators, are common to both non-financial and financial entities. Other indicators, such as portfolio composition and engagement, as well as financed emissions, only apply to financial institutions. The financed emissions derived from their credit and investments portfolios and products are the core of

financial institutions' scope 3 emissions and are as such the most relevant GHG-related metrics. The provision of capital or financing is indeed directly connected to the service provided by entities.⁴¹

This subchapter proposes indicators to assess asset owners' and banks' transition at the entity level, leveraging on existing UN-convened alliances and regulatory templates. However, the equivalent assessment for asset managers is not conducted in this framework. Although initiatives such as the Net Zero Asset Managers initiative aim at addressing the topic, there is no validated target-setting methodology or guidance broadly used. Asset managers use up to five different approaches according to the latest update from this initiative⁴², which results in low comparability across reported indicators. Obtaining EU-level asset management data, usually monitored by the national authorities, is furthermore challenging.

Once sectoral ESRS standards for the financial sector are published, the possibility of integrating indicators on asset managers will be reconsidered.

Transition of asset owners

In the absence of specific disclosure requirements at the EU level for asset owners, some have signed up to voluntary, sector-specific initiatives such as the UN-convened *Net Zero Asset Owner Alliance* (NZAOA) launched in 2019. This initiative is currently supported by 87 members worldwide, accounting for USD 9.5 trillion AUM committed. So far, 69 Alliance members have set targets according to the requirements, accounting for USD 8.4 trillion AUM⁴³ under the target setting framework.

The indicators and targets under this framework (listed in Table 5) must meet requirements defined in the *Target Setting Protocol*⁴⁴ (e.g., reduction percentage, carbon budgets, etc.), ensuring their robustness, their completeness and their reliance on scientific evidence. Targets are mostly set at sub-portfolio level, generally by type of asset covered (e.g., listed equities, debt, corporate, bonds, real estate, sovereigns, private equity, etc.). Signatories must report targets on their engagement activities and volumes invested in companies enabling climate solutions, both in support of the sub-portfolio targets and the overall target set.

41 Greenhouse Gas (GHG) Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

42 [November 2022 – The Net Zero Asset Managers initiative](#)

43 As reported in the NZAO website in December 2023.

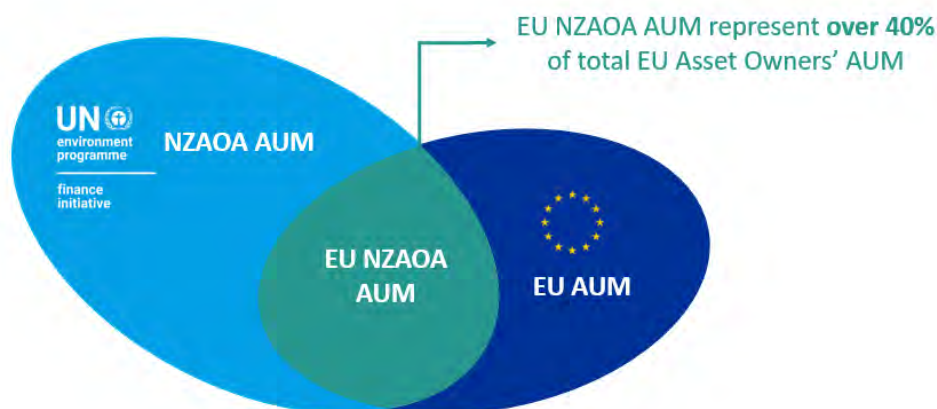
44 UN-convened NZAOA (2023).

Table 5. Selected indicators to describe asset owners in transition

Indicator	Measurement
NZAOA Overall Commitment	Asset Owner has publicly committed to the NZAOA
NZAOA – Engagement targets	Engagement targets and KPIs set in accordance with the types of engagement recognized by the alliance
NZAOA – Sector targets	Sector targets set supported by sector specific intensity KPIs where possible, as defined in the Target Setting Protocol
NZAOA – Sub-portfolio targets	Sub-portfolio emission targets set for its relevant asset classes following the thresholds defined in the Target Setting Protocol
NZAOA – Financing transition targets	Reporting of the amount or share of climate solution investments and optionally setting of a target in relation to the reported figure.

EU asset owners representing over 40% of EU asset owners’ total AUM have set and reported targets under the NZAOA (Figure 14). They include both insurers and Institutions for Occupational Retirement Provision (IORPS)⁴⁵.

Figure 14. EU positioning of the Net Zero Asset Owner Alliance



Source: Analysis based on NZAOA and EIOPA data.

45 Derived from the list of EU asset owners reflected in the NZAOA website in December 2023 and related AUM from EIOPA.

Transition of banks

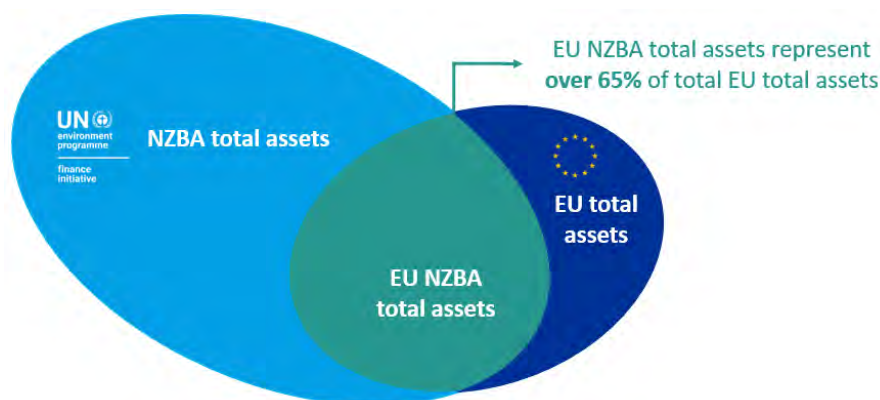
The Net Zero Banking Alliance (NZBA) is another voluntary initiative launched in April 2021. This UN-convened, industry-led programme consists of 139 banks, accounting for USD 74 trillion in total assets and 41% of global banking assets (Figure 15).⁴⁶

Banks' targets are usually set at portfolio-sector level. For instance, the NZBA requires from its members to focus on setting intermediate targets for 2030 or sooner, prioritise nine carbon-intensive or high-emitting sectors⁴⁷. Each member is expected to prioritise sectors that account for the largest share of GHG financed emissions and amounting to at least 70% of financed emissions of the total credit portfolio. To date, portfolios of power generation and oil & gas companies are among the most common sectoral targets set by Alliance members. However, other priority high-emitting sectors are gaining traction among banks.

The set of EU banks that have already set and reported targets, as part of their commitments as NZBA members, accounts for over 65% of EU banks' total assets.⁴⁸

NZBA data indicators might be employed to monitor of banks' transition from an entity perspective.

Figure 15. EU positioning of the Net Zero Banking Alliance



Source: Analysis based on NZBA and EBA data.

The EBA's Pillar 3 ESG templates offer an additional disclosure framework to assess transition in relation to lending portfolios. This enables the assessment of the deviation of banks' exposures

46 As reported in the Net Zero Banking Alliance (NZBA) website in December 2023.

47 Agriculture; aluminium; cement; coal; commercial and residential real estate; iron and steel; oil and gas; power generation; and transport identified as high priority sectors in Guideline 1 of the Guidelines for Climate Target Setting for Banks.

48 Derived from the list of EU banks reflected in the NZBA website in December 2023. NZBA banks total assets extracted from EBA's FINREP reporting and EU bank's total assets derived from ECB's consolidated banking data, both for end-June 2023.

against IEA sectoral scenarios, as well as the coverage of sectoral targets of total financed emissions. This will provide valuable additional information to the target data, as it tracks the decarbonisation of portfolios as well as the relevance of targets. This information will be complemented by a selection of indicators listed in Table 6.

Table 6. Selected indicators to assess banks in transition

Indicator	Measurement
NZBA commitment (*)	Count of EU banks committed to the NZBA
NZBA Targets	Count of EU banks with targets and disclosures on portfolio development
NZBA - Coverage	% and absolute financed emissions covered by NZBA
NZBA - Exposure	% and absolute exposure covered by NZBA
ESG Pillar 3: Sector based transition performance	Deviation (%) of financed emissions from IEA net-zero scenarios per NACE codes
ESG Pillar 3: Portfolio based transition performance	Weighted average (%) deviation for all reported sectors
ESG Pillar 3: Portfolio coverage	Climate targets (%) coverage of financed emissions
ESG Pillar 3: Portfolio non-coverage	Top 3 sectors not covered by targets

(*) Note: Banks should elaborate a transition plan as part of their NZBA commitment.

The proposed indicators entail several limitations. Sectors that are related to banks' lending to other financial institutions and to real estate, such as NACE code sector F, are not included in the mandatory list of sectors in the respective Pillar 3 template. Hence banks, at their own discretion, may choose not to provide information on these sectors. It is also still to be determined how these metrics will relate with indicators reported by banks in accordance with ESRS E1 Climate.

In general, the caveats regarding data for indicators relying on Pillar 3 ESG disclosures also apply here. There may be potential data quality issues in the first disclosure rounds. Entity-level data will not be available from a single source before 2026 (when the ESG Pillar 3 Data Hub is up and running), unless ESG data providers start collecting this information systematically.

CONCLUDING REMARKS

A comprehensive framework...

The approach builds upon the main disclosure regulations of the EU Sustainable Finance Framework (Taxonomy, ESRS, SFDR and CRR). The proposed architecture will provide a first bottom-up estimate of CapEx contributing to filling the Green Deal investment gap. Among the expected outcomes are the pace and trajectory of such investments, the role sustainable finance will likely play in the future, some understanding of companies and sectors on track, as well as related challenges. The dynamic framework can be expanded as more data becomes available, with enough flexibility to integrate information from a variety of data providers. A timeline of disclosures is provided in Figure 16.

... with some caveats

This methodology breaks down an ecosystem of actors from the real economy and the financial sector, as well as their interplay, into segments that allow for analysis at European and/or Member State level. However, tracking each euro from the investor to actual project deployment in the real economy – and in relation to e.g., an environmental objective – will most likely not be possible due to insurmountable methodological difficulties.

Sustainable finance is a field under regulatory development and in constant evolution. Concepts, definitions and approaches are still evolving and will continue to do so in the years to come. This first attempt at creating a holistic monitoring architecture will evolve as concepts and frameworks mature, particularly in areas such as transition and transition finance, with broader scope regulations (including activities under the EU Taxonomy), and the availability of data on, for example, SMEs, retail and the public sector. For instance, SMEs, contributing over 60% to the EU's GHG emissions, are pivotal in achieving sustainability goals, as highlighted in the EU Commission's Annual Report on European SMEs 2021/2022. Their role in Europe's push for climate neutrality and environmental objectives is significant, with opportunities to 'green' their operations and drive transition through innovation. On the retail front, enhancing energy-efficient mortgages is essential for promoting energy improvement measures.

As these markets evolve, the next iterations of this work will aim to capture these developments, particularly from a transition finance viewpoint. We also expect better comparability and quality in reporting which will enhance the analysis of capital flows in the years to come.

Next steps

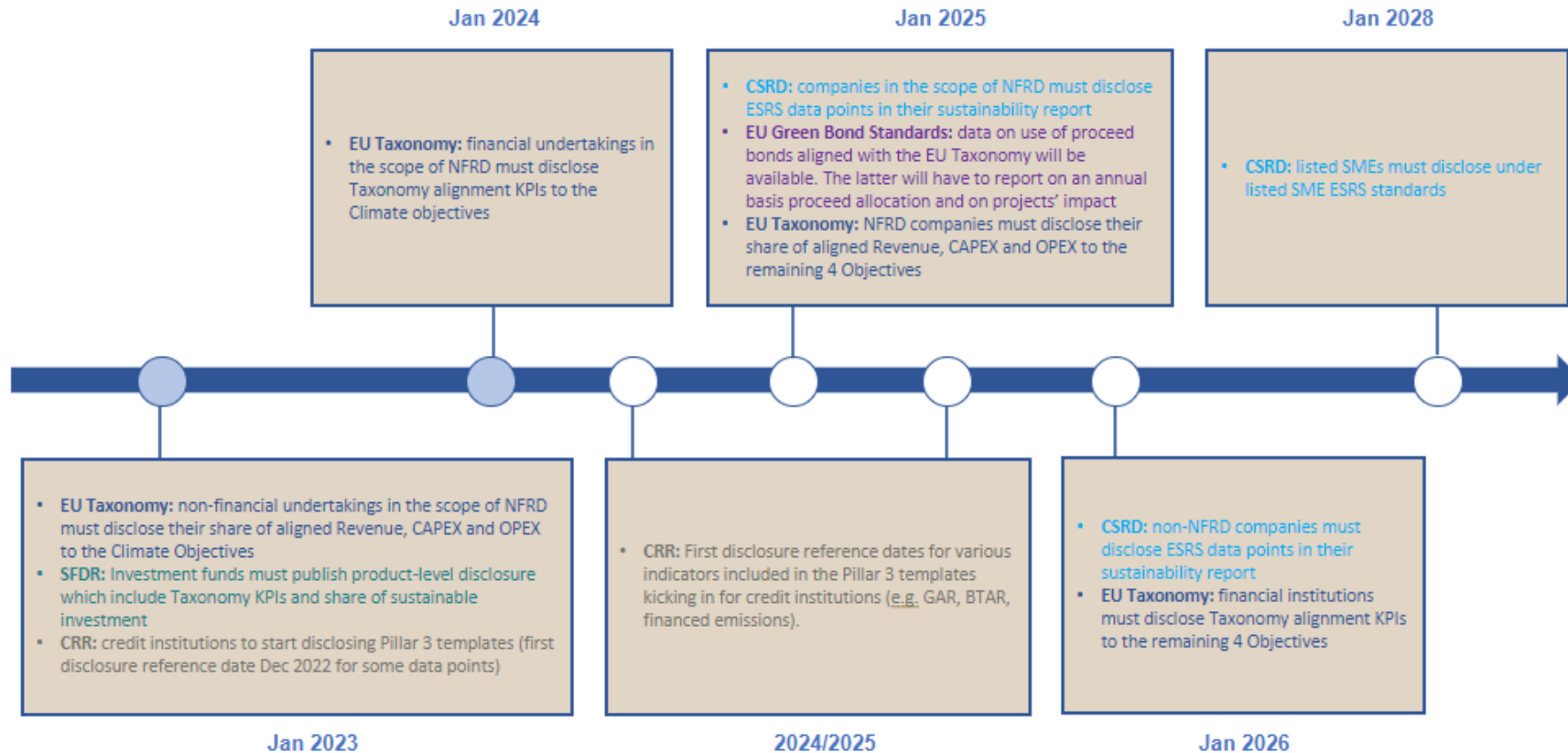
The methodology outlined in this intermediate report will undergo refinement and finalisation in the next phase of work, leading up to the completion of the final report due by the end of the Platform's mandate.⁴⁹ This subsequent phase will entail enhanced collaboration with stakeholders across the board.

The final report will provide an overview of national assessments of investment needs with particular attention devoted to the selection of criteria for entities in transition. Additionally, during this new work phase, the Platform will test the methodology by putting it into practice. This will involve conducting a preliminary assessment of trends based on available data, resorting to proxies wherever applicable. The preliminary assessment will bring together trends between financial and non-financial sectors. The results, to be included in the final report, will also be presented through the lens of Green Deal objectives and on a sectoral basis.

Moreover, the Platform will develop a plan detailing how data collection and the systematic monitoring of capital flows could be operationalised for future reporting.

⁴⁹ [Platform on Sustainable Finance - European Commission \(europa.eu\)](https://european-council.europa.eu/media/en/press-operations/infographic-126923.pdf)

Figure 16. Timeline of disclosures



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