

Climate and Nature-Related Risks: From Awareness to Action*

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Abstract

Climate change and nature degradation are no longer distant risks. They are already affecting economies, societies and financial systems, and they are doing so through several channels. Banks and other financial institutions face both the physical consequences of a changing climate and the transition risks associated with the shift towards a more sustainable economy. These two types of risk are often discussed separately, but in practice they are two sides of the same coin. The more disorderly the transition, the greater the risks for banks. And the longer decisive action is delayed, the more severe the physical impacts will be. Climate and nature-related risks are, fundamentally, financial risks. They are material risk drivers that affect the way banks manage traditional risk categories such as credit risk, market risk and operational risk. Serious risk management must therefore take climate and nature-related risks into account when identifying, measuring, managing and mitigating all material risks.

Keywords: climate risk in banking, ECB climate supervision, sustainable finance.

1. PHYSICAL AND TRANSITION RISKS ARE INTERTWINED

In the financial sector, this issue is sometimes framed as a choice between addressing either transition risk or physical risk. But this is a false dichotomy, because banks and other institutions will be affected by a combination of both. The balance between them will depend, to a large extent, on the decisions that are made — or not made — by policymakers in the years ahead.

The transition is already under way. Yet there are increasing signs that it is becoming progressively more disorderly, meaning that climate action is being taken in a delayed, inconsistent or abrupt manner. Put simply, our planet is warming faster than previously expected, and too little is being done about it. The longer action is postponed, the more severe the physical consequences of climate change will be, increasing losses caused by extreme weather events and other climate-related impacts.

As these physical impacts become more severe, reducing emissions and adapting to a changing climate will require a faster adjustment later on, leading to more abrupt changes in policies,

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technologies and market conditions. This will create a more difficult risk landscape for banks, as households, businesses and financial institutions will ultimately have to adapt more rapidly and with greater uncertainty.

Evidence from the EU-wide climate stress test conducted by the European Central Bank (ECB), as well as from similar exercises conducted by other authorities and by financial institutions themselves, points in the same direction. Timely and orderly action can substantially mitigate physical risks and reduce risks to financial stability more generally. Every delay comes at a cost: the longer action is postponed, the higher the required investment and the more disruptive the eventual adjustment is likely to be.

Every tenth of a degree of warming we can avoid matters: it can reduce the likelihood of disasters, save lives and preserve economic activity. The Intergovernmental Panel on Climate Change estimates that the risks, losses and damage caused by climate change escalate with every increment of global warming. These risks will increasingly interact, creating compound and cascading reactions that will become more complex and difficult to manage. For banks, the implications are clear: as physical risks become more material and the transition path becomes more uncertain, risk management practices will need to cover both physical and transition risks more comprehensively. They will need to focus on all material portfolios, all relevant geographical areas and all risk categories.

The reason is straightforward: climate and nature-related risks are not confined to a single part of a bank's risk framework. They do not constitute a new category of financial risk, but are rather horizontal risk drivers that cut across traditional risk categories like market risk, credit risk and operational risk. Like geopolitical developments, demographic change, technological disruption and changes in global trade patterns, they are risk drivers that influence established prudential risk categories. Physical risks such as floods, droughts and forest and city fires can damage companies' production facilities and people's homes. This can affect loan repayment capacity which, in turn, can lead to higher credit risk for the bank that provided the loan. Transition risks — driven by changes in regulation, technology or market preferences — can result in stranded assets and expose banks to litigation or reputational harm. This means that any institution seeking to manage its risks effectively must consider how climate and nature-related risks affect each part of its risk framework.

2. FROM AWARENESS TO ACTION

The financial sector has made considerable progress in tackling these risks in recent years. At the end of 2019, fewer than a quarter of banks under European banking supervision had undertaken any meaningful work on climate and nature-related risks. Even among those that

had started, the analysis they carried out was often limited in scope and depth. Since then, the ECB has pursued a multi-year supervisory strategy aimed at moving banks from awareness to action on this front.

In 2020 the ECB published supervisory expectations on the management of climate-related and environmental risks. Banks were asked to conduct self-assessments and draw up action plans in this area. The ECB subsequently carried out a thematic review covering the 110 banks under its direct supervision, set interim deadlines for implementation and monitored progress in meeting them. Where necessary, it also took enforcement measures, including imposing periodic penalty payments on banks that failed to meet supervisory requirements.

The progress achieved since then is significant. Banks have built internal expertise, conducted materiality assessments and begun integrating these risks into their management frameworks. Today, virtually all banks under ECB supervision have the foundations in place to identify, assess and manage climate and nature-related risks. Almost all banks now explicitly say that they consider climate and nature-related risks to be material to their business. Many have also adopted a number of good practices to address them, from advanced scenario analysis and transition planning to stronger engagement with clients when navigating physical and nature-related risks. That is an important achievement, and it reflects the work of thousands of people across the banking sector.

This progress matters because it shows that the discussion has moved beyond mere awareness. Banks increasingly recognise that climate and nature-related risks are part of the everyday business of risk management. Since the first banks were established centuries ago, sound banking has always required institutions to understand the risks they face. Managing material risks is simply prudent, objective risk management — and climate and nature-related risks are no exception.

3. CLOSING THE REMAINING GAPS

The financial sector has come a long way, and climate and nature-related risks are no longer treated as abstract concepts or niche concerns. The challenge now is to move from partial progress to full integration.

Full integration means ensuring that climate and nature-related risks are considered across all material portfolios, exposures, geographical locations and risk categories. It means translating materiality assessments into concrete action. It means looking beyond the most visible hazards, such as floods, to consider a broader range of risks, such as droughts and wildfires, and embedding these considerations not only into the management of credit

risk, but also of operational risk, market risk and other relevant areas. And it means using transition planning as a prudential tool to test resilience across a range of plausible future scenarios.

To achieve this, banks need to apply sound practices consistently and comprehensively in all their operations. Yet this is precisely where significant gaps remain. Some banks focus only on transition risks but not on physical risks — and vice versa — in certain portfolios. Some prudential transmission channels, such as operational or market risk, receive far less attention than credit risk. Furthermore, not all banks have included all material risk drivers, relevant portfolios or transmission channels in their climate and nature-related risk management processes. As a result, banks' approaches often remain uneven.

No bank is yet applying good practices across the board. Some banks, for instance, look at flood risk but do not comprehensively assess wildfires, droughts or other physical risk drivers that may be just as material for their exposures. Others identify risks in their materiality assessments but do not consistently translate those findings into concrete follow-up measures in their risk management processes. And while some banks have developed sound approaches for certain portfolios or markets, these are not always applied consistently across all relevant material geographical areas.

Identifying a risk is an important first step, but it is only part of the process. This is not about pursuing perfection: risk management is, and always will be, a process of continuous improvement. But it does require consistency, comprehensiveness and commitment. Banks should not treat climate and nature-related risk management as a stand-alone exercise to be completed and set aside, but as part of the day-to-day discipline of sound banking.

The starting point for this is a rigorous materiality assessment. Different banks will, of course, have different exposures, so there is no one-size-fits-all approach. But every bank needs to understand whether it is exposed to climate and nature-related risks, how significant those risks are, where they are concentrated and how they may materialise. Without this kind of knowledge, banks cannot decide where action is needed. A robust materiality assessment therefore provides the foundation for all subsequent risk management decisions.

That is why supervisory teams will continue to track progress closely and urge banks to implement sound practices across all material exposures, portfolios, geographical locations and risk categories, covering both physical and transition risks. The objective is not to create a parallel risk management universe for climate and nature-related risks, but to ensure that these risks are fully integrated into banks' ordinary risk management frameworks.

4. PRUDENTIAL TRANSITION PLANNING

If banks are to manage climate and nature-related risks effectively and continue supporting the green transition, they need to take a forward-looking view of how those risks may evolve. Prudential transition planning provides a framework for doing so.

In simple terms, prudential transition planning means that a bank understands its risk profile across different plausible transition pathways and ensures that it is resilient both today and over the longer term. This is essential because there is no certainty about how transition and physical risks will materialise, in what order or with what magnitude. Banks therefore need to be prepared for a range of possible outcomes rather than relying on a single view of the future.

Climate and nature-related risks are characterised by tipping points, non-linearities and compounding effects. Small changes can sometimes trigger disproportionately large consequences, while different risk drivers can reinforce one another. As a result, these risks can evolve along very different pathways. Rather than trying to predict a single future, banks should test their resilience against a set of credible scenarios, including baseline and adverse outcomes. The European Banking Authority's Guidelines on environmental scenario analysis encourage banks to draw on established scenario frameworks — such as those developed by the Network for Greening the Financial System — to assess how their portfolios, clients and business models would perform under different transition and physical risk outcomes. This helps banks identify vulnerabilities early and strengthen their resilience to future shocks.

Prudential transition planning is not about supervisors telling banks which path they must follow or directing their business decisions. Rather, it is about making sure they think consciously about their strategies across a range of possible future scenarios, test those strategies and take action where vulnerabilities are identified.

Done well, prudential transition planning can help banks become more resilient and more competitive. A bank that understands how different transition scenarios may affect its clients, portfolios and business model is better equipped to make strategic decisions over the long term and is better able to support the real economy through the green transition.

5. THE GROWING IMPORTANCE OF PHYSICAL RISK

Physical risk management is another area where there is room for improvement, as these risks are becoming more visible and more costly. Losses caused by droughts, heatwaves, floods and other extreme weather events are already substantial, while global insured losses have risen rapidly over recent decades. The economic consequences extend far beyond the immediate

damage caused. As physical risks intensify, there are serious implications for insurers and banks alike.

Traditionally, insurance coverage and fiscal support have acted as buffers against losses. Today, however, both are under pressure. Insurers are developing innovative products and incentives that help households and businesses adapt to climate and nature-related risks, for example by requiring them to be more resilient to extreme weather events. This is a positive development, but at the same time insurers are also pulling back from certain higher-risk activities and regions, widening coverage gaps. Fiscal space is also more constrained than in previous decades.

This matters directly for banks because the availability of insurance and public support can affect the size of the losses they ultimately incur. Loss given default, for example, can depend in part on whether borrowers have access to compensation after a damaging event. When these buffers weaken, banks can face bigger losses. What may sound like a technical issue — an insurance coverage gap — has concrete consequences. If a house burns down and there is no coverage, the owner may receive nothing. If a harvest is destroyed and no compensation is available, the loss is borne directly by the farmer. These are real economic impacts. And because they affect the income, balance sheets and resilience of households and businesses, they increasingly translate into financial risks for banks.

This is why cooperation between banks, insurers, supervisors and international organisations is so important. Physical risks cut across sectors, institutions and jurisdictions, making collective action essential. The ECB works closely with the European Insurance and Occupational Pensions Authority, while the Network for Greening the Financial System is well placed to contribute further owing to its global reach and involvement of supervisors with insurance responsibilities. Understanding and managing physical risk requires cooperation across sectors and countries.

6. A PRAGMATIC AND TARGETED SUPERVISORY APPROACH

Supervision has an important role to play in this process. The ECB has used both expectations and enforcement to ensure that banks address climate and nature-related risks appropriately. But effective supervision is not only about setting deadlines and imposing penalties. It is also about helping banks understand what sound climate risk management looks like in practice.

As a supervisor of 110 significant institutions, the ECB benefits from a unique perspective. It has a full view of banks across the euro area that individual institutions do not. This allows supervisors to identify and share practices that may be useful for other institutions, while

preserving confidentiality and competitiveness. To make this knowledge available to the whole sector, the ECB published a compendium of good practices for climate and nature-related risk management in 2022 and has since published an updated good practices report.

Importantly, these good practices are not legally binding — they are intended as practical examples of how a bank could manage climate and nature-related risks. A bank may choose not to use any of them and can still meet supervisory expectations if it manages its material risks effectively. Equally, a bank may develop innovative approaches that are not yet reflected in the existing set of good practices and that could inspire future updates. The purpose of these good practices is to make the knowledge gathered through supervision available, without naming individual institutions, so that banks can learn from one another and accelerate progress towards sound risk management.

This combination of supervisory pressure and practical support is important. Expectations establish the outcomes that banks are expected to achieve. Enforcement ensures that these minimum standards are taken seriously. And good practices help banks understand how they can meet those expectations in a robust and proportionate manner. Together, they help raise standards across the banking sector.

7. MANAGING RISKS AS A COMPETITIVE ADVANTAGE

The benefits of sound climate and nature-related risk management extend well beyond regulatory compliance. Banks that build a deeper understanding of these risks are not only better prepared for an uncertain future; they are also better positioned to support their clients and seize the opportunities created by the green transition.

Managing climate and nature-related risks well is a competitive advantage. This is true for any material risk: banks that understand their exposures, assess them rigorously and manage them effectively are better positioned to serve their clients, protect their balance sheets and remain resilient in a changing economic environment. Sound risk management strengthens the financial system; the opposite is true when material risks are overlooked.

This is particularly important in Europe, where the economy is still largely bank based. Banks play a vital role in financing households and firms, in good times and in bad. To fulfil that role effectively, they need to be able to manage climate and nature-related risks in a sufficiently sophisticated way. If they cannot, banks may resort to blanket approaches, such as reducing lending to whole sectors or regions rather than distinguishing between borrowers with different risk profiles and transition strategies.

But the benefits go beyond risk mitigation. The transition to a more sustainable economy is creating significant financing needs and new business opportunities across sectors. Banks that understand the technological, regulatory and market dynamics shaping their clients' transition can support them more effectively, while also identifying attractive business opportunities for themselves.

For example, some banks are already using their sectoral expertise to develop transition finance solutions for clients in industries such as steel, cement, aviation and energy. Others are expanding advisory services, helping clients navigate decarbonisation pathways and investment decisions. Rather than stepping back from sectors undergoing transition, these banks are building long-term client relationships and diversifying their sources of revenue.

The green transition is not only about financing firms that are already green. It is also, and perhaps most importantly, about financing firms that are on the journey to becoming greener. Banks need to be able to differentiate between the two. They need to understand which firms have credible transition plans, which exposures are most vulnerable and where risks can be mitigated. The banks that can make these distinctions are likely to be better positioned both to manage risk and to capture the business opportunities created by the transition. Sophisticated risk management allows banks to support clients with financing through the transition rather than withdrawing it indiscriminately.

Moreover, in building the capabilities needed to identify, measure and manage climate and nature-related risks, banks also strengthen their ability to assess other complex risk drivers like geopolitical developments, supply chain disruptions and technological change. Many of the tools developed in recent years, such as scenario analysis, materiality assessments and the identification of risk transmission channels, can be applied more broadly to other complex risk drivers. This allows banks to build on existing frameworks and expertise rather than starting from scratch whenever new risks emerge. Banks that can adapt their risk management processes in this way are likely to be more resilient, more agile and ultimately more competitive in an increasingly uncertain world.

8. CONCLUSION

Climate and nature-related risks are already shaping the environment in which banks operate. They affect households, firms, insurers, public finances and financial institutions alike. They can materialise through physical damage, transition dynamics, market adjustments, operational disruptions and changes in borrowers' creditworthiness. They are therefore highly relevant for financial stability and for the safety and soundness of banks.

The key message is simple: banks do not need to manage climate and nature-related risks because supervisors say so. They need to manage them because these risks are material. They are embedded in the economy, in their balance sheets and in the prospects of the households and businesses they serve. Managing them well is not a drag on competitiveness, but a precondition for it.

The transition will continue, and physical risks will continue to grow. Banks that understand this, assess their exposures rigorously and support their clients through the transition will be better placed to remain resilient in an increasingly uncertain environment. Supervisors will continue to play their part by setting expectations, enforcing them where necessary and sharing good practices to help raise standards across the sector.

The objective is not to prescribe the future, but to ensure that banks are prepared for a range of plausible future scenarios. In a world of uncertainty, that is what makes prudential risk management sound.