



Embedding material nature-related financial risks into risk management frameworks

Key aspects for financial institutions

In this third and final article in our series on nature-related financial risks we focus on how banks and insurers should approach the integration of material nature-related risks into their business-as-usual risk management processes.

Where an institution identifies nature-related risks as material, it must actively integrate these risks into its current risk management framework – especially in relation to credit risk, which, for many Swiss banks and insurers, remains a core transition channel between nature-related risks and financial stability.

In practice this means that once the financial institution has assessed the materiality of nature-related risks – such as climate change, biodiversity loss, deforestation,

or water stress – it must embed these insights into its day-to-day risk management activities. For example, for credit and counterparty risk this means including nature-related financial risks into the end-to-end credit origination process covering client acceptance, credit granting, loan pricing, and credit portfolio monitoring and risk management. To do this, banks could take several concrete steps, as shown below:

- 1. Enhanced Due Diligence and Risk Assessment:** banks should expand their nature-related risk assessment during credit origination and review processes. For borrowers in high-risk sectors (such as agriculture, mining, and construction), this includes evaluating the dependencies and impacts on ecosystems. For instance, loans to agribusinesses

in regions prone to soil degradation or water scarcity should reflect these risks in pricing, collateral requirements, limits, or approval conditions.

2. Integration into Credit Policies and Procedures:

credit policies must reflect nature-related risk considerations. This could involve updating sectoral risk appetite statements or defining thresholds for exposures to activities linked to high impacts on nature. Banks may introduce exclusion lists or conditional lending practices based on clients' environmental performance, impact on nature or transition plans.

3. Client Engagement and Data Collection:

since nature-related data is often scattered and not straightforward to gather, banks should proactively engage clients to improve disclosure and understanding of environmental impacts and dependencies. This can include requesting ESG data, conducting sector-specific questionnaires, or supporting clients in implementing nature risk mitigation measures.

4. Portfolio Monitoring and Reporting: Ongoing monitoring of credit portfolios for nature-related risk exposure is essential. This may involve mapping sectoral exposures against biodiversity-sensitive regions, using geospatial tools, or developing internal dashboards to track key indicators.

Ultimately, FINMA's expectation is that material nature-related risks are treated like any other significant financial risk: systematically identified, measured, monitored and managed. For Swiss banks, especially those with large corporate lending portfolios, this marks a shift toward more proactive nature risk management that aligns with global efforts, such as the Taskforce on Nature-related Financial Disclosures (TNFD), which, although a disclosure-oriented framework, provides valuable insights on the methodologies to be used for assessing and managing nature-related risks through the LEAP (locate, evaluate, assess, prepare) approach.

Examples of integration of nature-related financial risks in the credit process

Climate risk rating	<ul style="list-style-type: none"> • Improvement in ratings as a KPI for sustainability-linked loans • Climate and environmental ratings as a risk driver for lending decisions
Macroeconomic impact	<ul style="list-style-type: none"> • Climate risk stress testing using the NGFS scenarios, interpreted using macroeconomic models • Macroeconomic scenarios in provisioning
Impact through existing drivers of credit risk	<ul style="list-style-type: none"> • The impact of a regional 1/1000 years flood event on the loan-to-value for a counterparty • The P&L sensitivity to an increase in the carbon price (e.g. using the carbon elasticity model)
Direct impact as a separate driver of credit risk	<ul style="list-style-type: none"> • Apply future downward shocks to the theoretical asset value in a Merton framework • Assess the effect of flood risk indicators, ceteris paribus, on default risk

Stress testing

Although currently required only for FINMA Category 1 and Category 2 Institutions, stress testing is a vital tool for banks and insurers as they assess the resilience of their portfolios under adverse scenarios. When it comes to nature-related financial risks, stress testing allows institutions to explore how environmental degradation – such as biodiversity loss, ecosystem collapse, or water scarcity – could impact their financial position under different plausible but severe conditions. As the financial sector becomes more exposed to environmental risks through lending, investment, and

supply chain relationships, regulators, including FINMA, are increasingly emphasising the importance for bigger institutions of incorporating nature-related factors into forward-looking risk assessments.

Nature-related risks are complex, non-linear, and often long-term in nature. Traditional risk models based on historical data may not fully capture the systemic dependencies between financial institutions and nature. This makes stress testing particularly valuable as it allows banks to go beyond historical data and consider

forward-looking scenarios that reflect scientific and ecological developments. These scenarios can highlight how physical risks or transition risks could affect asset values, creditworthiness, and capital adequacy.

To conduct meaningful stress tests, institutions need to develop scenario narratives that reflect the potential consequences of nature-related risks under different pathways. This could include, for example, a scenario where a government imposes strict land-use regulations to protect biodiversity, leading to sudden devaluation of agricultural or real estate assets. Alternatively, a scenario might examine the economic fallout of a collapse in ecosystem services, such as pollination or clean water access, which are critical to certain sectors. These narratives should be both scientifically credible and relevant to the organization's exposure profile.

Once scenarios are developed, banks and insurers must translate these narratives into quantitative

impacts using appropriate data and methodologies. This process requires close collaboration between sustainability, risk management, and data teams to ensure that environmental variables – such as climate change, ecosystem dependency, biodiversity sensitivity, or land-use intensity – are mapped to financial metrics like credit losses, market value changes, or operational disruptions. Although data limitations remain a challenge, especially for biodiversity-related metrics, advances in geospatial tools and third-party nature-risk data providers are improving the feasibility of this work.

Stress testing should be embedded into the broader risk management framework. It is not a one-off exercise but a dynamic process that informs strategic decision-making, capital planning, and client engagement. Results should be discussed at senior levels of the institution.

Refresher: the requirement from the Circular

C. Risk management

- (28) Institutions shall integrate the management and monitoring of the nature-related financial risks assessed as material and the reporting of these risks appropriately into their institution-wide risk management and internal control system – taking into account the time horizons of the risks.
- (29) This shall also include the consideration of possible concentration risks caused by nature risks, e.g. through concentrations of business activities or portfolios in certain sectors, industries or regions.
- (30) Based on its risk tolerance for nature-related financial risks, the institution shall define suitable risk indicators with warning thresholds and limits, where possible and appropriate, in order to monitor its nature-related financial risks that are assessed as material. It shall also include

forward-looking risk indicators. The institution shall integrate the monitoring of warning thresholds and limits into its existing internal monitoring and reporting processes.

- (31) The institution shall periodically assess and determine its methods and information requirements for the management of its material nature-related financial risks and adapt its information sources, methods and processes accordingly. It shall take into account relevant national and international developments.
- (32) The institution shall regularly assess whether its sustainability-related public statements are in line with its business strategy, its risk tolerance, its risk management and its statutory obligations.

D. Stress tests

- (33) Category 1 and 2 banks with material nature-related financial risks shall gradually integrate these into their stress tests and their internal assessment of the adequacy of financial resources.

- (34) Insurers with material nature-related financial risks shall take these into account as part of the Own Risk and Solvency Assessment (ORSA).

Conclusion

Managing nature-related financial risks is not a one-off or box-ticking exercise but an extension of sound risk management adapted to a changing environmental context. Indeed, all material nature-related risks should be treated like any other significant financial risk, meaning these risks need to be systematically identified, measured, monitored, and managed.

Although not mandatory for smaller institutions, stress testing is an essential component of an institution's response to nature-related financial risks. It enables forward-looking, scenario-based analysis that equips banks and insurers to understand, quantify, and manage the potential financial impacts of environmental disruption. By investing in data, scenario development,

and internal capabilities, these organisations can ensure that their stress testing frameworks not only meet regulatory expectations but also strengthen their

strategic resilience in a world that faces growing nature risks.

How can Deloitte help you?

- Review of your current risk management framework to identify potential areas of improvement (including the maturity of your framework and completeness of your policies and procedures)
- Support in creating your risk dashboard and risk reporting templates
- Support in performing stress tests on your nature-related financial risks.



Key takeaways

- Embed environmental factors into your credit decision-making and policy — including sectoral risk guidelines, exclusion policies, or conditional lending.
- Enhance your due diligence and risk scoring — using nature risk indicators, geospatial analysis, and scenario thinking.
- Engage with your borrowers — to improve disclosure, support transition planning, and mitigate risks.
- Monitor and report on your exposures — particularly high-risk sectors or regions, and adjust your risk appetite accordingly.
- Stress testing nature-related risks is key to moving beyond historical data and embracing scenario-based thinking

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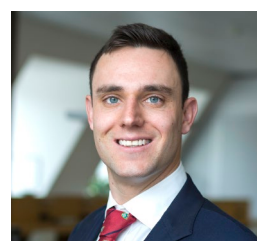
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