Regulatory context

"International regulation must recognize that environmental risk has no borders. Only a global regulatory vision can prepare the financial sector for a sustainable future".

Kristalina Georgieva[20]

The regulatory framework for managing climate and environmental (C&E) risks emphasizes the need to integrate them into financial institutions' risk frameworks. This section provides an overview of the key regulations and regulatory expectations, highlighting how authorities in different jurisdictions are setting the essential requirements for incorporating C&E risks into institutions' risk models, data strategies and governance structures. By aligning their strategies and models with these regulatory expectations, institutions will not only meet evolving regulatory standards, but also strengthen their resilience to the growing challenges posed by C&E risks.

Global: BCBS Principles for Effective Management and Monitoring of Climate Financial Risks[21]

The Basel Committee on Banking Supervision (BCBS) published 18 principles to improve the management of climate-related financial risks, with the aim of strengthening risk management and supervisory practices. These principles are addressed to both banks and prudential supervisors, with a particular focus on improving corporate governance, internal controls and assessment processes, and the management and reporting of climate-related risks. The BCBS promotes a principles-based approach, encouraging banks to integrate climate risks into their governance frameworks (Principles 1 to 4) and risk management processes (Principle 5). Principles 6 to 12 extend these guidelines to incorporate climate risks into capital adequacy, liquidity and scenario analysis, thereby strengthening banks' resilience in the face of changes driven by climate policy. Principles 13 to 18, addressed to prudential supervisors, underscore the importance of proactively supervising these risks and encourage international cooperation and the adoption of common practices for assessing and managing climate-related financial risks.

The principles provide guidance on integrating climate risks into risk models and stress testing frameworks, offering banks a roadmap for aligning their practices with supervisory expectations. The recommendations on governance and internal controls are particularly important in the context of developing and validating new risk models that incorporate both physical and transition climate risks.

While these principles are not legally binding, they are consistent with some other regulations and expectations, such as the European Central Bank's (ECB) supervisory expectations on climate and environmental risk management[22].

Global: BCBS bulletin on the implementation of principles for managing climate-related financial risks[23]

This bulletin builds on the BCBS principles outlined above by providing practical guidance on the challenges associated with implementing climate risk management practices. One of the key issues addressed is the availability and quality of data, which is often a challenge in integrating climate risks into financial models. Banks are encouraged to use specific questionnaires and conduct due diligence on clients at the intake stage, supplemented by public disclosures and third-party data providers. However, the Bulletin cautions against over-reliance on external sources and emphasizes the need for internal climate data collection processes.

In addition, the BCBS suggests the use of scenario analysis to test different climate risk scenarios, which should complement internal models. These implementation suggestions provide firms with practical strategies to improve climate risk assessments, even in the face of data challenges.

Europe: European Commission's 2021 Banking Package (CRR III/CRD VI)[24]

The European Commission's 2021 Banking Package (which includes CRR III and CRD VI) is a key regulatory framework for integrating ESG risks, which include both climate and environmental (C&E) risks and other sustainability factors, into financial institutions' risk management systems. CRR III requires the development of internal ratings-based (IRB) models and risk quantification processes. Key requirements include definitions of default, data used for modeling and standards for rating systems, estimation of risk parameters, and internal governance. The regulation emphasizes the need to harmonize definitions of ESG risks, including environmental, physical and transition risks, and requires firms to integrate these risks into their business and risk strategies.

CRD VI further strengthens the sustainability approach by integrating climate and environmental risks into the prudential framework. Institutions must adopt strategies and processes that enable them to assess and manage ESG risks over different time horizons. Article 87a specifically requires institutions to develop strategies to cover short, medium and long-term exposures to climate-related risks and to integrate these risks into all dimensions of their business, from strategy to internal controls.

[20] Kristalina Ivanova Georgieva-Kinova (2021), directora del Fondo Monetario Internacional.
[21] BCBS (2022).
[22] BCE (2020).
[23] BCBS (2023).
[24] Comisión Europea (2021).

Europe: EBA guidelines on ESG risk management[25]

The European Banking Authority's (EBA) guidelines provides a structured approach to integrating ESG risks, in particular climate risks, into risk management frameworks. The guidelines emphasize the need for institutions to integrate ESG risks into their risk management systems, ensuring that climate risks are taken into account in strategy formulation, governance frameworks and internal controls.

Institutions should incorporate climate-related risks into their policies, limits and internal control frameworks. In addition, the guidelines suggest establishing appropriate risk appetites and key risk indicators (KRIs) to monitor and manage exposure to climate risks. By aligning ESG risks with the institution's overall risk strategy, the guidelines ensure that climate risks are not treated as separate from other financial risks, but are fully integrated into the organization's risk profile.

The EBA guidelines are divided into three main blocks: (i) a reference methodology for ESG risk identification and measurement; (ii) minimum standards and a methodology for ESG risk management and monitoring; and (iii) CRD VI compliance plans.

The first block, on the methodology for identifying and measuring ESG risks, requires materiality assessments on an annual basis, or at least every two years for small and non-significant credit institutions (SNCI). These assessments must be integrated into internal policies and procedures, taking into account all types of material financial risks in sectors with a high contribution to climate change. In addition, qualitative and quantitative ESG impact data should be collected on the most relevant activities and a risk-based approach should be adopted that assesses the likelihood of such risks materializing and their impact. It is essential to implement data collection systems on ESG risks and to assess the risk profile of companies, especially large companies, using three assessment methods: exposure-based, industry-based, portfolio-based – including portfolio alignment methods, and climate scenario-based.

The second block focuses on minimum standards and methodologies for managing and monitoring ESG risks, emphasizing the integration of these risks into the institution's risk management framework. Institutions are required to manage and mitigate these risks in the short, medium and long term, using tools such as financial term adjustment and portfolio diversification. It is critical to understand how ESG risks impact the business model and to clearly define the material risks faced. It is also important to train employees on these risks, establish an appropriate risk appetite and communicate strategic objectives. The material impact of ESG risks should be incorporated into the ICAAP and ILAAP, assessing their impact on credit, market, liquidity, operational, reputational and concentration risks, and establishing early warning indicators for continuous monitoring.

The third block states that transition plans should address and mitigate ESG risk exposures, especially in sectors critical to climate change. Short-, medium- and long-term goals should be aligned with business strategies and reflected in the institution's risk appetite. It is essential to establish clear roles and responsibilities for ESG management, maintain fluid communication at all levels of the organization, and ensure that the necessary capabilities and resources are in place. Institutions should use specific metrics, such as financed greenhouse gas emissions, to assess their resilience to physical risks and manage biodiversity risks. They should also establish processes to collect and verify data, promote client transition, and assess the impact of their financing activities in the context of their risk management policies.

Europe: EBA report on the role of environmental and social risks in the prudential framework[26]

The EBA report assesses the ability of the prudential framework to capture environmental and social risks and proposes specific improvements to accelerate the integration of these risks into financial management. It also suggests that environmental and climate factors should be incorporated into customer due diligence processes, credit risk differentiation and risk quantification methodologies.

The report recommends that environmental factors be considered in the valuation of financial collateral, and that stress testing programs incorporate climate scenarios to assess potential long-term impacts. The report also highlights the importance of recalibrating rating systems to reflect environmental and social risks and to ensure that these factors are incorporated into the estimation of risk parameters such as probability of default (PD) and loss given default (LGD).

[25] EBA (2025).
[26] EBA (2023).

Europe: ECB Guidance on internal models[27]

The ECB Guidance on Internal Models sets out supervisory expectations for the use of internal models, particularly in the context of credit risk modeling. It interprets the EBA Guidelines with additional emphasis on governance, model validation and audit processes. The Guidance requires institutions to ensure the integration of climate-related risks into internal models, in particular when calculating credit risk parameters.

The ECB also encourages institutions to adopt conservative approaches when data on climate risks are limited, ensuring that climate risks are adequately reflected even in the absence of complete data sets. This Guidance is essential for institutions wishing to modify existing credit risk models or develop new models that take into account climate-related risks.

Europe: ECB final guidance on climate and environmental risks[28]

The ECB's final guidelines on climate and environmental risks provide a comprehensive framework for integrating climate risks into the governance, strategy, risk management and disclosure processes of financial institutions. The guidelines require that climate risks be integrated into business models and strategies, and that boards and senior management take these risks fully into account in their decision-making.

Institutions are expected to integrate climate risks into their Internal Capital Adequacy Assessment Process (ICAAP), risk appetite frameworks and credit risk monitoring. In addition, the guidelines require institutions to disclose climate-related risk metrics and other key information to ensure transparency for stakeholders and compliance with Pillar 3 requirements.

Europe: ECB supervisory priorities for 2024-2026[29]

The ECB has outlined supervisory priorities for the period 2024-2026, with a particular focus on climate-related risks. The ECB plans to follow up on the weaknesses identified in the 2022 climate risk stress tests and to assess the adequacy of institutions' climate risk expectations by the end of 2024.

The main focus will therefore be on reviewing lenders' alignment with these expectations, with non-compliance potentially leading to the application of sanctions or specific add-ons. The ECB will also review disclosure requirements related to climate risks and their integration into reputational and legal risk analysis. While these priorities are not binding rules, they reflect the ECB's commitment to ensuring that financial institutions fully integrate climate risks into their operational and strategic frameworks.

Europe: Opinion on the supervision of the management of environmental, social and governance (ESG) risks faced by Institutions for Occupational Retirement Provision (IORPs) (EIOPA-BoS-19-248)[30]

In December 2019, the European Insurance and Occupational Pensions Authority (EIOPA) published the Opinion on the supervision of the management of environmental, social and governance (ESG) risks faced by Institutions for Occupational Retirement Provision (IORPs) (EIOPA-BoS-19-248). This document provides specific guidance to IORPs on how to integrate ESG factors into their risk management processes and decision-making. The Opinion highlights the need for a comprehensive assessment of long-term risks related to climate change and other sustainability issues, driving further alignment with sustainable practices in the pension industry.

[27] BCE (2024).
[28] BCE (2020).
[29] BCE (2023).
[30] EIOPA (2019).

Europe: Opinion on the supervision of the use of climate risk scenarios in the Solvency and Financial Condition Assessment Process (ORSA) (EIOPA-BoS-21-127)[31]

In April 2021, the European Insurance and Occupational Pensions Authority (EIOPA) published its Opinion on the supervision of the use of climate risk scenarios in the Solvency and Financial Condition Assessment Process (ORSA) (EIOPA-BoS-21-127). This opinion provides recommendations for insurers to incorporate climate risk scenarios in their solvency analyses, underlining the importance of assessing the potential impact of climate change on long-term financial stability and encouraging proactive management of these risks within the insurance sector.

UK: Bank of England (BoE) report on climate-related risks and the regulatory framework for capital[32]

The Bank of England published a report in March 2023 outlining some thoughts on climate-related risks and regulatory capital frameworks, including the development of internal risk identification, measurement, and monitoring capabilities; the need to improve the use of forward-looking tools such as scenario analysis and stress testing; capturing long- and short-term risks; and ensuring a robust framework for assessing the impact of climate risks on capital (e.g., including climate risks in the expected credit loss allowance).

UK: Bank of England (BoE) Supervisory Statement 3/19 and "Dear CEO" Letter (PRA)[33,34]

In both publications, the Bank of England set out detailed expectations and guidance on how companies should integrate their approaches to managing climate-related financial risks, including developing a strategic approach, identifying current and plausible future risks, and taking appropriate steps to mitigate those risks. These expectations were to be met by the end of 2021.

US: OCC, Board and FDIC principles for managing climate-related financial risks at large financial institutions[35]

In October 2023, the U.S. federal banking regulatory agencies published a set of principles intended to help financial institutions focus on key aspects of climate-related financial risk management, such as governance, policies, procedures, limit setting, strategic planning, risk management and measurement, data and reporting.

[31] EIOPA (2021).
[32] BoE (2023).
[33] BoE (2019).
[34] Sam Woods (2020).
[35] The Comptroller of the Currency, the Federal Reserve System, and the Federal Deposit Insurance Corporation (2023).

US: U.S. Securities and Exchange Commission (SEC) final rules for investor climate-related disclosures[36]

In March, the US Securities and Exchange Commission (SEC) published its final rules to improve and standardise climate-related disclosures for investors. These rules, based on the framework developed by the Task Force on Climate-related Financial Disclosures (TCFD), are tailored to the needs of investors and the situation of SEC registered companies. The goal is to ensure consistency, comparability, and reliability of climate-related disclosures, particularly with respect to material risks affecting a company's business strategy, operating results, or financial condition, as well as its transition plans.

Registrants must include information on physical (acute and chronic) and transitional (regulatory, technological, market, etc.) climate risks and their impact on business and corporate strategy. Disclosure is required on climate change targets, transition plans and methodologies used to measure and monitor progress, including the use of carbon offsets or renewable energy certificates (RECs).

The framework also requires the submission of greenhouse gas (GHG) emissions metrics for Scopes 1 and 2, if relevant to the company's business, with the option to obtain an assurance report from an independent third party. Companies must also detail the financial impacts of severe weather events and transition activities, as well as costs related to carbon offsets and RECs. The regulation allows for a gradual adaptation phase, with full implementation starting in fiscal year 2025 (FYB 2025).

The regulatory and supervisory requirements outlined above show how regulators, supervisors, and international institutions are making progress in developing frameworks, regulations, and standards aimed at channeling investment toward economic transition, increasing transparency around sustainability and climate risk, and ensuring the resilience of the financial system. However, this growing regulatory pressure poses significant challenges for both the financial sector and the regulators themselves. In the area of ESG risks, there are still many areas that require further clarity and regulatory development. One of the key challenges is the lack of a uniform framework for assessing the impact of ESG risks on different categories of financial risk (credit, market, operational, etc.) in a consistent manner. Currently, no standard methodology has been defined with a consistent approach, which leads to a high degree of uncertainty in applying coherent and consistent methodologies and in comparing the impact of risks and opportunities across different entities and geographies.

The development of these regulations in the coming years will be essential to establish clear guidelines that allow for an effective and aligned assessment of the impact of ESG risks and a holistic and complete integration of sustainability into the processes, strategies and reports of financial sector players.

Increasing regulatory pressure, exemplified by frameworks such as the BCBS Principles and the ISSB standards, makes it clear that quantitative measurement of climate and environmental risks is critical to meeting regulatory expectations and ensuring the resilience of the financial system. These regulations require not only the identification of risks, but also their quantification through specific metrics and stress tests necessary to accurately assess their impact on portfolios and balance sheets.

For example, in its supervisory guidelines, the ECB requires financial institutions to integrate climate risks into their management strategies and processes, using methodologies that make it possible to calculate the impact of extreme events, such as flooding, on the value of mortgage collateral or loan portfolio assets. Without this quantification, it would be impossible to anticipate the financial impact of physical or transition risks, or to comply with requirements such as the CSRD Directive, which requires transparency in disclosure and alignment with sustainable strategies.

In conclusion, as mentioned above, regulations and supervisory expectations require that climate and environmental risks be incorporated into the management systems of financial institutions. It is therefore imperative to identify and measure the impact of these risks on financial institutions. For this reason, financial institutions continue to develop and improve measurement methodologies that will allow them to better understand and incorporate these risks into their management processes.

The following chapter presents a methodological approach that translates these expectations into concrete tools for measuring climate risks. This approach allows institutions not only to comply with regulations, but also to proactively manage risks and strengthen their ability to adapt in a constantly changing economic and climatic environment.

[36] SEC (2024).