

# EBA Roadmap on Sustainable Finance: Capturing Environmental and Social Risks in the Prudential Framework

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## Executive Summary

The risks associated with Environmental and Social (E&S) factors are fundamentally changing the risk landscape for banks and financial institutions across the world. On 12 October, the European Banking Authority (EBA) published a [report](#) recommending enhancements to the Pillar 1 prudential framework for credit institutions and investment firms to ensure the E&S risks associated with their operations are captured within the current regulatory framework, across all key risk types. In total, 32 policy recommendations are made, covering short- and medium-term actions for institutions and competent authorities.

## E&S risks and their impact

E&S risks are the potential negative effects to a business that emanate from its impact on the natural environment, or communities of people. Failure to effectively manage E&S risks can lead to significant consequences in the form of financial, legal, operational and reputational risks.

Institutions have started to assess the impact of E&S risks on their operations, for example through reporting on Financed Emissions and setting Net Zero targets. Most of these disclosures have been voluntary, however, the sustainability reporting landscape is accelerating with more regulatory reports becoming mandatory in the next years (e.g. Corporate Sustainability Reporting Directive - 'CSRD').

The EBA has acknowledged that E&S risks are changing the risk landscape of the banking sector, and that traditional Pillar 1 capital requirements for credit institutions and investment firms ('institutions') may not adequately capture the associated E&S risks.

## EBA proposed plan

The EBA has proposed a number of **short-term recommendations** to be taken by institutions over the **next three years**, as part of its implementation of the revised Capital Requirements Regulation and Capital Requirements Directive (CRR3/CRD6).

In the medium-to-long term, the EBA also plans to revise the Pillar 1 prudential framework to take into account the increasing importance of E&S risks.

The proposed amendments cover the Standardised Approaches (SA) for Credit, Market and Operational risk; Internal Ratings Based (IRB) approach for Credit risk; and the Internal Model Approach (IMA) for Market risk.

The recommendations are wide reaching, covering all key risk types, and will require institutions to fundamentally reassess their prudential requirements to ensure E&S risks are fully captured.

# Key themes and challenges...

The EBA intends to take account of E&S factors across the Pillar 1 and, where applicable, Pillar 2 prudential frameworks. However, it currently does not intend to have a dedicated prudential treatment for E&S factors to prevent any undesirable effects on financial stability across micro and macroprudential perspectives. Instead, the EBA has adopted a risk-based approach aimed at ensuring the prudential requirements reflect the underlying risks faced by institutions and these risks are captured via the Pillar 1 and Pillar 2 frameworks, as applicable.

The EBA has also stated that E&S risks should not be categorised as entirely new risk categories, but drive traditional categories of financial risks through a variety of transmission channels, such as asset performance, profitability and legal costs, among others. The key challenges that institutions face and steps that can be taken to mitigate these are outlined below.

This paper will focus on the potential impact for UK based firms with EU operations. In contrast, the Prudential Regulatory Authority (PRA) has so far not made any specific references to the inclusion of E&S factors in the Pillar 1 prudential framework. The conclusions presented by the PRA as part of its 'Climate in Capital' conference held last year indicated that current evidence suggests that the existing time horizons over which risks are capitalised by banks and insurers are appropriate for climate risks. However, the expectation is that the institutions will continue to monitor and assess the emergence of climate-related risks and ensure appropriate levels of capital are held to cover them.

Therefore, this paper provides a starting point for institutions to assess the likely changes required to their current regulatory requirements.

## Credit Risk



Primary risk impacted by E&S factors based on RWA composition (84% of RWAs are attributed to credit risk)

## Market Risk



Both transitional and physical risks can affect the short-term volatility of market risk factors

## Other Risks



Operational and concentration risk are also likely to be impacted by E&S factors, in particular, physical risks

## Key challenges for institutions

The EBA has identified the following **key challenges** that institutions face in incorporating E&S factors into their regulatory metrics:

1. **Limited relevant, high-quality and granular data** for meaningful analysis.
2. **Lack of a common, standardised and complete classification system** for environmental and social sustainability across exposures and jurisdictions.
3. **Challenges in linking non-financial forward-looking ESG information to prudential parameters**, particularly with challenges around the estimation of the probability of physical risk occurrence.
4. **Poor quality and lack of transparency** in the determination of **ESG ratings and scores**.
5. **Complexity in defining forward-looking indicators** to determine the probability of materialisation of physical risks.
6. **Challenges with the estimation of E&S risk losses** being captured in the current prudential Pillar 1 framework. As Pillar 1 relies on historical data, estimation techniques for E&S risk factors need to evolve to capture the future financial impacts of physical events or transition tipping points.
7. **Differences in time horizons** between Pillar 1 frameworks (short term) and E&S risks manifesting over a longer time horizon. This results in E&S risks not being captured effectively by the Pillar 1 framework.

## Considerations for institutions

According to the EBA paper, Institutions will therefore need to consider the impact of these changes on the following areas:

- **Risk measurement:** Institutions need to develop techniques and tools to quantify how E&S risks translate into financial risks, identify whether E&S factors constitute triggers for operational risk, and model the environmental component of E&S related products.
- **Risk governance:** Institutions need to establish risk appetite statements for E&S factors and monitor on an ongoing basis.
- **Credit risk modelling:** Institutions will need to recalibrate their credit risk rating systems to reflect the correlation between E&S factors and default, and the impact on model estimates. ECL models may also need to incorporate forward-looking environmental scenarios.
- **Stress testing:** Within the Pillar 2 framework, stress testing scenarios will need to take into account environmental risk factors.
- **Valuations:** Institutions will need to ensure financial collateral valuation, fair value estimates and prudential valuation requirements reflect environmental risk factors.
- **Data gaps:** Additional data elements will need to be sourced, stored and integrated within the models underpinning the institutions' risk assessment processes in order to identify, measure and quantify E&S risks.



# ... and next steps for institutions

Whilst the EBA report presents a range of policy recommendations for institutions, competent authorities, external credit assessment institutions, and even itself, we have summarised our view of the key next steps institutions should think about taking in response to the report.

The report is wide ranging, with some recommendations requiring further detailed analysis before any actions should be taken. This includes cases where the EBA indicates no action should currently be taken, but may result in changes in the future.

1

## Gap analysis - status-quo assessment - Starting now

- **Conduct a maturity / gap assessment** against the recommendations outlined within the EBA report.
- **Review current operational practices** to understand where E&S factors may be incorporated. This includes valuation processes and recoveries strategies, where E&S factors may drive changes in these operational areas.
- **Review current governance processes**, including potential changes to risk appetite statements to incorporate E&S factors.
- **Deep-dive on current internal risk estimates** - where data on E&S factors is already available, institutions should assess their internal risk estimates to understand how these could be incorporated into current modelling frameworks.
- **Perform education sessions with the Board and Senior Management** to drive a top-down transition plan agenda.

**Output:** Roadmap to close recommendation gaps, with prioritisation and ownership of key activities.

2

## Establish data collection and processing strategy - Next 3 to 6 months

- **Conduct vendor selection process** to ensure data requirements / needs for E&S related factors are appropriately met and are of a sufficiently high-quality and granularity. Choosing the right vendor(s) can be one of the most significant decisions that an institution needs to make on their journey to decarbonisation.
- **Formulate data strategy** including infrastructure and controls framework.

**Output:** Ability to record and store relevant E&S factors on an ongoing basis, with historical data collected where possible.

3

## Execute roadmap & embed elements into prudential framework - Next 6 to 12 months

- **Develop detailed remediation/ enhancement roadmap** towards full alignment to relevant recommendations, embedding alongside other ESG related initiatives.
- **Enhance current policies and standards** to align activities with EBA recommendations.
- **Monitor and record process** of implementation of changes against agreed roadmap.
- **Design and implement** client engagement strategy and lifecycle management changes where appropriate.

**Output:** Revised prudential framework that is aligned to the EBA policy recommendations.

# Credit risk considerations

Credit risk typically constitutes the largest risk type faced by banks. E&S factors may impact a bank's borrower or counterparty business through a number of transmission channels, such as lower profitability through expenses for lowering environmental footprints, and the depreciation of physical assets due to environmental events. This will impact the borrower or counterparty's ability to meet its obligations to the bank in accordance with the agreed terms, and result in lower potential recoveries in the event of default.

## E&S risks and the standardised approach

- The EBA does not consider external credit ratings (used to determine risk weights under certain exposure classes) to uniformly capture E&S factors across rating agencies and sectors, given significant divergences in E&S disclosures.
- Banks can currently use credit risk mitigation (CRM) techniques such as collateral to reduce their credit risk capital requirements. Financial collateral valuations, which are subject to regular re-evaluation requirements, are likely to be impacted by E&S factors over time.
- The EBA has also noted additional challenges with determining any changes to retail exposure class risk weights, given the uncertainty on which exposures could be environmentally harmful.
- Under Basel 3.1, IRB institutions will also need to consider the impact of E&S risks on equivalent SA requirements, given the introduction of the output floor on the capital benefit of internal models.

## Short-term recommendations

- Institutions should capture E&S factors within immovable property collateral valuations.

### Standardised Approach (SA):

- The EBA recommends that external credit assessments by credit rating agencies should integrate E&S factors as credit risk drivers where relevant, and improve transparency in their rating methodologies and disclosures.
- Competent authorities should incorporate environmental factors into due diligence requirements, to ensure environmental risks are captured within the prudential framework.

### Internal Ratings Based (IRB):

- Institutions should consider E&S risks during risk differentiation and quantification steps of the rating assignment process, and in the use of human / expert judgement and overrides.
- These factors should only be taken into account where sufficient data is available and does not result in a reduction in the performance of the rating system.
- The application of overrides should be used in a limited capacity, and in situations where the institution considers exposures to be materially exposed to E&S risks, but with insufficient information to estimate the potential impact. Any overrides should be applied in a conservative manner.
- Banks should also consider E&S risks as part of their stress testing programmes.

## E&S risks and the IRB approach

- The EBA has considered how E&S risks can be captured across the IRB model development cycle. This includes the identification of defaults and losses, risk quantification, and the development and application of rating systems.
- The report acknowledges challenges with the availability of historical E&S data and where data does exist or may be incomplete. The EBA also notes the potential change in data and frequency of E&S risks expected going forward, which may also present challenges in adopting such parameters in risk quantification.
- The EBA also gives consideration to how E&S factors could be captured in the risk differentiation and risk quantification steps of rating system development, through the introduction of additional risk drivers where sufficient information is available.
- Market practices and valuation standards are also increasingly taking account of environmental factors for immovable property collateral values.

## Medium-to-long term recommendations

### Standardised Approach (SA):

- Institutions should ensure financial collateral valuations increasingly reflect environmental factors.
- The EBA will assess the need to subject high-quality specialised lending corporate exposures (asset class introduced in Basel 3.1) to similar environmental provisions as specified under the guidance related to the application of Infrastructure Supporting Factor.
- The EBA will reassess the need to consider environmental risks when evaluating the risk weights assigned to real estate exposures.

### Internal Ratings Based (IRB):

- The EBA will reassess whether a broader list of E&S risk drivers should be incorporated into relevant PD and LGD estimation Guidelines (EBA GL/2017/16).
- Institutions should reflect E&S risks as part of PD and LGD estimates through redevelopment or recalibration of rating system, as data on the impact of E&S risks becomes available.
- The EBA will reassess the appropriateness of revising the risk weight formula, the risk weights applied to specialised lending under the slotting approach and the LGD and CCF values used for under the F-IRB approach in light of evolving E&S risks.



# Market risk considerations

E&S factors can impact the risk held in the trading book in various ways. For instance, commodity markets can be impacted by the transition to a low-carbon economy; emerging risks emanating from climate change can also lead to market price fluctuations. The EBA does not expect environmental risks to lead to new factors, but rather act as risk drivers for traditional market risk factors such as equity price, credit spread, etc.

## E&S risks and the SA

- The EBA considers that current risk weights specified in its regulation for the Sensitivity Based Method (SbM) do not adequately reflect the impact of environmental risk drivers, as these were calibrated based on historical data for a stressed period covering the global financial crisis.
- However, complementing calibrated risk factors with forward-looking environmental-risk-related scenarios will lead to a major divergence for the current approach by reducing the risk sensitivities of the approach.
- As a result, the following medium-to-long term alternatives have been proposed by the EBA as a means by which asset prices could better reflect E&S risks in the case where these take the form of risk drivers:
  - Include E&S risks when defining buckets for equity and credit-spread risk classes.
  - Introduce a new environmental risk class to include the traditional FRTB SA equity and credit risk factors, with the scope limited to the delta risk component of positions exposed to E&S risks.

## E&S risks and the simplified SA

- Institutions with small businesses will have the option to continue using the current non-FRTB standardised approach, also known as the 'simplified standardised approach'. Recalibration of this approach, with minimal changes, could be considered in the future by the EBA only if environmental factors become a strong driver of market risk.

## E&S risks and the internal model approach

- Institutions' internal models are expected to capture E&S risks as they materialise. Where the market prices environmental risk, the EBA expects institutions' internal models to account for environmental factors in addition to the traditional market risk factors.
- Institutions using IMA are also expected to consider environmental risks in their stress testing programmes. In addition, the introduction of validation requirements for modelling environmental risks may be considered when analysing the causes of back-testing overshooting.
- Given that current data may not yet be reflective of environmental risks in full, in addition to a lack of data availability or lack of relevant information, institutions could be expected to adjust their historical data to take into account environmental risks that are not yet priced in the stress periods used as part of stress testing.
- The EBA acknowledges that any adjustments to historical data could have an impact on the accuracy with which non-environmental risk-related financial risks are captured, as well as lead to double counting in the case where the impact of environmental risk is already captured by market volatility.
- In the medium term, institutions will also be required to take into account environmental risks outside of the internal model using the ECB Risk Not in the Model Engine (RNIME) framework.

## Short-term recommendations

- Institutions should consider environmental risks when setting their trading book risk appetites, internal trading limits and giving consideration for new product approvals.
- Institutions using internal model approach (IMA) for calculating their regulatory market risk capital charge should consider environmental risks as part of their stress testing programmes.

## Medium-to-long term recommendations

- Competent authorities should assess how institutions' ESG-related products are treated in relation to the risk-residual add-on for the market risk capital charge.
- Competent authorities should also assess how ESG-related products are treated in the internal risk measurement model.
- Institutions should consider broader ESG risks in their risk monitoring process for risks that are not included in the model using the ECB's RNIME framework as basis.
- The EBA will reassess whether it is appropriate to include environmental risk in equity and credit-spread risk class buckets or introduce a new environmental risk class.
- The EBA will reassess whether it is appropriate to introduce explicit regulatory provisions to require banks to include environmental risk drivers in their internal models.

# Other risk considerations

The EBA report also analyses the impact of E&S risk factors in other areas such as:

- Operational Risk
- Concentration Risk
- Capital buffers and macroprudential framework
- Investment firms

The EBA report also considers liquidity risk metrics such as **Liquidity Coverage Ratio (LCR)** and **Net Stable Funding Ratio (NSFR)**, however there are **currently no recommendation to change these frameworks** as they already capture E&S factors.

## Operational risk

- The EBA report provides a range of E&S factors that can impact operational risk requirements, from physical risks to legal and conduct risks.
- The report acknowledges the challenges related to a lack of data which hinders analysis of E&S factors in the calculation of operational risk.
- The EBA will also give consideration to ways of incorporating forward looking information in the calculation of operational risk under BCBS SA approach in the future.

## Concentration risk

- The EBA notes that the current Pillar 1 regime does not adequately capture E&S factors, as the current regime is designed to capture risks for their own purpose.
- The EBA intends to use enhanced reporting and disclosure requirements, monitoring and supervisory actions to ensure E&S risk factors are appropriately reflected risk metrics.
- The report also acknowledges the challenges related to enhancing these risk metrics.

## Capital Buffers & Investment firms

- The EBA recommends using Systemic Risk Buffers (SyRB) to capture E&S factors, due to the flexibility offered by them to tackle environmental risks.
- The EBA report only considers investment firms which apply the K-factor methodology based on the Investment Firm Regime (IFR).
- The EBA considers for certain K-factors, an alignment with CRR updates will ensure environmental risk factors are included in relevant calculations.

### Short-term recommendations

- Institutions should determine whether E&S factors are causes of operational risk losses, alongside the current operational risk categories.

### Short-term recommendations

- The EBA will define 'environment-related concentration risk'.
- The EBA will create exposure based metrics for concentration risk, appropriately benchmarked, for evaluation under Pillar 2 or Pillar 3 ESG disclosures, and updating guidelines.

### Short-term recommendations

- The EBA will assess the need to change guidelines for the subsets of sectoral exposures where SyRB is applied.
- The EBA recommends that the treatment of E&S risks for investment firms remain under the Pillar 2 framework for all K-factors.

### Medium-to-long-term recommendations

- If evidence shows that environmental and (where relevant) social factors trigger operational risk losses increasing in frequency and severity, the EBA would reconsider changes to the Basel Committee's Standardised Approach (BCBS SA) methodology in alignment with the agreed international developments.

### Medium-to-long-term recommendations

- The EBA will explore the implementation of refined concentration risk metrics as data quality and availability improve. These will be based on similar principles related to the SbM approach.
- The EBA will also consider the inclusion of concentration risk metrics within the Pillar 1 framework, including limits, add-on buffers and possible consequences in case of breaches.

### Medium-to-long-term recommendations

- The EBA will explore adjustments to the wider macroprudential framework to address the inclusion of environmental risks within the appropriate buffers.
- The EBA recommends alignment between CRR and IFR for market risk, trading book concentration risk, CVA and counterparty credit risk.
- For commodity dealers, EBA does not recommend introducing new factors at this stage.

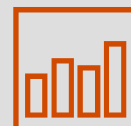
# How PwC can help?

We have extensive experience supporting financial institutions in navigating the various challenges that come with Environment & Social factors. In partnership with our Prudential Regulation team, we are uniquely placed to bring market-leading digital assets to assess and quantify the impact of E&S risks, along with a deep technical understanding of the Pillar 1 Prudential Framework.

Please reach out to discuss this paper further and how we can help your institution to tackle the risks associated with these factors.

1

**Data sourcing and processing** – selecting appropriate data based on defined criteria, sensitivity and benchmarking analysis, development and use of proxy-methodologies, including quantification of uncertainty and model risk.



2

**Environmental and social related risk modelling** – model design, development, validation and implementation.



3

**Setting environmental risk appetite** – support defining and setting risk appetite, tolerances and thresholds for environmental risk, internal trading limits.



4

**E&S integration in Credit risk models** – support integration of E&S factors in conjunction with existing risk models via shadow-modelling approach and off-the-shelf solutions for Retail, Corporate and Sovereign asset classes.



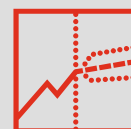
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**E&S integration in Market and Operational risk models** – support integration of E&S factors in conjunction with existing modeling approaches to assess and quantify the potential impacts on market and operational risk models such as CCR and XVA.



6

**Stress testing** – scenario design and expansion, vulnerability analysis, Physical and Transition Risk Modelling, financial impact assessment.



7

**Embedding environmental risks outputs into the wider business process** – sustainability reporting, transition planning, financial reporting process, integrated enterprise-wide climate risk management framework, target operating models and climate-adjusted credit risk framework.



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