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Association des Banques et Banquiers, Luxembourg
The Luxembourg Bankers' Association
Luxemburger Bankenvereinigung

# Integrating climate-related and environmental risks into risk management frameworks

**Practices and challenges for the Luxembourg banking industry**

January 2022

# Contents

# Foreword

Sustainability has become a major area of attention in today's society and it has rapidly climbed to the very top of the political agenda in Europe. As a consequence, financial institutions face increasing pressure from regulatory bodies, investors, and the general public to have a central role in the transition to a greener world.

These Environmental, Social, and Governance (ESG) considerations present a major challenge for the banking industry... and for its risks managers! Financial institutions are expected to better consider risks stemming from climate change, environmental issues, and social concerns in their activities as well as to simultaneously increase their contribution to sustainability.

To this end, the financial sector needs clear definitions of what may be qualified as climate-related and ESG risks, and subsequently analyze available data and considered factors in order to adapt existing risk management frameworks and models. This publication will guide readers through this complex matter, outlining approaches for integrating ESG risk factors into the risk management of financial institutions.

This whitepaper has been prepared by the Luxembourg Bankers' Association (the ABBL) with the active support of Deloitte Luxembourg and with the contribution of the ABBL's ESG risks taskforce members. It aims to share a comprehensive overview of the current expectations from regulators as well as some observed approaches, practices, and challenges for integrating ESG risks into banks' risk management frameworks, with a specific focus on its Climate-Related and Environmental (CRE) components.

**What does this whitepaper contain?**

**Context**

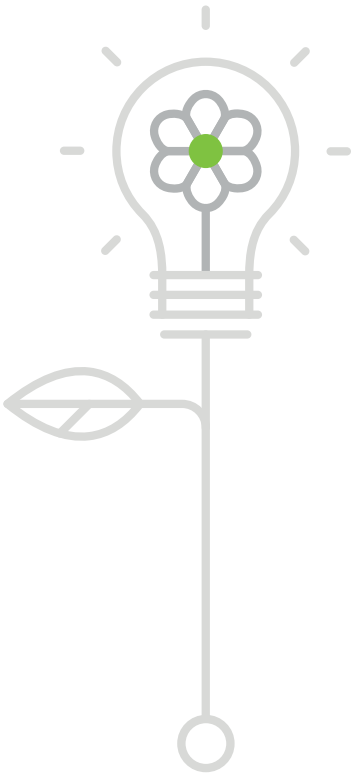
The first section sets the scene and provides a summary of the EU Action Plan on Sustainable Finance and the relevant definitions of climate-related and environmental risks, as well as elements to understand how these risks can potentially turn into financial risks.

**Regulatory background**

This section sets out the regulatory background, including legislation and requirements applicable, with a focus on regional and stakeholder specificities.

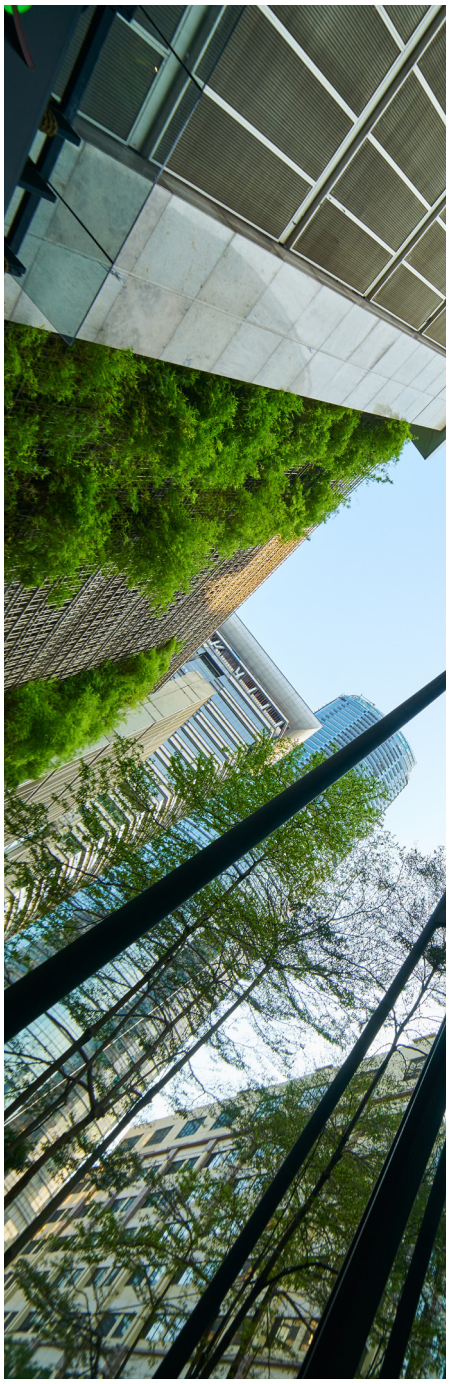
**Practical implications and challenges for banks**

This section presents the expectations on sound strategy and governance, risk management, and disclosures. It also provides some insights on observed practices and related challenges for the banking sector in Luxembourg.



# Executive Summary

## Evolving regulatory landscape around ESG risks and the progression of related risk management considerations have called for further collaboration between industry participants in order to help ESG risk management market practice to emerge.



The paper has been written based on insights provided by the ABBL's ESG risks taskforce members as well as on desk research. Ten banks in Luxembourg have taken part to the interviews, representing a well-balanced and diverse sample from both business model and size perspectives. Among those:

- "Significant Institutions", "Other Systemically Important Institutions" in Luxembourg and Globally Systemically Important Banks (G-SIBs).
- Five institutions have established their core activities in the private banking.
- Two are active in the asset servicing business.
- Three banks are considered universal, offering a wide spectrum of services.

Banks foresee a phased approach to progress on their learning curve over time as usable data is made available over time. Data remains indeed a challenge that all institutions are facing, and which is slowing down the effort made in the integration and quantification of ESG risks. However, data is not the only challenge: finding and/or developing the required transversal skillset of key people is not deemed a trivial exercise. On top of that, some other challenges also remain. Among them, Luxembourg entities which are part of large institutions have highlighted their dependency from the group wide ESG initiatives, raising the challenge of properly capturing local specificities and aligning with timelines and deadlines (especially in the context of non-EU groups). Sustainability turned out to be well supported by management bodies, with banks progressing effectively in terms of ESG governance, creating specific dedicated committees and identifying key stakeholder from various functions. From a methodological point of view, practices are still very heterogeneous.

As key message from the interviews, the insights provided by the institutions have highlighted that all banks have started to integrate ESG considerations within their operational frameworks. However, in this context, the level of maturity appears greater from a product development perspective, while several areas for improvement are still observed from the risk management framework point of view.

# The 'challenge of the century' and the risks it poses to banks

"Having a sustainable economy is essential. It will take massive investment that States cannot put in without the help of private funding. What we're talking about is promoting sustainable investment – in capital structuring, in risk assessment."[1]

**Claude Marx, Director General of the CSSF**

**Political focus on sustainability and the role of financial institutions**

Many observers have dubbed summer 2021 "the Summer of Extremes" with floods, fires, droughts, intense heat, and powerful storms ripping through the globe. This succession of events highlighted once again (if still needed), how man-made warming has increased the frequency and intensity of extreme weather events. Yet, it also demonstrated that, globally, our society is still not fully prepared for the impacts of our changing climate and environment.

Over recent years, climate change and sustainability matters have climbed to the top of most political agendas, globally and in Europe in particular. For instance, the European Commission's "*Action Plan for Financing Sustainable Growth*"[2], published in March 2018, was built upon the recommendations from the High-Level Expert Group on sustainable finance (HLEG)[3] around three objectives:

01. Reorient capital flows towards sustainable investment to achieve sustainable and inclusive growth;
02. Manage financial risks stemming from climate change, resource depletion, environmental degradation, and social issues; and
03. Foster transparency and long-termism in financial and economic activity.

Together with the European Green Deal[4] adopted by the European Commission in December 2019, the action plan is a milestone towards the implementation of the Paris Agreement[5] in order to make Europe the first climate-neutral continent by 2050. In Luxembourg, the government ratified the Paris Agreement on climate change and adopted for the first time a Climate Law in December 2020, demonstrating its commitment to align finance flows with the agreed climate goals.

The banking industry is thus expected to play a pivotal role in the achievement of those political objectives and should thereby embed sustainability considerations in all its products and services (lending, direct investment, product design, intermediation with financing schemes, etc.). Concurrently, banks should also better identify how vulnerable they are to the financial risks and instability stemming from the adverse impact of climate change and ESG factors.

Recently, the European Central Bank (ECB) identified climate change as a key risk factor for the European banking sector[6]. In particular, it highlighted that 80% of European banks' loan exposures are towards firms facing, at least to some extent, climate-related physical risks. It also estimated that the lion's share of the risk may come from European banks' exposures to the manufacturing sector (accounting for around 20% of banks' loan portfolios), especially when capturing emissions across the entire value chain (namely, Scope 3 emissions). Similarly, 30% of banks' securities portfolios consist of high-emitting non-financial corporations (NFCs).

All this calls for proper and structured identification, assessment, management, and mitigation of CRE risks. But in order to do so, the various concepts must first be defined.

1 Luxemburger Wort (June 2019).
2 European Commission (2018). Action Plan: Financing Sustainable Growth.
3 EU High-Level Expert Group on Sustainable Finance (2018). Final report – Financing a sustainable European economy.
4 The European Green Deal (europa.eu).
5 Paris Agreement | Climate Action (europa.eu).
6 ECB (2021), Financial Stability Review, May 2021.

## Defining climate-related and environmental risks

**Environmental risks** should be understood as "*the financial risks posed by an institution's exposures to counterparties or invested assets that may potentially be affected by or contribute to the negative impacts of environmental factors, such as climate change and other forms of environmental degradation (e.g. air pollution, water pollution, scarcity of fresh water, land contamination, biodiversity loss, and deforestation*)"[7].

**Climate-related risks** are only a subset of environmental risks and refer specifically to risks stemming from climate change such as extreme weather events or policy changes. In other words, climate risks have a potential impact on the environment but, on the contrary, not all environmental threats are climate-related (e.g. land contamination). Yet, the two concepts frequently overlap each other, so that they are usually treated as one single notion in both the regulation and in market practices.

Going further, CRE risks have two main roots:

1. **Physical risk** refers to *"the financial impact of a changing climate, including more frequent extreme weather events and gradual changes in climate, as well as of environmental degradation, such as air, water and land pollution, water stress, biodiversity loss and deforestation. Physical risk is categorized as "acute" when it arises from extreme events, such as droughts, floods, and storms, or "chronic" when it arises from progressive shifts, such as increasing temperatures, sea-level rises, water stress, biodiversity loss and resource scarcity. It may directly result in, for example, damage to property or reduced productivity, or indirectly lead to subsequent events, such as the disruption of supply chains."*[8]

2. **Transition risk** refers to "*an institution's financial loss that may result, directly or indirectly, from the process of adjustment towards a lower-carbon and more environmentally sustainable economy. It could be triggered, for example, by a relatively abrupt adoption of stricter climate and environmental policies, technological progress or changes in market sentiment and preferences*".[9] Three drivers are generally considered to be at the core of transition risk:

   c. Policy changes, which could result in more stringent energy efficiency requirements for buildings or higher carbon prices;

   d. Technology changes, which could lead to technologies and products being replaced by more sustainable alternatives; and

   e. Changing consumer behaviors and preferences, impacting the demand of products and services deemed unsustainable in favor of more climate-friendly alternatives.[10]

7 EBA (2021), EBA Report on management and supervision of ESG risks for credit institutions and investment firms.
8 CSSF Circular 21/773 on the management of climate-related and environmental risks (2021).
9 CSSF Circular 21/773 on the management of climate-related and environmental risks (2021).
10 European Commission (2019), Communication from the Commission – Guidelines on non-financial reporting: Supplement on reporting climate-related information.

Although physical risks and transition risks are usually assessed separately due to different root causes, they are interconnected and part of the same framework, as illustrated in Figure 1.[11]

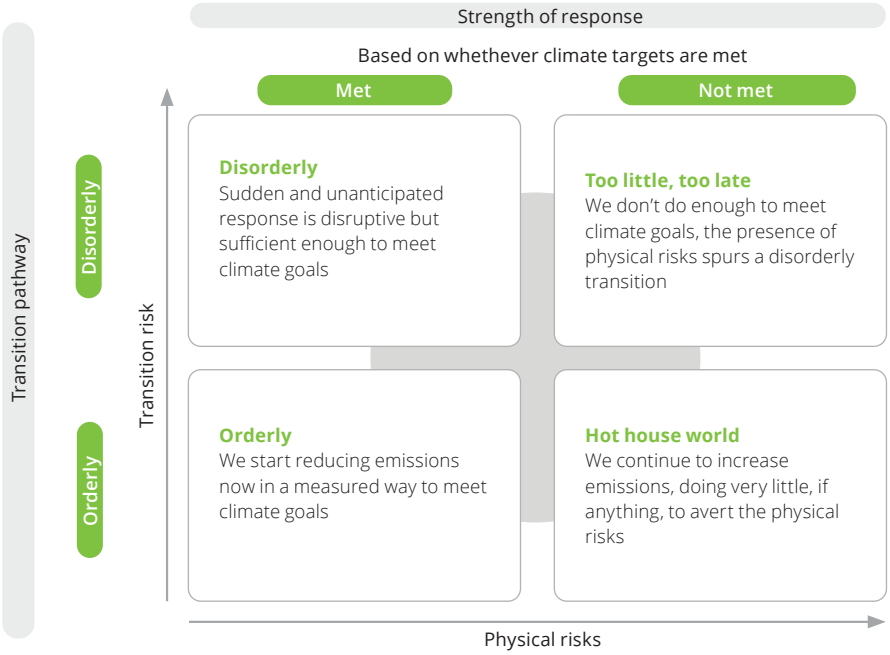
A significant increase in physical risks would require the economy to transition more rapidly, leading in turn to bigger transition risks.

If the required decrease in greenhouse gas emissions does not take place timely, physical risks and the pressure for action for all stakeholders would increase.

In the more severe scenarios, extreme climate-driven damages due to the long delays in energy transition will eventually result in a sudden and radical change in the economy.

While there is still no consensus as to the way CRE risks should be positioned within existing risk taxonomy in banks[12], it is generally agreed that CRE risks do not constitute new risk types, but are rather *drivers* of conventional risk types. Therefore these could ultimately have financial impacts via so-called transmission channels, i.e. "*causal chains linking climate risk drivers to the financial risks faced by banks and the banking sector*".[13]

**Figure 1. Interconnection of transition and physical risks**




Source: Network for Greening the Financial System

Climate-related risks are only a subset of environmental risks and refer specifically to risks stemming from climate change such as extreme weather events or policy changes.

11 S&P Global – Trucost ESG Analysis (2019). Understanding Climate Risk at the Asset Level: The Interplay of Transition and Physical Risks
12 ECB (2020), ECB report on banks' ICAAP practices.
13 Climate-related risk drivers and their transmission channels (bis.org).

**Use cases illustrating the concept of transmission channels are provided in Box 1.**

## Box 1: Examples of transmission channels from ESG risks to financial and operational risks

**Use case #1: Transmission to credit risk**

In 2020, deadly wildfires in California burned more acres than any year on record[14], with the previous record being set only two years earlier.
In recent years, the likelihood of wildfires has increased by exacerbated droughts seen in California, with wildfires destroying buildings and infrastructures. Consequently this has impacted productivity and decreased revenues of non-financial firms, in turn increasing credit risk exposures of their banking counterparts (both in the form of probability of default and loss given default).

**Use case #2: Transmission to operational risk**

Financial losses and liabilities could stem from a series of CRE risks' interactions with operational risk. For instance, following extreme weather events, institutions' operations could be disrupted and halted due to physical damage to their properties or data centers. This point is particularly relevant in the context of outsourced activities and may severely impact business continuity. For instance, entire or partial outsourcing to contractors in Asia of information technology (IT) or compliance activities has become more common. However, as outlined by Bonn-based environmental organization, Germanwatch[15], India was the seventh most affected country by climate change in 2019 with monsoon conditions lasting longer than usual and with major adversities caused by higher-than-expected rainfall.
Such events may have resulted in institutions' not being able to perform mandatory activities over a certain time period, facing the risk of fines from regulators.

**Use case #3: Transmission to reputation and legal risks**

Tokyo Electric Power Company (TEPCO) was managing the Fukushima Nuclear Power Plant in 2011. The plant was hit by a tsunami that flooded the reactors following a 9.0-magnitude earthquake, causing radioactive material to leak. Environmental degradation followed, leaving the surroundings inhabitable and causing the displacement of more than 150,000 people. Environmental risk drivers translated into liability and reputational risks, in addition to tangible financial damage due to decommissioning of the nuclear power plant. On top of that, liability risk turned into US$40 billion in compensation paid to business and individuals for damages caused by the Fukushima disaster. ESG risk drivers were once again strongly interconnected, with environmental risk drivers being, to some extent, linked to poor governance within TEPCO and the Japanese government. This was highlighted by the Nuclear Accident Independent Investigation Commission (NAIIC), which defined the event as a "man-made disaster" and concluded that "it is obvious that TEPCO's corporate culture has been lacking in efforts to prevent accidents and to improve nuclear safety as a part of their obligation as a nuclear power plant operator. This point is also evident given TEPCO's long history of concealing accidents."

In the end, it had a very strong effect on TEPCO share price, which plummeted from around ¥2,200 to less than ¥400 in the aftermath of the disaster, with long-lasting effects still observable a decade later.


14 https://www.cbsnews.com/news/california-wildfires-burn-2-million-acres-record-breaking/
15 Germanwatch (2021), Global Climate Risk Index , "Who Suffers Most from Extreme Weather Events?"

# Recent regulatory evolution: Getting 'green by design'

Given the importance of climate and sustainability in the EU strategic priorities, banking rulemaking bodies have logically followed suit quickly... and heavily! Over the last two to three years, multiple regulatory requirements have emerged to frame how banks should integrate CRE risks into their overall risk management and governance framework.

The table to the right summarizes critical publications that are then further explained in this section[16], while Appendix 1 gives a more complete overview of essential publications.

| Authority | Publication | Publication Date | Scope | Focus |
|---|---|---|---|---|
| **European Central Bank (ECB)** | "The state of climate and environmental risk management in the banking sector – Report on the supervisory review of banks' approaches to manage climate and environmental risks" | November 2021 | Significant Institutions (SI) within the Single Supervision Mechanism | CRE |
| **Bank for International Settlements (BIS)** | "Principles for the effective management and supervision of climate-related financial risks" | November 2021 | All institutions | CRE |
| **European Commission (EC)** | "Proposal of a Directive amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks" | October 2021 | All institutions in the EU | ESG |
| **European Central Bank (ECB)** | "Climate risk stress test – SSM stress test 2022" | October 2021 | Significant Institutions (SI) within the Single Supervision Mechanism | CRE |
| **European Banking Authority (EBA)** | "Report on management and supervision of ESG risks for credit institutions and investment firms" | June 2021 | All institutions in the EU | ESG |
| **Commission de Surveillance du Secteur Financier (CSSF)** | "Circular CSSF 21/773 on the Management of Climate-related and Environmental Risks" | June 2021 (applicable as of the date of publication) | Less Significant Institutions (LSI) and branches of non-EU banks in Luxembourg | CRE |
| **European Central Bank (ECB)** | "Guide on climate-related and environmental risks" | November 2020 | Significant Institutions (SI) within the Single Supervision Mechanism | CRE |

16 Further relevant regulatory publications include Climate Financial Risk Forum (2020), Climate Financial Risk Forum (2021), De Nederlandsche Bank NB (2020), Autorité de Contrôle Prudentiel et de Résolution (2020), and Autorité de Contrôle Prudentiel et de Résolution (2021), among others.

In December 2019, the **European Banking Authority (EBA)** issued its five-year action plan on sustainable finance, structured around four themes:

1.Strategy and risk management;

2.Key metrics and disclosure;

3.Stress testing and scenario analysis; and

4.Prudential treatment.

Following a series of consultation papers in 2020, the EBA released the first milestone of this journey in June 2021 with its "*Report on management and supervision of ESG risks for credit institutions and investment firms*". This comprehensive reports provides a series of recommendations for both institutions and supervisory authorities on how ESG should be embedded in Pillar 2 dialogue, including a common set of definitions for ESG risks, a series of propositions on how to incorporate ESG risks into institutions' business strategies, internal governance arrangements and risk management frameworks, and guidance on how ESG risks should be reflected in the Supervisory Review and Evaluation Process (SREP) conducted by the relevant authorities in Europe.

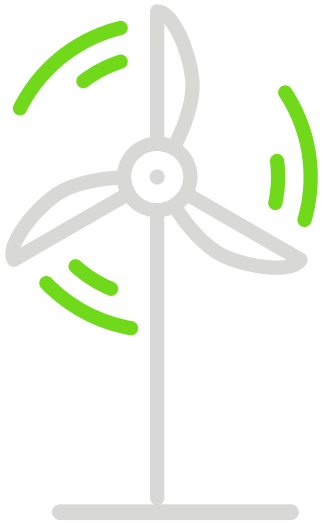
Among the key messages of the report, the following recommendations are worthwhile to note:

- Extension of the time frame for strategic planning to at least 10 years (at least qualitatively) to allow incorporation of ESG risk-related considerations;
- Inclusion of ESG objectives and limits in the risk appetite framework;
- Allocation of tasks and responsibilities related to ESG risks as drivers of financial risk categories in the decision-making process;
- Initiation of discussion with stakeholders on ESG matters and integration of sustainability considerations in product design;
- Performance of data and methodological gap analysis and definition of remedial actions;
- Development of risk monitoring metrics at exposure, counterparty and portfolio level; and
- Design of stress testing scenarios to test resilience to ESG risks.

This first report thus focuses on Pillar 2 considerations, but will be followed by implementing technical standards (ITS) on ESG disclosures (Pillar 3) and a report on classification and prudential treatment of assets from a sustainability perspective (Pillar 1).

Beyond these dedicated mandates on sustainable finance, the EBA has also started to include sustainability considerations in other pieces of the regulatory framework so that regulatory requirements tend to become "sustainable by design". In particular, back in May 2020, the EBA Guidelines on loan origination and monitoring[17] introduced expectations on the effective incorporation of ESG factors within credit and lending activities of banks. More specifically, banks should assess borrowers' exposure to ESG factors and the appropriateness of related mitigating strategies at borrower level (institutions may also consider performing the analysis at portfolio level, when relevant).

Over the last two to three years, multiple regulatory requirements have emerged to frame how banks should integrate CRE risks into their overall risk management and governance framework.



17 EBA GL 2020 06 Final Report on GL on loan origination and monitoring.pdf (europa.eu)

In parallel to this, the **European Central Bank (ECB)** has started to develop its own expectations and to adapt its supervisory methodology to climate and environmental matters. In November 2020, the ECB published its "*Guide on climate-related and environmental risks*" describing how institutions should consider those risks as drivers of traditional risk categories across four dimensions closely related to the methodology used in its SREP:

- Business models and strategy;
- Governance and risk appetite;
- Risk management; and
- Disclosure.

These guidelines apply to significant institutions (SI) and serve as a starting point for supervisory dialogue with the Joint Supervisory Teams (JST). Following the publication of the Guide, the ECB requested significant institutions to complete a self-assessment questionnaire on their state of readiness against the recommendations presented in Figure 3, together with the preparation of a roadmap to ensure progressive convergence. This will support the ECB's continued dialogue with banks in 2022 and will also include for the first time a climate risk stress testing exercise[18]. The 2022 Climate stress test will be conducted at the consolidated level and will be composed of three modules:

- **Module 1:** Qualitative questionnaire to assess the current stress testing capabilities and capacity.
- **Module 2:** Banks will have to provide the ECB with two common climate-related metrics (namely, "*Interest, fee, and commission income from greenhouse gas intensive industries"* as well as *"financed greenhouse gas emissions*").
- **Module 3:** Bottom-up stress test projections (for a subset of banks only).

The roll out of the full supervisory review of banks' practices for incorporating climate risks into their risk management framework (incl. stress testing and ICAAP) will eventually influence banks' Pillar 2 requirements. The ECB has highlighted that its 2022 supervisory stress test could have an indirect impact on banks' Pillar 2 requirements through influence on banks' SREP scores. As capabilities develop over the coming years, the results of climate risk stress testing will be progressively and systematically linked to Pillar 2 requirements[19].

18 ECB, "Climate risk stress test – SSM stress test 2022", October 2021
19 Patchy data is a good start: from Kuznets and Clark to supervisors and climate (europa.eu)

Figure 3 below presents the 13 expectations detailed by the ECB in its Guide.

**Figure 3. Guidelines on climate-related and environmental risks**

| | | | |
|---|---|---|---|
| **Business models and strategy** | Business environment | 1 | Institutions are expected to understand the impact of climate-related and environmental risks on the business environment n which they operate, in the short, medium and long term, in order to be able to make informed strategic and business decisions |
| | Business strategy | 2 | When determining and implementing their business strategy, institutions are expected to integrate climate-related and environmental risks that impact their business environment in the short, medium or long term. |
| **Governance and risk appetite** | Management body | 3 | The management body is expected to consider climate-related and environmental risks when developing the institution's overall business strategy, business objectives and risk management framework, and to exercise effective oversight of climate-related and environmental risks. |
| | Risk appetite | 4 | Institutions are expected to explicitly include climate-related and environmental risks in their risk appetite framework. |
| | Organizational structure | 5 | Institutions are expected to assign responsibility for the management of climate-related and environmental risks within the organisational structure in accordance with the three lines of defence model. |
| | Reporting | 6 | For the purposes of internal reporting, institutions are expected to report aggregated risk data that reflect their exposures to climate-related and environmental risks with a view to enabling the management body and relevant sub-committees to make informed decisions. |
| **Risk management** | Risk management framework | 7 | Institutions are expected to incorporate climate-related and environmental risks as drivers of existing risk categories into their existing risk management framework, with a view to managing, monitoring and mitigating these over a sufficiently long-term horizon, and to review their arrangements on a regular basis. Institutions are expected to identify and quantify these risks within their overall process of ensuring capital adequacy. |
| | Credit risk management | 8 | In their credit risk management, institutions are expected to consider climate-related and environmental risks at all relevant stages of the credit-granting process and to monitor the risks in their portfolios. |
| | Operational risk management | 9 | Institutions are expected to consider how climate-related and environmental events could have an adverse impact on business continuity and the extent to which the nature of their activities could increase reputational and/or liability risks |
| | Market risk management | 10 | Institutions are expected to monitor, on an ongoing basis, the effect of climate-related and environmental factors on their current market risk positions and future investments, and to develop stress tests that incorporate climate-related and environmental risks |
| | Scenario analysis and stress testing | 11 | Institutions with material climate-related and environmental risks are expected to evaluate the appropriateness of their stress testing with a view to incorporating them into their baseline and adverse scenarios. |
| | Liquidity risk management | 12 | Institutions are expected to assess whether material climate-related and environmental risks could cause net cash outflows or depletion of liquidity buffers and, if so, incorporate these factors into their liquidity risk management and liquidity buffer calibration. |
| **Disclosures** | Disclosure policies and procedures | 13 | For the purposes of their regulatory disclosures, institutions are expected, to publish meaningful information and key metrics on climate-related and environmental risks that they deem to be material, with due regard to the European Commission's Guidelines on non-financial reporting: Supplement on reporting climate related information. |

Source: ECB

In Luxembourg, the **Commission de Surveillance du Secteur Financier (CSSF)** introduced a specific provision in the revised version of its Circular 12/552 on internal governance for banks to develop and maintain a sustainable business model that takes into account *"all material risks, including environmental, social and governance risks."*[20]

More recently, the CSSF transposed the ECB Guide on climate-related and environmental risks into its Circular 21/773. It applies to all credit institutions designated as Less Significant Institutions (LSIs) under the Single Supervisory Mechanism and to all branches of non-EU credit institutions as of its date of publication. It raises the institution's management body and staff awareness of the need to consider and assess climate-related and environmental risks and it is structured around four building blocks:

- Identification of risk exposures;
- Business strategy and risk appetite;
- Risk management framework; and
- Internal governance.

Overall, CSSF's expectations are aligned with the ECB guidance, except that it does not provide specific requirements on public disclosures.

Recognizing the challenges that smaller institutions may face in assessing the impacts of CRE risks and the need to address those risks in a proportionate manner, the CSSF expected institutions to begin reviewing their current business models and operational frameworks in 2021. Going forward, the CSSF will request that institutions progressively implement operational arrangements that incorporate climate-related and environmental risk factors.

In October 2021, the European Commission adopted a revision of the Capital Requirements Regulation (CRR) and the Capital Requirements Directive (CRD IV) aiming to finalize the EU's implementation of the Basel III framework. As this EU prudential framework acts as an overall umbrella for the supervisory expectations detailed above, the EC has naturally included specific sustainability considerations on top to the Basel III rules.

Within this new CRR III/CRD VI proposal, the importance of ESG risks is already highlighted from the title of the directive which includes the words "environmental, social, and governance risks". It includes several specific requirements to encourage banks to enhance and strengthen their approaches to ESG issues, including:

- Changes to a property that increases environmental efficiency are to be regarded as unequivocally increasing the value of the property for revaluation purposes;
- Pillar 3 disclosure requirements for ESG risks are extended from only large, listed banks to all banks in scope of CRR;
- ESG considerations are to be included as a specific component of management responsibilities, including the development of specific plans and quantifiable targets to monitor and address the risk of the misalignment of firms' business models with wider EU policy objectives (such as the Net-Zero Transition);
- Supervisors have also been given new powers allowing them to require banks to reduce the risk of misalignment with relevant policy objectives of the EU, and broader transition trends relating to ESG factors over the short-, medium-, and long-term (including adjustments to their business models, governance strategies, and risk management);
- Banks are given new, formal requirements to systematically identify, measure, and manage ESG risks, and their supervisors need to be able to assess risks at both bank and systemic levels;
- ESG risks need to be considered over short-, medium-, and long-term plans, with long-term to be at least 10 years. National competent authorities (NCAs) are to ensure that banks conduct internal stress tests on their resilience to the long-term negative impacts of climate-related risks, and eventually wider ESG risks.

In Luxembourg, the Commission de Surveillance du Secteur Financier (CSSF) introduced a specific provision in the revised version of its Circular 12/552 on internal governance for banks to develop and maintain a sustainable business model that takes into account "all material risks, including environmental, social and governance risks."[22]

20 Paragraph 11 of CSSF Circular 12/552 as amended by CSSF Circular 20/759 on central administration, internal governance and risk management.

# Practically, what does it mean for banks?

Despite the huge volume of recent publications around CRE risks by regulatory bodies, professional associations, and academics, many challenges are yet to be addressed by the industry to concretely and properly implement the supervisory expectations in their risk management frameworks. Notably, this is due to the intrinsic complexity of the topic and the multiple interdependencies between CRE drivers and economic sectors as well as financial variables.

This section provides an industry perspective on three important dimensions for climate-related and environmental risk management, each addressed through concrete questions facing credit institutions embarked on this journey:

| Theme | Main observed challenges |
|---|---|
| **Strategy and governance** | 1. Adopting a long-term view and the 'crystal ball' syndrome;<br>2. 'Walk the talk' and the risk of 'greenwashing';<br>3. Fifty shades of green;<br>4. Enhancing governance: Set the tone from the top; and<br>5. Outsourcing and outsourcing oversight / governance of the ESG risks matters |
| **Integration within risk management frameworks** | 1. Positioning CRE risks in the risk taxonomy;<br>2. Data is the new gold;<br>3. Selecting the right CRE metrics and indicators;<br>4. Stress testing: Preparing for the worst;<br>5. Integrating CRE considerations into risk mitigation techniques;<br>6. Turning risk model results into credit granting decisions; and<br>7. Cross functional/multidisciplinary nature of the ESG related matters and its risk management |
| **Disclosure** | 1. Comparability of frameworks; and<br>2. Minimizing liability and reputational risks. |

For each topic, we provide an overview of major regulatory expectations, typical implementation challenges it raises for banks, and concrete examples of good practices observed in the Luxembourg banking sector to address them.

This point of view has been collected through interviews with several ABBL members over the course of 2021 and intends to provide market insights as to the current state of play in the Luxembourg market when it comes to implementation of CRE risk management practices.

## Strategy and governance

### What is expected?

Building on the Task Force on Climate-Related Financial Disclosures (TCFD), recent regulatory requirements issued by the ECB and the CSSF on CRE risks set expectations with regards to the integration of CRE risks into the strategy of banks, including setting and monitoring of key performance indicators (KPIs) that are cascaded down to individual business lines and portfolios. According to the EBA, the strategic view could be further articulated across four dimensions, as highlighted in Figure 4.

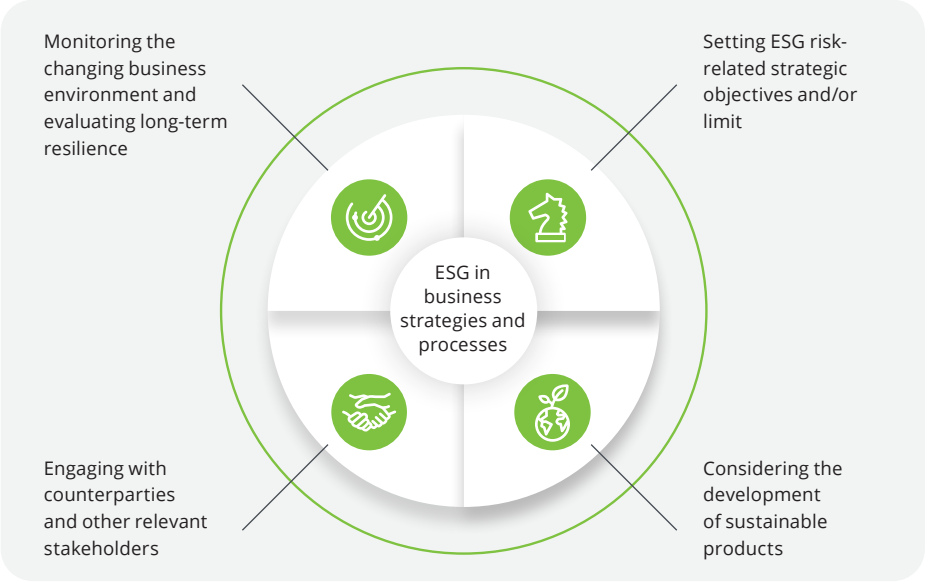
Integrating CRE risks within the strategy to evaluate long-term resilience may require extending the business planning horizon in order to be meaningful.[21] This does not come without complexity and will require strong input from management bodies when setting ESG objectives.

More generally, clear targets and adequate governance arrangements are expected so that banks embed CRE risk identification, as well as management and mitigation in their risk culture and decision-making process. For instance, the EBA Guidelines on loan origination and monitoring highlight the importance of adequately considering the impact of sustainability and related ESG drivers on credit activities.

To serve as an early warning system, the first line of defense (e.g. in the figure of business managers) is expected to identify, assess and monitor ESG risks at the level of each transaction and/or client.

The risk management function should also ensure that risk controls are in place in order to take into account the long-term impacts of CRE risks in the decision-making process, aligned with the bank's risk appetite framework and based on sound risk management practices.

**Figure 4. Integration of ESG risk in business strategy**




Source: EBA

The compliance and the internal audit functions are expected to provide additional and—independent—support for a proper integration of CRE risks within the bank: the former should monitor the alignment with ESG regulations (e.g. disclosure requirements) across the different activities, encompassing, among other, those related to the approval of new products and the review of existing ones, while the latter is expected to include the ESG topic in its review of the governance mechanism and processes in place to ensure soundness, effectiveness as well as their consistent application.

Finally, on the remuneration side, institutions should align the remuneration policy with CRE objectives, designing the right incentive and performance system.

Sound governance is also needed in circumstances where the risk management activities are outsourced. Oversight remains key to ensure that the CRE risks are adequately captured by the selected outsourcing counterparties.

### What are the main challenges and observed solutions?

#### Challenge #1: Adopting a long term view and the 'crystal ball' syndrome

The EBA report on short-termism[22] highlights that the time horizon for strategic planning of banks spans, on average, between three to five years as they consider that assessing longer-term evolution of their business requires additional efforts and embeds too much uncertainty. Stretching this "*conventional*" time horizon used in ICAAP/ILAAP purposes to, say, 30 years does not come naturally.

"It is delusional to think that when risks become perceptible, everyone will be able to cut their exposures at the same time and in an orderly fashion,"

**said the Governor of the Bank of France, François Villeroy de Galhau[23]**

21 The EBA suggests an extension to at least 10 years. See EBA (2021).
22 Final EBA report on undue short-term pressures from the financial sector v2_0.pdf (europa.eu).
23 BIS (2018). Green Finance – a new frontier for the 21st Century. Opening keynote at the International climate risk conference for supervisors.

In Luxembourg, all institutions interviewed share the same concerns. Going beyond banks' investment horizons and average maturity of institutions' balance sheets is in line with the objective of capturing long-term risks like CRE but this obviously increases the level of uncertainty around predictions on how technology, climate and economic policies will evolve. Determining the business environment in which institutions are likely to operate in the longer-term is full of challenges arising from missing or irrelevant historical data coupled with the fact that institutions struggle to model and/or access adequate forward-looking data.

The European Commission's Final Study published in 2021, highlights that 83% of interviewed banks have strategies in place for integrating ESG-risks into their strategy, whereby there are only limited cases in which KPIs are set and systematically monitored vis-à-vis predetermined objectives. system.

**OBSERVED PRACTICE**
**Sensitivity analysis and reliance on public scenarios**

As of today, few banks in Luxembourg have engaged in developing long-term scenarios as most are still in the early stages of their ESG/CRE journey, prioritizing resources and internal capabilities to focus on shorter-term and high-impact changes (e.g. risk identification, strengthening of the internal governance, and know-how around ESG risks, etc.).

There are, however, initial attempts to leverage on publicly available scenarios such as those provided by the NGFS, assessing sensitivities of balance sheet exposures to those macroeconomic scenarios. The approach is to first identify the assets that are materially exposed to climate risk, to assess their sensitivity to indicators used in the selected scenario, and to simulate the impact on the (static) balance sheet of this scenario. Sometimes the scenario is provided by the head office so as to ensure a consistent approach across group entities.

### Challenge #2: 'Walk the talk' and the risk of 'greenwashing'

As for any other strategic objectives, ESG and climate–related ambitions need to co-exist with other targets and constraints. The European Commission's Final Study published in 2021, highlights that 83% of interviewed banks have strategies in place for integrating ESG-risks into their strategy, whereby there are only limited cases in which KPIs are set and systematically monitored vis-à-vis predetermined objectives. Adjusting the bank's balance sheet and activities to meet different sustainable objectives may be long and complex to achieve, and. hence the focus on the word "transition": there is no switching on/off the ESG button. For instance, sustainable alternatives to brown assets are sometimes very limited, which might expose the bank to uncomfortable trade-off decisions to preserve the bank's reputation and avoid greenwashing[24].

Banks can act on various levers to turn words into action:

- **Selection of clients/investments/exposures:** The concept of "asset screening" is one common practice observed to gradually adjust the balance sheet to reach sustainable objectives set by institutions. Two screening approaches are observed across participating institutions, with some banks adopting a *negative* screening (i.e. restricting exposures to some sectors/clients/locations), while others tend to implement a *positive* screening (i.e. adopting processes and policies to promote the selection of transactions/clients/assets that demonstrate good ESG performance). When performing a positive screening, strategic objectives could take the form of commitments to report on the alignment of lending and/or investment portfolios with the EU Taxonomy, as well as targeting a specific Green Asset Ratio (GAR), or contributing to achieve a minimum proportion of 'green assets' in the investment portfolio on the basis of criteria such as CO2 emissions or biodiversity conservation.

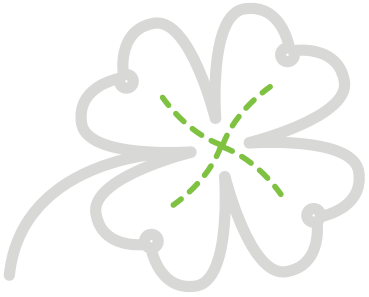
24 Greenwashing is a term used to define how companies try to disguise actions and/or products which are in fact not sustainable, as such, sending a misleading message to financial actors.

- **Engaging with counterparts:** Adapting strategy to include ESG aspects also requires an active engagement with clients in an open dialogue to explain the bank's objectives, prevent any potential misunderstandings/conflicts, and to begin to review and improve the portfolio's exposures to any existing CRE risks.

- **Development of sustainable products:** One respondent has decided to perform a review of its product offering to avoid reputational or litigation risks that may arise from controversy linked to potential 'greenwashing' due to compliance with new ESG regulatory requirements. This has also been an opportunity to enhance their product offering with new investment alternatives in-line with sustainability targets defined by the Board.

- **Setting internal goals and objectives:** In addition to the integration of CRE considerations into their business practices, banks can also define internal objectives, typically reflected in their risk appetite framework, with specifically selected KRIs and limits.

Adjusting the bank's balance sheet and activities to meet different sustainable objectives may be long and complex to achieve.



**OBSERVED PRACTICE**
**Negative screening: Limiting the exposures towards carbon-intensive counterparties**

One subsidiary of a large SSM banking group has started to implement an ESG action plan defined at group level.

From a strategic point-of-view, this has translated into the decision to limit, reduce or, when possible, completely remove carbon-intensive exposures from its lending and investing activities, and thus mitigate the risks related to stranded assets held in portfolios in the long-run.

The underlying rationale is that ESG risks factors are likely to affect some vulnerable regions and economic sectors in different ways, calling for more granular risk models and limits by sector or region.

Such limits are monitored via specific CRE KPIs in its risk appetite framework to assess the bank's alignment with the targets defined for each specific sector. In this specific case, decisions to reduce or exclude exposures to some specific sectors derive from an assessment mostly based on CO2 metrics (e.g. carbon footprint/carbon intensity).

**OBSERVED PRACTICE**
**Negative screening: Thorough due-diligence**

In a custodian bank, ESG matters have been included in the due-diligence performed when considering new business opportunities (clients, vendors, sub-custodians, and other counterparties). Such enhanced due-diligence could lead to the rejection of the proposed business relationship if the outcome of the assessment does not provide the bank with the desired level of comfort from an ESG perspective.

**OBSERVED PRACTICE**
**Raising client awareness**

Using the Sustainable Finance Disclosure Regulation (SFDR) provisions, one private bank has engaged with clients with non-discretionary and execution-only mandates to raise awareness on key ESG concepts and CRE risks clients may be exposed to.

This would serve as a basis to incentivize them to review the asset allocation of their portfolios accordingly.

In parallel, the bank has initiated a review at a discretionary portfolios level to monitor whether CRE risks are in-line with the bank's risk strategy and take corrective actions when necessary (i.e. reallocating assets towards sustainable investments).

**OBSERVED PRACTICE**
**Monitoring against sustainable objectives**

One local bank, part of a G-SII group, has committed to a net zero initiative, materializing in the objective of nullifying its CO2 emissions from its operations and supply chain by 2030 or sooner.

To monitor the alignment with the targets, the bank is monitoring the following metrics:

- CO2 emissions (Scope 1, 2, 3) per full time equivalent (FTE);
- Absolute CO2 emissions (Scope 1, 2, 3); and
- Percentage of renewable energy sourced.

Challenge #3: Fifty shades of green

Once banks have defined and embedded sustainability considerations into their internal processes, they still need to decide on the level of granularity of their assessment and how far they should go to determine the 'green' or 'brown' nature of projects or clients they finance. To illustrate this challenge, one bank uses the example of the financing of a project to replace inefficient windows with more energy-efficient alternatives. At first sight, such a project is likely to be considered sustainable as it would eventually benefit the energy performance of a building. However, to have a complete view on the sustainable nature of the project, a comprehensive assessment should be based on the energy-efficiency gain, but also on other elements such as the proper disposal of the old windows. The need of an in-depth analysis would require credit officers to have a proper understanding on how to assess the sustainability 'scoring' of a project or a company or to have access to a sustainability rating from a data provider with clear transparency on the methodology–and ultimately link the rating to the risk of the counterparty/project. This analysis could turn out to be extremely time-consuming when the data source is not readily available and/or accessible.

Adapting strategy to include ESG aspects also requires an active engagement with clients in an open dialogue to explain the bank's objectives, prevent any potential misunderstandings/ conflicts, and to begin to review and improve the portfolio's exposures to any existing CRE risks.

### Challenge #4: Enhancing governance: Set the tone at the top

From a governance perspective, many banks have already revised their governance structures and set up a senior-level committee in charge of ESG matters, including one member of the Executive Committee as well as senior managers of the bank. Another alternative adopted by a bank is a more decentralized approach, assigning responsibilities across all relevant layers of the organization who, with regular, planned, local coordination meetings (i.e. on a monthly basis) and with the ESG contact persons at group level to follow-up on the action plan and monitor results.

Ensuring that all relevant stakeholders have an adequate understanding of ESG risks is complicated by the intrinsic cross-functional and multi-disciplinary nature of those risks. Blending the scientific and financial worlds requires the development of a transversal skillset in key people within the organization, calling for enhanced coordination between the different functions.

Most of the institutions interviewed have rolled-out training on ESG or climate-related topics in collaboration with internal or external subject matter experts in order to promote organization-wide awareness of sustainability matters and related CRE risks the bank may be exposed to. However, the integration of ESG metrics in banks' remuneration policies remain limited and will require banks to better assess how and to what extent remuneration could be linked to the achievement of sustainability targets, and to which layers of the organization this should be applied to.

Therefore, governance arrangements adopted by the banking industry in Luxembourg seem aligned with the results presented in the Final Study of the EU Commission[25] which indicates that ESG risks have been integrated in discussions at Board (50%) and executive (38%) levels, with varying frequencies, or by means of dedicated ESG risk teams and committees. Figure 5 provides examples of the integration of climate-related aspects in decision-making bodies.

**OBSERVED PRACTICE**
**Tailored trainings**

In order to improve awareness within the institutions, local banks have started to provide trainings to employees on a regular basis. When the bank is part of a group, observed practice suggests that the local institution is leveraging on the training capabilities at the group level.

For instance, the local subsidiary of a Significant Institution has developed an internal ESG training whose content is tailored to the audience according to different modules:

- General training on ESG has been provided to the whole staff;
- One module has been developed for relationship managers; and,
- One module has been developed for risk managers.

### Challenge #5 - Outsourcing and outsourcing oversight / governance of the ESG risks matters

Where applicable, the oversight of the sustainability risks should also be governed by the outsourcing oversight arrangements.

Items to consider would include (but not limited to):

- The inventory and description of the business areas/processes/tasks are subject to sustainability risks;
- The standard arrangements to be agreed with service providers to cover this subject; and
- The adequacy of the service providers to sufficiently meet external sustainability reporting obligations.

Sustainability risks should also be included in the organizational guidelines for outsourcing management and oversight, where relevant.

If a specific sustainability unit/process is created at the group/parent level, this sustainability unit could provide support to all relevant group entities, but the relevant group entities should demonstrate legal entity oversight and adoption of these processes.

This subject is particularly important for Luxembourg entities which is supported by other group entities and/or where some services are outsourced to the service providers.

25 Final study on the development of tools and mechanisms for the integration of ESG factors into the EU banking prudential framework and into banks' business strategies and investment policies, European Commission (europa.eu).

## A concrete example of climate change risk integration in key Board committees

**Figure 5: Governance arrangements around ESG matters**

### Board

- Approves the sustainability strategy, ensures its integration across the enterprise, and monitors performance against plan (including targets and budgets)
- Oversees climate change-related risk ownership and ensures there's an effective programme in place to identify, assess, manage, monitor, and disclose climate change-related risks.

### Risk Committee

- Establishes the direct oversight of enterprise risk management, assessing the firm's exposures across all risks compared with its stated risk appetite.
- Assesses the quality of climate change risk management and the extent to which specific risk management strategies are working as intended.

### Audit Committee

- Assists the board of directors in fulfilling its corporate governance obligations and overseeing responsibilities in relation to the entity's financial and performance reporting, common capital and value accounting, systems of internal control, and external disclosures – including those related to climate change.

### Remuneration Committee

- Designs and implements reward structures, motivating employees in ways the foster long-term value creating across the value chain and work to reinforce the organization's ability to achieve its climate goals.

### Governance and Nomination Committee

- Appoints directors and senior management with the right skills and experience to advance the climate change strategy.

**Some organizations have additional board committees - such as specific sustainability committee separate from the risk and audit committees - with crossfunctional representatives to identify, monitor and review climate change-related risks.**

Source: Deloitte

## Risk management

### What is expected?

As explained in the previous chapter, CRE–and ESG risks as a whole–are usually defined as second level indicators of existing risk categories and can be seen as drivers of those traditional risk categories. Therefore, expectations encompassing several dimensions around the existing risk management framework have been defined by the regulators.

To support the identification of relevant CRE risks, a materiality assessment should be performed to provide the starting point for integrating material CRE risks within the existing risk management framework. The materiality assessment should be regularly carried out and material risks shall be detailed in a comprehensive risk inventory, including the rationales behind any non-materiality assessment. Identified transmission channels and foreseen impacts on the risk profile of the bank should also be documented. In case of material CRE risks, the appropriateness of the stress testing framework shall be assessed so that ESG factors should be integrated within both baseline and adverse scenarios. In this context, the ECB report on banks' ICAAP practices[26] refers to CRE risks, specifying that institutions are "*encouraged to quickly adopt a forward-looking, comprehensive and strategic approach to managing these risks*".

Difficult quantification and/or lack of data should not prevent institutions from integrating ESG risks into their risk management frameworks. Where quantitative methodologies cannot be applied, banks could resort to qualitative assessment as proxies, to be progressively replaced as the availability of data and methodologies increases.

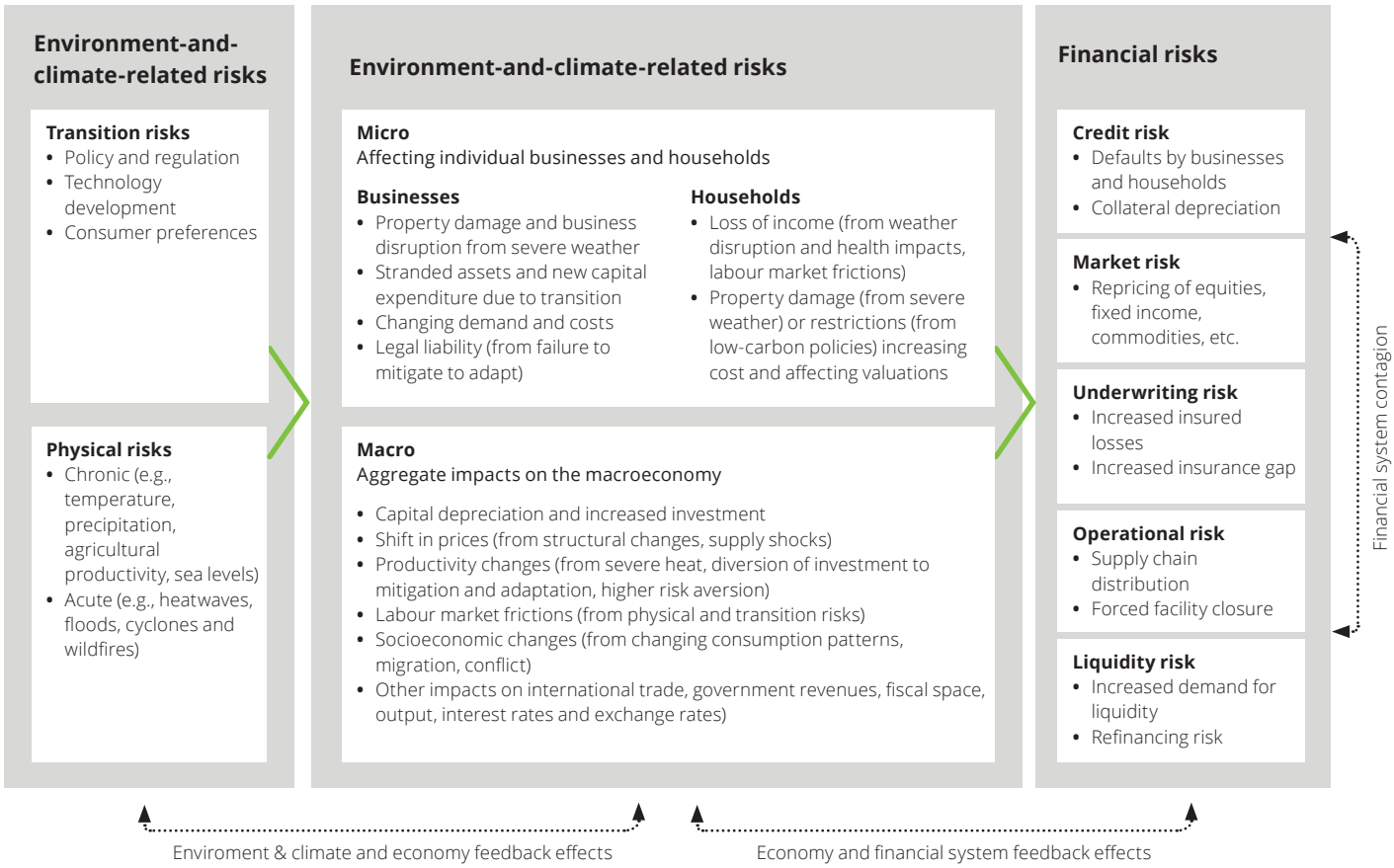
Finally, in its guide on climate-related and environmental risks, the ECB requires banks to manage, monitor, and mitigate those risks over an appropriate long time horizon, identifying and quantifying the risk for capital and liquidity adequacy assessment purposes. CRE risks are expected to be included within the internal capital and liquidity adequacy assessment process (ICAAP/ILAAP) from an economic and normative perspective and be subject to the identification, measurement and mitigation tools used by institution[27].

From a practical standpoint, integrating ESG risks within the risk management framework could take multiple forms depending on the traditional risk categories considered as illustrated in Figure 6.

The materiality assessment should be regularly carried out and material risks shall be detailed in a comprehensive risk inventory, including the rationales behind any non-materiality assessment.

26 ECB report on banks' ICAAP practices (europa.eu).
27 CSSF Circular 21/773 is no different as it expects institutions to document the risk identification process of CRE risks in writing, including a high-level summary of the above-mentioned process in the ICAAP and ILAAP reports issued each year.

**Figure 6. Transmission channels from climate risks to financial risks**




Source: NGFS

Risk policies and more specifically the risk appetite framework (RAF) must explicitly include ESG/CRE risks, if deemed material. Moreover, the risk appetite statement (RAS) should be based on a risk inventory that includes detailed descriptions of ESG risks.

**What are the main challenges and observed solutions?**

The European Commission's Final Study[28] indicates that most of the banks have not yet integrated, in a structured manner, ESG considerations within ICAAP/ILAAP. Indeed, 64% of the banks in the sample have mostly integrated the ESG drivers within the corporate social responsibility (CSR) domain in the form of a materiality matrix. While this is considered useful from an identification perspective, it lacks the risk dimension that links ESG factors to the different traditional risk categories.

Overall, the level of embedment of CRE risks in ICAAP and ILAAP remains limited at this stage in Luxembourg, with inclusion of qualitative narratives around the topic, but very few detailed and/or quantitative assessments leading to potential internal capital estimates.

At European level, risk management areas where development is noticeable mainly include creditworthiness assessment in lending activities and the definition of risk indicators to support investment decisions in discretionary management mandates. This trend is confirmed by the EU Commission's Final Study with 69% of respondents indicating integration of ESG factors within lending policies while the incorporation of those drivers within market-related activities is far less advanced (Figure 7).

28 Final study on the development of tools and mechanisms for the integration of ESG factors into the EU banking prudential framework and into banks' business strategies and investment policies, European Commission (europa.eu).

**Figure 7 – Integration of ESG in risk management activities**

| Risk Management Tool/ Process | E Climate | E Other | S | G |
|---|---|---|---|---|
| **Credit portfolio monitoring** | 50% | 31% | 35% | 27% |
| **Credit strategies and portfolio steering** | 38% | 31% | 31% | 31% |
| **Investment policies** | 23% | 27% | 27% | 23% |
| **Investment application and due diligence** | 23% | 27% | 31% | 27% |
| **Investment portfolio monitoring** | 12% | 8% | 12% | 12% |
| **Investment strategies and portfolio steering** | 12% | 8% | 12% | 15% |

Source: EU Commission

### Challenge #1: Positioning CRE risks in the risk taxonomy

As a first step within the risk management cycle, banks should identify CRE risks. While the initial focus in larger banks was on the credit risk impact of climate change, emerging CRE risks can drive towards increased risk exposures in other financial risks. For instance, typical Luxembourg activities such as wealth management or asset servicing are not credit-driven and the positioning of CRE risks in risk taxonomy can become challenging in the absence of further guidance as to what concerns the best approaches to be used for the identification process.

While there is clearly not a 'one-size-fits-all' solution on this question, approaches observed in the industry can be grouped as follows:

1. **CRE risks as a stand-alone risk category:** Some institutions consider CRE risks as a single category of risk and run the identification and assessment processes from that perspective. That approach is adopted by institutions that want to make CRE risks stand out clearly in their taxonomy, with dedicated ownership and/or methodologies.
2. **CRE risks as a risk sub-category:** Other institutions prefer to bundle climate-related risks with other risks (typically with social and/or governance risk, in line with the concept of ESG) and to include this as a sub-category of broader risk categories, most frequently in credit, operational, or strategic/ reputational risk.
3. **CRE risks as a transversal dimension of the taxonomy:** Other institutions have followed a literal interpretation of ESG/CRE risks and have not explicitly included, as a stand-alone risk category, ESG/CRE risks within their taxonomy. This is based on the fact that CRE risks are transversal across the different traditional risk categories.

Both in Luxembourg and in Europe, quantitative integration of ESG risks within the risk measurement and management processes (including stress testing and scenario analysis) is still at an early stage. For the most advanced institutions, work is mostly conducted at group level to ensure consistent assumptions and scenarios. The Integration of CRE risk within the risk management framework comes with challenges within each step of the framework (from identification to monitoring).

**OBSERVED PRACTICE**
**CRE risks as a 'transversal theme' across the risk taxonomy**

One interviewed bank considers CRE risks as not risks per se but rather drivers that modify the exposure to other categories of risk, in line with the idea of 'transmission channels'.

Consequently, the bank has decided not to add a category (or sub-category) in its risk taxonomy, but rather to consider CRE risks as a 'transversal theme' of its risk management framework, similar to other 'transversal themes' already in place in their methodology, such as reputational risk for instance ("the risk of the risks").

Challenge #2: Data is the new gold

## "Despite the proliferation of ESG data and tools, ESG performance is still difficult to compare between companies, projects and financial products, and users are still getting a fragmented and inconsistent view of ESG,"

**OECD Secretary-General, Angel Gurría.**

Data is by far the main concern faced by chief risk officers wishing to integrate climate-related elements in their risk management framework. The process of understanding and assessing the CRE performance of borrowers, investments, and counterparties deeply relies on the quality of data used, which come from multiple sources and can take various forms.

Good decision-making requires good information derived from data with sufficiently good quality. Typical characteristics of data quality are particularly challenging when it comes to climate-related and environmental data:

- **Completeness:** Typically, banks try to use a combination of internal client data and externally sourced data to integrate ESG/CRE risks within their processes, but usually struggle to get sufficient information, particularly for some specific segments (e.g. small and medium enterprises or SMEs).

Data availability and granularity is a source of headache for institutions. For instance, estimating the transition risks associated to loans to SMEs depends on a firm's assets and business model. However, access to such level of granularity is challenging. To illustrate this challenge, one bank has gathered information from manufacturing companies which burn various gases to produce electricity for their own operations. Knowing the exact composition of the mix of gases used for producing electricity is key for a proper transition risk assessment. Therefore, such information would be required to draw a proper conclusion.

Improvements are expected with the proposal of a Corporate Sustainability Reporting Directive (CSRD) that will revise the Non-Financial Reporting Directive (NFDR)–at least in Europe (it will not apply in many non-EU jurisdictions in which banks may operate). For instance, energy efficiency certificates do not exist in all countries, and companies outside the EU are often not required to publish CO2 emissions-related data.



**OBSERVED PRACTICE**
**ESG questionnaire to collect internal data**

Examples of observed practices in Luxembourg include the definition of an 'ESG questionnaire' as a tool to gather information that relate to the ESG domain from current or prospective clients.

The idea behind the questionnaire is to collect data that would complement the assessment of the credit capacity within the credit application on a case-by-case basis and would prove particularly useful for SMEs, for which external data providers cannot–normally–be used.

For new relationships as well as for existing clientele, the approximately 30-point questionnaire will be used to determine an ESG score. Eventually, the score will be integrated in the assessment of the counterparty risk (e.g. in terms of probability of default).

The outcome can also be a client segmentation based on the level of engagement of borrowers (and clients in general) with regards to ESG matters.

Interestingly, the ESG scoring provides a perspective both at transaction and at counterparty level.

- **Accuracy and integrity:** In most cases, banks need to rely heavily on external sources (especially for some types of counterparties such as large corporates), but specific challenges exist. In recent years, a myriad of ESG scores have popped up and have started to be used by banks when assessing and monitoring ESG risk/performances of clients/ counterparties. Nevertheless, several studies have pinpointed[29] that ESG scores are quite confusing due to the lack of consistency across ratings provided. The rationale behind this is twofold:

  1. Misalignments in the selected set of attributes on which the scores are based or differences in indicators employed for measuring specific attributes and different weights applied to each, contribute to the calculation of the final ESG score.
  2. Behavioral bias embedded in the analysts' qualitative and subjective assessments could also explain, in part, inconsistencies among scores.

Even when data is more homogeneous (as is the case for carbon emissions), it does not often provide useful forward-looking information on the company's plans to reduce their carbon footprint. Some organizations may be better prepared to quickly switch to low-carbon technologies than others (e.g. reducing CO2 emissions of companies involved in the manufacturing cement and steel would be technically difficult).

From our observations, banks adopt two types of approach for external data usage:

- **Focused approach:** Considering the lack of consistency between methodologies used by data providers, some banks prefer to select the single data provider that is deemed more suitable for the ESG risk indicators that the bank is going to consider.

- **Hybrid model:** Considering the incomplete/non-exhaustive nature of current coverage by data providers, other banks prefer to rely on multiple sources and to develop some aggregation/ weighted average mechanism when two or more ESG/CRE indicators are used for a single counterpart, sector, or portfolio. This is somewhat similar to approaches adopted when using multiple external credit agencies for determining credit risk weights. For instance, different weights are applied to factors coming from each source, using a calibration approach that would best reflect–according to the bank–the ESG risks associated to a certain investment. As a critical point, to maintain consistency over time, the methodology set should be kept as stable as possible.

**Observed practice: One or more external data providers**

One interviewed bank has conducted a comparative analysis of different data providers to assess the degree of consistency between ESG metrics. This analysis confirmed results of some studies in that correlation between ESG score from different providers was very low (approx. 40%), but also found out that each provider had specific strengths in their data offering.

To manage costs associated with the data sourcing, it decided at group level to restrict its data providers to two different companies used for different and complementary purposes, i.e. relying on only one provider for each major category of ESG data used in its framework.

29 See for instance MIT Sloan School of Management (2019). Aggregate Confusion: The Divergence of ESG Ratings.

### Challenge #3: Selecting the right CRE metrics and indicators

Selection of proper CRE risk indicators or metrics for risk management monitoring is not straightforward. It is complicated, even as some metrics begin to emerge, such as the Green Asset Ratio (GAR) that represents the extent to which financing activities of an institution are aligned with the EU taxonomy, or CO2 intensity. While some convergence is observed in metrics related to a credit risk perspective, many challenges remain for those banks whose core activities are not credit related.

With the need to report to management bodies on exposures towards CRE risks, appropriate indicators should be defined and translated into objectives or limits (for instance in the risk appetite framework), often accompanied with target dates given the time needed to transition. An example of such KRIs observed in practice, is the percentage of loans and advances amount in 'high transition risk' sectors (e.g. mining, upstream in oil and gas operations).

### Challenge #4: Stress testing: Preparing for the worst

Stress testing is an additional pain point that banks are facing, especially when lending is not the core activity of the institution. As bankers are not climate experts, the design and calibration of long-term climate stress testing require access to external scenarios. Over the last few years, multiple studies and publications offer a wide range of forward-looking simulations of the global climate profile (sometime with economic consequences) alongside different macro-scenarios. According to the Basel Committee, transition risk scenarios are often built on those provided by the International Energy Agency (IEA) or the Network for Greening the Financial System (NGFS), while physical risk scenarios rely on information from publications from the Intergovernmental Panel on Climate Change (IPCC).[30] In most cases, transition risks scenarios have mainly been implemented on credit portfolios and focusing on emission-intensive sectors, while physical risks scenarios can be used for operational risks (direct or indirect) or, to a lesser extent, for credit risks.

As the selection of scenarios is often conducted at group level, relevance for local activities which may not be credit-driven can be questioned and transmission channels can be adapted accordingly.

**Observed practice: Integrating CRE risks into the stress testing framework**

One interviewed asset servicing bank has decided to focus initially on physical risks because of both the current lack of robustness of transition risk scenarios and its limited credit activity. It has included CRE risks within the operational risk stress testing framework, both directly and indirectly:

- From a direct perspective, CRE risks could result in damage to physical assets due to an acute physical climate event. These scenarios already existed within the bank, but have been further fine-tuned, leveraging upon recent academic studies and scenario analysis.
- From an indirect perspective, the bank has selected a specialized data provider that offers granular information on risks of physical hazards around the world, together with sensitivity analysis capabilities. This way, dedicated scenarios will be established to stress test precise locations where the bank outsources some of its operations.

Next year, an EMEA-wide scenario covering transition risks will be collectively developed by the ESG risks representative of each EMEA entity to properly capture each business lines' specificities.

30 BCBS, "Climate-related financial risks – measurement methodologies", April 2021

### Challenge #5: Integrating CRE consideration in risk mitigation techniques

Collateral plays an important role in mitigating credit losses for banks but may itself be subject to damage or loss of value due to CRE risks. This applies to both financial and physical collateral:

- Financial assets used as collateral could also be indirectly affected. For example, securities issued by a firm experiencing several physical risk events could quickly and sharply lose value.
- Physical collateral, such as mortgages, are also exposed to climate-related events, either directly as a consequence of a physical hazard, or because their value erodes overtime due to their location in riskier areas.

Such "*wrong-way climate risk*" reduces the loss-mitigating ability and increases potential losses for banks in the event of a firm's default.

**OBSERVED PRACTICE**
**Enhanced collateral due-diligence and limits**

Several private banks indicated that they integrate CRE elements through enhancement of the policies defining the amount and type of collateral the bank is willing to accept in Lombard credit transactions. Such additional assessment and screening of the collateral provided has also prompted further communication with the institutions' clients.

As the contractual maturity of Lombard loans is usually short-term (up to one year), banks consider CRE drivers in particular from a market risk perspective (e.g., via acute physical hazards or transition risks in the shape of policy changes or technological shifts).

### Challenge #6: Turning risk model results into credit granting decisions

Overcoming these challenges outlined throughout this paper in order to identify, assess, and stress test CRE risks will take banks some time. At the same time, supervisory authorities already expect banks to include CRE considerations when assessing borrower's creditworthiness.[31]

Facing data issues and credit risk models still not fully capturing CRE components, the industry has however started updating information included in the credit files that are used to assess loan requests. This includes, for instance, due diligence conducted by credit officers based on a set of predefined and commensurate qualitative and quantitative criteria then used to segment clients according to different CRE risk profiles.

Overall, CRE data collection is today used as an additional set of qualitative and factual information to adjust the loan approval process, rather than being integrated in a quantitative model of additional loan margin to be charged to the client as a result of its CRE risk exposure.

31 EBA, "Guidelines on loan origination and monitoring" (EBA/GL/2020/06), May 2020.

**OBSERVED PRACTICE**
**Traffic-light approach**

One bank uses a three-colour scale (red, grey, green) to support its credit decision process. The scale is obtained through a series of indicators collected during the credit origination process.

"Green" clients are considered well-aware and actively engaged in their sustainable journey, while "red" clients are seen as passive and not demonstrating interest or willingness to embark into sustainability matters. Clients in-between both categories are considered "Grey".

As a default rule, no new credit facilities are granted to "Red" clients. For "Grey" clients, the bank engages with the client in a proactive dialogue to advise in the transition plans of the investee/borrower.

Another area where interesting practices emerge and develop in Luxembourg is the investment services for private banking clients. Many banks have added CRE/ ESG components in their investment decision process, especially in discretionary management mandates, some even introducing 'sustainability compatible' mandates by default to all their clients (who then have the possibility to further increase the weight of ESG considerations in their investment policy).

**OBSERVED PRACTICE**
**Internal scores to guide investment decisions**

One bank integrates ESG factors within their wealth management activities by means of internal scores. Based on the information retrieved from a well-known, external data provider, an internal 'sustainability' score is calculated, ranging from 1 to 10.

Asset allocation in the discretionary mandates is then performed based on this score, depending on the investment strategy defined by the client.

### Challenge #7 - Cross functional / multidisciplinary nature of the ESG related matters and its risk management?

Some organizations might have a unit with special responsibility for sustainability risks, its integration with existing processes and interfaces with other functions. The roles and responsibility of all the related functions must be clearly defined. The dedicated sustainability unit may work with other related units.

However, some organizations might not have a dedicated / specific sustainability unit due to their size, business/ risk profile and proportionality principle. ESG related matters and risks need a multidisciplinary approach and cross functional processes. In these cases, relevant project governance, roles and responsibilities might be needed. This typically includes a project management resource and a range of subject matter expertise. Every part of each organization would be involved, requiring significant coordination, input and cooperation.

## Disclosure

### What is expected?

Public disclosure represents a critical building block towards the objective of fostering transparency across the banking industry by requiring institutions to provide information on their CRE risk exposures, thus allowing market participants to make informed decisions.

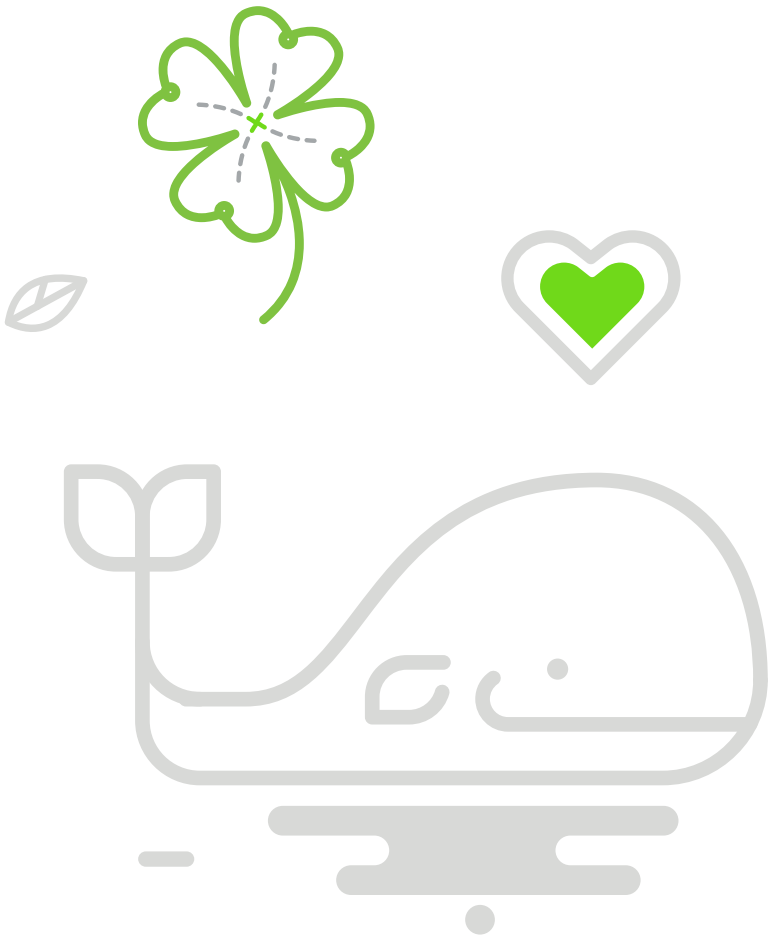
While such disclosure is, for the moment, only mandatory for large institutions directly supervised by the ECB, the recently proposed amendment of the prudential framework (CRD III) will extend the requirements related to the disclosure of ESG risks to all institutions as from 2025 (applying proportionality).

Expectations on public disclosures are high and encompass several dimensions including content, policies, processes, methodologies, definitions, and criteria. The content of public disclosure should cover all material risks, Scope 3 emissions at group level, KPIs and KRIs used for strategy setting and risk management (including institutions' positions vs those targets), plus any other information that could be useful for assessing the exposure to CRE risks. Disclosures are expected to be accompanied by policies and procedures to define their frequency and modes and to shed light on the materiality assessment of CRE risks. If such assessment determines the immateriality of CRE risks, documentation should be provided to justify the decision. Metrics and targets disclosures need to be complemented with a text outlining related methodologies, definitions, and criteria.

### What are the main challenges and observed solutions?

#### Challenge #1: Comparability of frameworks

In the context of disclosure and the reporting of ESG risks, there are in fact several different widely recognized voluntary standards which are, however, not universally accepted. Multiple voluntary standards are available to choose from ESG reporting and disclosures, such as the ones defined by the TCFD, the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB'), and the United Nations Principles for Responsible Investments (UN PRI). However, comparability between such disclosures is generally low, in spite of the common elements shared by the various standards.



## Figure 8. Example of available sustainability reporting frameworks

### GRI

YEAR OF LAUNCH

**GRI**

FRAMEWORK

*GRI Standards*

TARGET REPORTERS
All companies

www. globalreporting.org

**PURPOSE:** *Help organizations report on economic, environmental & social impacts considering a wide range of interests.*

**AUDIENCE:** **Broad set of stakeholders**

**WHERE TO REPORT:** *Corporate sustainability report*

**FOCUS AREAS**
ENVIRONMENT
SOCIAL
GOVERNANCE


**INFORMATION TO REPORT**

- **General disclosures:** Organization's profile, strategy, ethics and integrity, governance, stakeholder engagement practices, and reporting process.
- **Economic:** Performance, market presence, indirect economics impacts, procurement practices, anti- corruption and anti-competitive behaviour.
- **Environment:** Materials, energy, water and effluents, biodiversity, emissions, effluents and waste, environmental compliance, and supplier environmental assessment.
- **Social:** Employment labor/management relations, occupational health and safety, training and education, diversity and equal opportunity, non-discrimination, freedom of association and collective bargaining, child labor, etc.

**PERSPECTIVE OR FLEXIBLE**
Perspective

**SECTOR FOCUS:**
Agnostic (+ some sector specific guidance)

### CDP

**CDP**

FRAMEWORK

*CDP Questionnaire and Reporting Guidance*

TARGET REPORTERS
Companies, cities, states, and regions

www.cdp.net

*Capture environmental performance data related to GHG emissions, water, forests, and supply chain.*

**Investors, buyers, other stakeholders**

*CDP's online reporting platform*


- **Climate change:** Risks and low carbon opportunities.
- **Forest:** How organizations produce, source, and use major soft commodities associated with detrimental impacts on natural resources.
- **Water security:** Company's management governance, use, and stewardship of water resources.
- **Supply chain:** Management of climate change, forest and water security.

Perspective
Specific

### IIRC

YEAR OF LAUNCH

**IIRC**

FRAMEWORK

*Integrated Reporting Framework*

TARGET REPORTERS
Public companies

www.integratedreporting.org

*Establish Guiding Principles and Content Elements allowing companies to produce "integrated reports".*

**Investors**

*Stand-alone integrated report*


- **Organizational overview** and external environment
- **Governance structure**: How it supports ability to create value in the short, medium & long term.
- **Business model** of the organization.
- **Risk and opportunities** that affect the ability to create value over the short, medium & long term' how those issues are dealt with.
- **Strategy** and resource allocation.
- **Performance**: Extent to which objectives were achieved for the period; outcomes and their effect on capitals.
- **Outlook**: Challenges and uncertainties likely to be encountered; implications for the business model and future performance.
- **Basis of presentation:** How the organization determines what to include in its integrated report.

Flexible
Agnostic

### SASB

2012
YEAR OF LAUNCH

GEOGRAPHIC SCOPE
(US)

**SASB**

FRAMEWORK

*Sustainability Accounting Standards*

TARGET REPORTERS
Public companies in US exchanges

www.sasb.org

**PURPOSE:** *Facilitate disclosure of material sustainability information in SEC filings.*

**AUDIENCE:** **Investors**

**WHERE TO REPORT:** *SEC Form 10-K, 20-F filings*

**FOCUS AREAS**
ENVIRONMENT
SOCIAL
GOVERNANCE


**INFORMATION TO REPORT**

- **Environment:** Corporate impacts on the environment.
- **Social capital:** Human rights, protection of vulnerable groups, local economic development, access to and quality of products, and services, affordability, responsible marketing, and customer privacy.
- **Human capital:** Issues affecting employee productivity (e. g., employee engagement, diversity, and incentives and compensation).
- **Business model and innovation:** Impact of sustainability issues on innovation and business models, and the integration of these issues in a company value-creation process.
- **Leadership and governance:** Management of issues inherent to the business model or common practice in the industry that are in potential conflict with the intents of broader stakeholder groups.

### TCFD

2017
YEAR OF LAUNCH

GEOGRAPHIC SCOPE
(Global)

**TCFD**

FRAMEWORK

*Task Force on Climate-related Financial Disclosures*

TARGET REPORTERS
All companies

www.fsb-tcfd.org

*Encourage firms to align climate-related risk disclosers with investor's needs*

**Investors, lenders, insurers**

*Annual financial filings (e. g., annual report)*


- **Governance:** Governance around climate-related risks and opportunities.
- **Strategy**: The actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning, where such information is material.
- **Risk management:** How the organization identifies, assesses, and manage climate-related risks.
- **Metrics and targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

**Finding the right chemistry for sustainability reporting**

These frameworks help organizations report different aspects of their non-financial impact.

Source:
The Conference Board)

"Many overlapping international reporting standards and set-ups confuse companies and investors,"

**EU Commissioner Valdis Dombrovskis**


### Challenge #2: Minimizing liability and reputational risks

Because of the high level of uncertainty around the impacts of future climate risk, many institutions prefer to adopt a prudent approach to public disclosures, especially with regards to quantitative targets and objectives in order to limit their exposures to liability and reputational risks should they not achieve these objectives.

According to a survey conducted by the ECB in 2019 on institutions' CRE risk disclosures[32], the level of public disclosures on CRE risks substantially varies from one bank to another and areas covered are quite heterogeneous across institutions.

When disclosed, information is mostly qualitative in nature. Governance-related disclosures are the most commonly reported, while there is significant room for improvement in the disclosure of quantitative risk metrics and references to scenario analysis/stress testing. There appears to be a positive correlation between an institution's size, and the depth of the disclosed information according to the banks in the sample.

In Luxembourg, most banks are either included in group-wide disclosure or intend to adopt a safe and low-profile communication strategy to mitigate reputational risk. Many prefer engaging directly and actively with clients to support the transition to sustainable targets, rather than setting concrete targets in public reports.

32 ECB report on institutions' climate-related and environmental risk disclosures (europa.eu).

# Conclusion

An unprecedented number of industry publications and regulations have been released in the last two years to encourage further inclusion of ESG risks within bank's risk management framework. Within the different topics comprised by the word "ESG", climate-related and environmental risk have moved to the forefront. However, the multi-dimensional and long-term nature of these CRE risks pose a series of challenges to Chief Risk Officers and their teams.

The supervisory pressure on significant institutions has forced the larger banking groups to speed-up the process, mitigating uncertainty due to lack of available and accurate data, with more qualitative approaches. Many smaller institutions have also initiated their journey, through the definition of a roadmap and the performance of initial steps around risk identification and risk cartography. However, the speed at which the embedment of sustainability considerations into risk management frameworks still differ greatly from one bank to another.

Data quality and long-term projections of climate change scenarios remain a key challenge that impairs the ability to properly quantify CRE risks and calibrate appropriate metrics and limits. While supervisory authorities are aware of these constraints, they have strong expectations of all banks (both SI and LSI) to have a well-defined roadmap with clear objectives and strong support from management bodies.

For banks having not yet embarked on their CRE risk journey, recent and forthcoming regulatory expectations demand action now. As highlighted in this paper, many obstacles lie ahead, but the concrete observed practices presented may hopefully provide some useful initial food for thought on how to overcome these challenges.

Recurrent feedback collected through interviews with Luxembourg banks is that the development of sound risk management processes for CRE risk is a fast-evolving work-in-progress. An incremental approach that enhances methodologies as data becomes more reliable and banks progress in their learning curve, appears the most pragmatic way of converging toward a fully-fledged CRE (and ESG) risk framework.

Finally, integrating CRE risks within the risk management framework is not to be considered as a stand-alone exercise. A key message stemming from best practices suggests that the risk management stream should be well acquainted with other components of the sustainability agenda of credit institutions so as to be relevant for the organization, adapted to its specificities, and properly supported by the business.

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