Risk publications

Riding the storm Banking in the era of climate risk

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A Risk.net white paper

Climate-related risk is playing an increasing role in banks' future strategies, resilience and prosperity. So how are banks embedding climate analysis into enterprise risk frameworks and financial decision-making to address the challenges of today and tomorrow?

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About Moody's

Moody's provides data, intelligence and analytical tools to help business and financial leaders make confident decisions. With highly skilled analysts, rich data, robust tools supported by ground-breaking technologies, and a view of the future informed by more than 115 years of expertise, Moody's helps customers accelerate value creation in this era of exponential risk in four key ways: ratings, research and insights, data and information, and decision solutions.

Moody's climate risk solutions help your company assess the interconnected risks from climate change and empower you to make informed risk management decisions within your existing workflows. Moody's applies its financial intelligence to deliver insight on macroeconomic and financial market variables, overlaid with physical and transition risk variables, which inform near-, mid- and long-term risk.

Moody's purpose-built solutions allow you to integrate climate risk insight into your risk management workflows, including stress-testing, risk disclosure and regulatory reporting, investment decisioning and more.

About this white paper

This white paper was produced by Infopro Ignite, the in-house content and thought-leadership team serving leading brands across Infopro Digital's Risk Global division including Risk.net, FX Markets, Central Banking, WatersTechnology, Insurance Post and Insurance Age.

Risk.net is the world's leading source of information and exclusive in-depth analysis on risk management, derivatives and complex finance. The platform provides the research, information, and technical data that are essential for financial institutions. Its team of 45 experienced industry specialist writers is based in London, Nashville, New York and Hong Kong. Risk.net has more than 30,000 subscribers worldwide, across banks, insurers, investment managers, regulators and service providers.

Introduction

In today's environment, banks face pressure to take action on climate risk on two fronts.

On one hand, banks are subject to a growing raft of financial regulations and policies that dictate how they should monitor and manage the financial risks of climate change. These rules and expectations are developing continuously alongside changes in awareness and understanding of the effects of climate change.

In the UK, for example, the Prudential Regulation Authority is working on an update to its SS3/19 climate supervisory statement, which has also been supplemented by guidance and feedback – via 'Dear CEO' letters, for example – since its launch five years ago. The Basel Committee on Banking Supervision is also consulting on its climate-related financial risk proposals under Basel III, which is likely to influence how central banks require financial firms to report on climate risk.

On the other, banks and their counterparties are directly exposed to the physical risks associated with climate change, such as extreme weather, rising sea levels and prolonged droughts. These situations can severely impact the value of assets and the stability of financial markets. In 2024, for example, more than 235,000 commercial properties in Florida, valued at $1.1 trillion, were at risk from damage due to Hurricane Milton, highlighting the vulnerability of financial assets to climate-related events.

> **"Once fully integrated, banks will be able to measure the impact of climate risk with a level of precision that will support and guide all bank decision-makers"**
>
> Antonios Kastanas, Moody's

As a result of these twin forces – new and changing regulations and physical risk – climate risk management has become more critical than ever. And banks are strengthening their protocols for measuring, managing and disclosing climate-related risks across their workflows in response.

Indeed, climate risk analysis has transitioned from a "nice to have" consideration, says Jeffrey Kung, a former regional market risk professional at Wells Fargo, to something all banks must conduct in a world of increasingly tangible climate-related risks. By integrating climate considerations into their strategies, banks can guide capital allocation in a way that enhances resilience and sustains profitability.

Prudent risk management has certainly been a key driver of banks' transition plans and the development of climate risk analysis in the financial sector. But, while protecting against loss and remaining resilient is crucial, financial firms are also considering the opportunity side of the equation.

"At present, the level of integration of climate analysis into business-as-usual activities varies a lot," says Antonios Kastanas, senior director – banking at Moody's. "But, once fully integrated, banks will be able to measure the impact of climate risk with a level of precision that will support and guide all bank decision-makers."

As banks work to embed climate risk analysis more deeply across the enterprise to gain such insights, there will, however, be barriers to overcome. Data availability and quality, technology constraints and gaining enterprise-wide acceptance of the importance and benefits of climate risk analysis all remain challenging.

Those at the forefront of innovating on climate risk analysis are working to fully integrate it into their overall risk management infrastructures. This will ensure their businesses not only continue to exist but continue to grow.

Developing banks' climate risk analysis capabilities

While banks have made significant progress in managing the financial risks from climate change, the industry is still some way from fully embedding it into everyday operations.

"Climate financial risk management presents a number of challenges," says Doug Baird, head of climate risk analytics at NatWest Group. "For example, the lack of a historic precedent on which to calibrate models, the uncertain and extended time horizons over which the risk will manifest, and the non-linear and potentially irreversible impacts it could have."

> **"Several different ESG-related risk drivers, including climate risk drivers for physical risk and transition risk, can be assessed"**
>
> Victoria Collins, Nomura

Banks should assess how these characteristics are appropriately captured in their existing credit risk processes and metrics, such as probability of default, to ensure they are appropriately managing the financial risks from climate change, he adds.

Much of the progress so far around using climate risk analysis has been focused on credit risk assessment. For banks, this means considering the risks to a counterparty from climate change, as well as how the organisation's activities impact climate. There are two key drivers – physical and transition risk – and a bank must understand where those drivers will affect its business lines and its customers.

Nomura incorporates various environmental, social and governance (ESG) factors into its credit rating process, according to its global head of ESG and climate risk, Victoria Collins. "Several different ESG-related risk drivers, including climate risk drivers for physical risk and transition risk, can be assessed" she says. "These can be given a score and then incorporated into the overall credit scorecard. This score used to determine the internal credit rating, which can also be used to guide the credit risk appetite."

Collins adds that ESG assessments are a key part of the transaction approval process, particularly for higher-risk sectors such as carbon-intensive industries. The assessments should include consideration of various climate change pathways, including those aligned to organisations' sustainability strategies, such as a net-zero 2050 pathway. "It is important to assess what the outlook is for that investment over the horizon of the transaction," she says. "And also to understand how climate change pathways might impact the refinancing arrangements at the end of a transaction."

Tools such as scenario analysis and scorecards provide the necessary insights and metrics, but data is a major enabler of these instruments.

Gathering the right data

Early climate risk analysis exercises driven by regulation were typically top-down processes. Risk management teams applied general assumptions at a sector level, for example, and then assessed the impact. "It has become apparent that these types of assessments are not sufficient for meaningful business management," Kastanas says. "Analysis needs to be more granular to have a better understanding of the interactions of those risks with counterparties – how will a bank's financial performance or that of its counterparty be impacted?"

This means banks need more information about counterparty emissions and reduction plans, for example, but also about whether these plans are credible – particularly when a business is raising debt to decarbonise its operations. This information can often be found internally. A team managing a residential mortgage portfolio might collect energy efficiency data, or corporate banking teams might have information related to fossil fuel investments or loans.

To support customers' transitions to net zero, banks need a range of climate-related data, says Nick Talbot, head of climate and nature risk at NatWest Group. In particular, banks are seeking to understand their customers' historical and current emissions, their future emissions reduction plans and key components of their transition plans, such as the actions they intend to take and their governance.

"Understanding these components will help banks support their customers' transition plans and provide the funding, products and propositions they may require," he says.

> **"It is critical that banks are transparent about their data limitations and seek to build coherent climate data strategies that include appropriate engagement with their customers"**
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> Nick Talbot, NatWest Group

Data on physical risk, in particular, is very location-specific because it relates to issues such as the threat of extreme weather events, such as floods or hurricanes. Banks not only need the relevant meteorological information, they also require detailed information from their counterparties about the locations of specific assets, for example.

"It's not uncommon for banks to lack precise location details relating to loans," Kastanas says. "This can become a profound issue if a bank is underwriting a loan to a corporate entity. It must know all the details of he borrowers' operations: a warehouse beside a riverbank, for example."

In addition, the counterparties may not have the data that banks need. Smaller businesses might not know their carbon footprint, for example, but a bank will need to include that information in its own climate risk analysis if it has targets for financed emissions.

"There are many uncertainties, assumptions and judgements regarding climate data that limit the extent to which climate metrics are accurate," says Talbot. "Limited data availability, alongside issues over quality, including a lack of standardisation and comparability, as well as problems regarding access to such data on a timely and verifiable basis, all pose challenges for the financial sector. It is critical that banks are transparent about their data limitations and seek to build coherent climate data strategies that include appropriate engagement with their customers."

Data availability and quality is a universally accepted limitation, but Kastanas believes the climate risk discussions that have been happening across the industry for years now have resulted in improvements on this front. "Data is still a pain point, but it's not as big a pain point as it was in the past," he says.

Certainly, third-party providers are offering larger and more useful datasets, but access to this option can depend on a financial firm's size and strategy. "For companies with a significant portion of their portfolio on the unlisted private side, there is limited data available," says Collins. "More is becoming available, particularly open source, which can help with assessments, but can be rather piecemeal to access."

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> Antonios Kastanas, Moody's

Cost is also a consideration when purchasing datasets from third parties. Again, organisational size and business model will influence such decision-making – a bank with little exposure to high-risk sectors from a climate perspective might not allocate the budget for such expenditure.

Technology is another consideration in developing banks' climate risk analysis capabilities. "While there has been a significant increase in the data and analytical tools available in the market nowadays, you need to be strategic in picking the best options for your organisation," Collins says. "It is useful to apply a risk-based approach when deciding which data and tools to invest in. There are some wonderful tools available and all sorts of incredible analytics, but whether you can justify the expenditure will depend on your business and operating models."

Kung adds that third-party data can be difficult to integrate into banks' legacy systems. "It takes a lot of work, for example, using Python and SQL, to try to extract or play around with third-party data. So, trying to fit third-party data into our standard databases using the same language and taxonomy is a challenge."

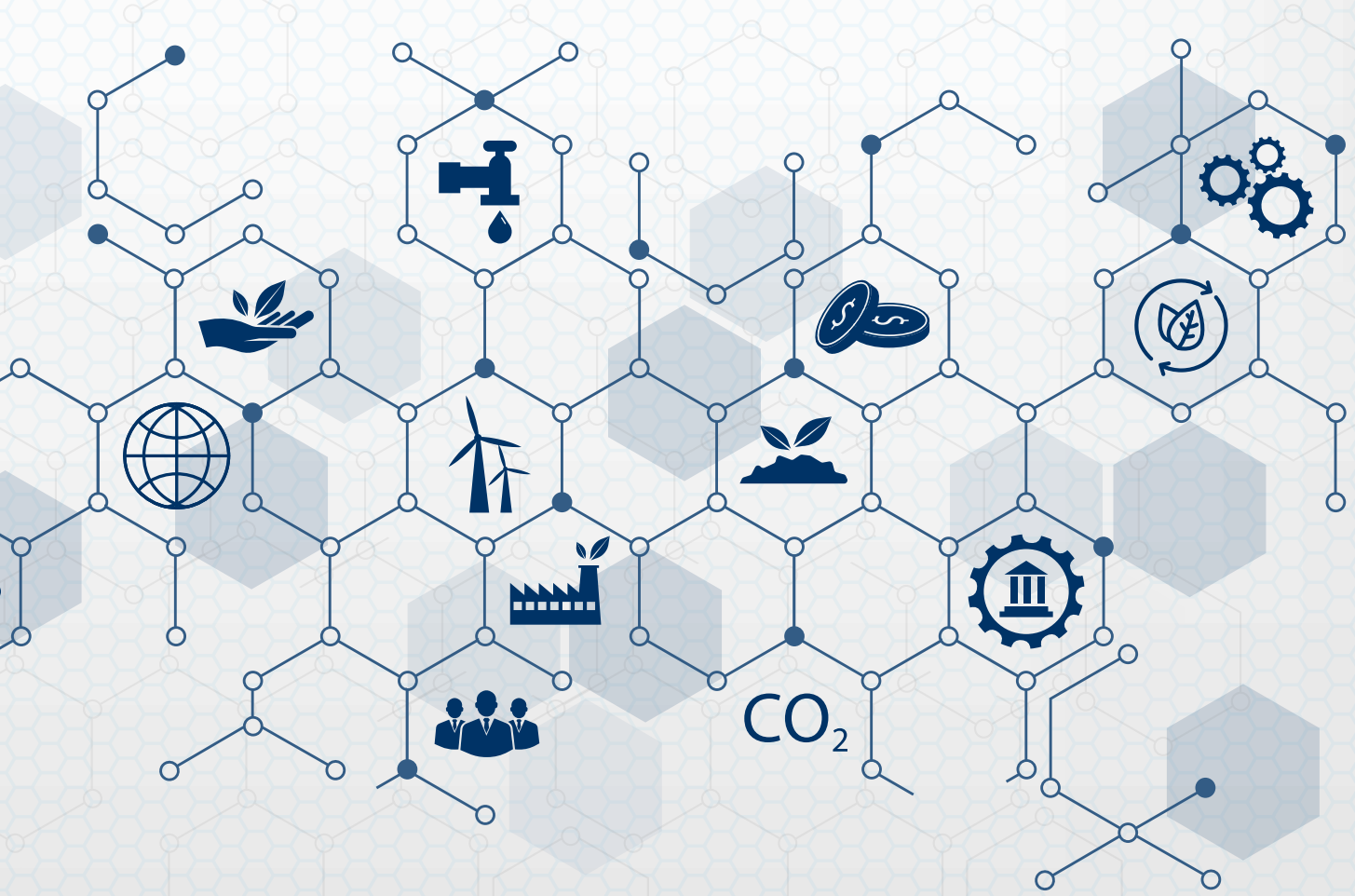
Building, testing and learning

A bank may not currently be able to build a state-of-the-art toolkit for managing climate risk but, as it progresses, this transition will inevitably impact all businesses. So, thinking about how to build the necessary infrastructure for robust climate risk analysis now is prudent. And, demonstrating the value of the insights that teams across the business can gain from climate risk analysis will also help build knowledge and acceptance on an enterprise-wide basis.

NatWest Group's Talbot says the bank is continuing to improve its climate risk analytical capabilities, from an initial driver of "meeting regulations" to now developing, for example, "business-as-usual scenario analysis and stress-testing capabilities to support strategic decision-making".

Furthermore, the bank started out using external vendors to build and run its climate risk analytics, but it now seeks to build its models and run the analytics using internal capabilities. "We aim to continually progress, building the analytical capabilities, testing and learning from the outputs, and then using that feedback to support the next generation of analytics," he explains.

For other banks, this means refining and speeding up climate risk analysis capabilities. "Part of that is trying to move away from long-term to shorter-term scenarios, because that's more useful for decision-making," Kung says. This will mean focusing more resources and attention on the data and infrastructure banks use so they are not just running the standard set of stress scenarios, but considering wider issues such as peak energy and stranded assets, he explains.



Communicating the benefits of climate risk analysis

The aim is to develop tools that are both robust and useful to decision-makers – this will help make climate risk analysis invaluable across the business and cement its importance to prudent risk management for banks.

"When we put the output from these tools in the hands of the people making the decisions about directing capital, setting strategy, managing portfolios, and so on, we want to ensure they understand the basis of preparation – in other words, the assumptions, limitations and challenges associated with the outputs upskill them. It's only by providing this balance that the end-users can have the confidence to use them in the most appropriate manner when managing their risk and opportunities," Talbot says. "It's very much about joining the dots between the capability build and the end-users, plotting a pathway of progressive use from supporting/informing decisioning to driving decisions."

Unfortunately, communicating the risk/return benefits of climate risk analysis is not always easy. "Climate risk will be one of many factors that decision-makers within banks need to consider, so it is essential that teams like ours working within banks focus on communicating the risks and opportunities from climate change in as clear and transparent a way as possible," Baird explains. He points out that the wider economic context – recessions, interest rate changes, elections, and so on – will always influence the dynamics teams like his must operate within.

Climate risk specialists also need to address doubts about the benefits of applying this analysis to longer time horizons. "One of the challenges from the internal stakeholder perspective is around the longer-dated scenarios," says Collins. "[Colleagues might argue that] the exposure would never stay the same over longer-term time horizons, so making the assumption of a static portfolio seems ridiculous. But the rationale for assessing a static portfolio is to identify those parts of the business that are more vulnerable to a scenario. This is used to inform the longer-term strategy – for example, you may want to consider pivoting away from businesses most vulnerable to the climate scenario."

A crucial next step for many banks' climate risk analysis capabilities will be to create internal risk models that can inform lending decisions and the allocation of capital to meet financed emissions targets. This will ensure decision-makers are aware of and able to actively manage climate risk, but it could also position banks to benefit from the transition to a net-zero world.

"It's about being able to show, in simple terms, the financial risk/return trade-offs from different strategies to support the transition," Baird says. "For example, if we can demonstrate the potential risks to businesses that are reliant on the fossil fuel industry under different transition scenarios and the potential returns achievable from businesses that drive the transition to renewable energy, that will allow more balanced decisions around how to allocate capital most efficiently."

As with most risk management changes, 'tone from the top' is crucial. "Even if a bank develops a climate risk model, how does it convince different parts of the business to make use of it for lending decisions, for example?" Kastanas asks. "The motivation in many instances comes from the top down."

Kastanas suggests such a cultural shift could enable better alignment between the business lines of a bank and its analytics teams, making climate risk models more useful in practice. One way to encourage this is by setting targets. "A bank might have a great model in the back end that assesses the impact of emissions on the default probability of an obligor," he says. "But, if the front office doesn't have a target for reducing emissions, it's just another model that sits in the back end."

Climate risk growth opportunities

As banks' climate risk analysis capabilities continue to develop, their focus is shifting from compliance to future-proofing the business in a world of tangible climate-related risks. "There is a need to build robust frameworks and to improve the efficiencies that are associated with this type of analysis so you can facilitate disclosures and meet your regulatory requirements, but also – importantly – to enable decision-makers," says Kastanas. "That's what matters for a bank's growth outlook."

Challenges remain when it comes to data, infrastructure and gaining acceptance for climate risk analysis within banks. But the progress made to date is helping to lay the groundwork for a more manageable transition to a net-zero economy. For banks, the increasing integration of climate considerations into decision-making will help enhance resilience, guide capital allocation and sustain profitability.

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> Jeffrey Kung, Wells Fargo

There is more work to be done to further develop banks' climate risk analysis capabilities. But progress to date has already encouraged more conversations across financial organisations about the transition and how to approach it in a way that identifies the risks, as well as the opportunities.

Continued action will help fully embed climate risk analysis into enterprise risk management frameworks and financial decision-making so it can contribute to driving resilience, profitability and growth for banks.


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