

# Climate Risk Management and the US Banking Industry



From the banking industry perspective, climate risks are risks that will manifest in the existing risk types – such as credit, market, operational, liquidity, or legal risks – due to climate change and associated efforts to reach net-zero (emissions) target no later than 2050.

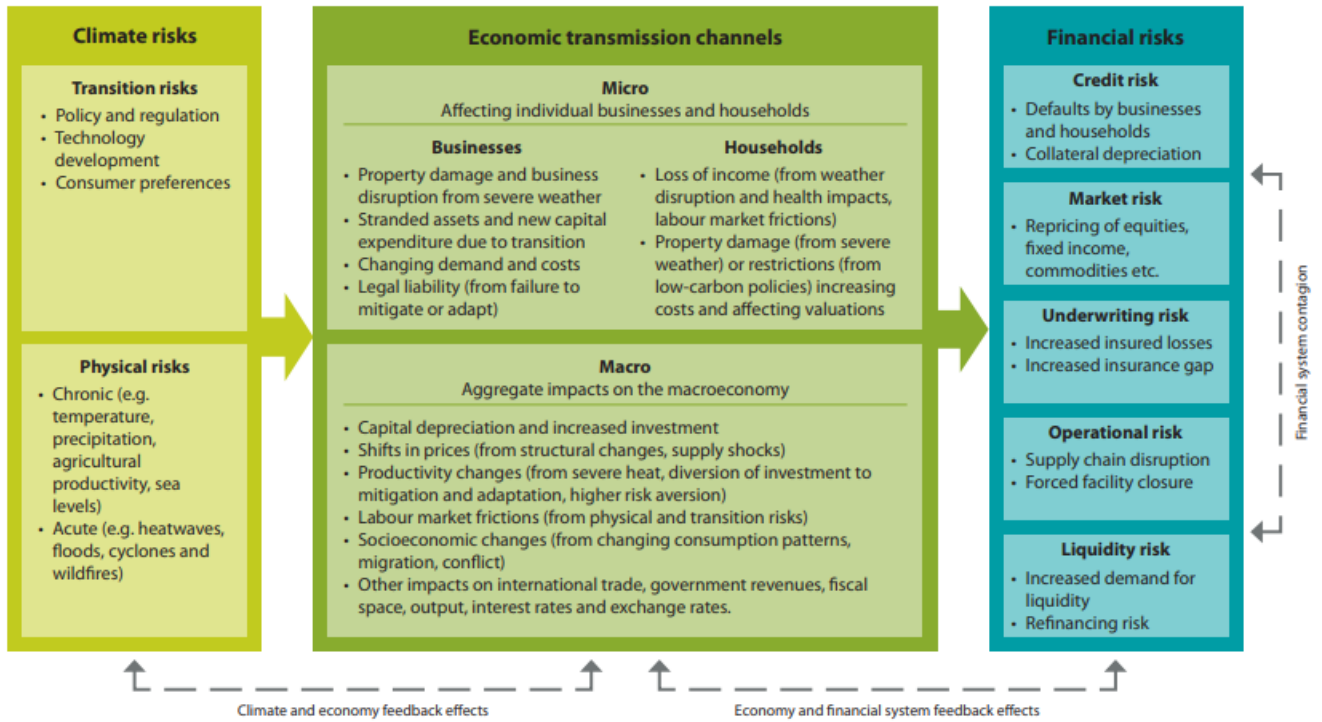
Climate change, and consequently the risks associated to a bank, are unique among other existing systemic risks due to complex regional and global interlinkages, non-linear associations of physical and economic risk drivers, and longer time horizon. Nevertheless, an early forward-looking assessment of climate risk on a bank's existing portfolio, on its model risk management capabilities for climate scenario analysis and stress testing, and on the bank's risk appetite framework can help small and medium sized banks mitigate climate-related losses, as well as find new opportunities in the short and long-run. Furthermore, timely discussions on climate risk will help banks meet, and communicate effectively towards any upcoming regulatory (or disclosure) requirements and stakeholder expectations.



**Kevin D. Oden**  
Founder and Managing Partner

The risks from climate change can be broadly divided into two categories: physical and transition risks. Physical risks refer to the financial losses a bank can incur due to climate-change induced increased severity and frequency of physical hazards over short- and long-term. Transition risks refer to the risks of financial institutions' loss based on the steps the policy makers, regulators, consumers, and other stakeholders of the community will take to adapt or mitigate climate change. For example, if in the future consumer preferences shift strongly to renewable sources of energy, then fossil fuel companies (in a bank's portfolio) that fail to adapt to the changing preferences may have an increased credit risk. Physical and transition risks translate into financial risks through micro and macro transmission channels. (Please refer to the figure: Transmission Channels).

**Transmission channels**  
 Climate risks to financial risks



Source: NGFS

Globally, and specifically in Western Europe, many banks have begun compliance with climate-related disclosures including climate-risk stress testing and scenario analysis. However, in the US, climate risk management and disclosures are not yet mandatory. In fact, some states have enacted measures to ensure fair-lending practices, discouraging banks from making broad-based decisions that may negatively affect industries or sectors' (such as fossil fuels) access to capital and credit. While there are constant discussions on conflicts between fair lending and climate regulations, supervisory guidance is imminent from a financial risk management perspective. The proposed SEC climate disclosure is one such example. Small and medium sized banks in the US should start building the base of a climate risk management framework today to gain insight of their portfolios and businesses from a climate risk perspective and become ready to meet future mandatory climate risks regulations and disclosures.

Regardless of mandatory supervisory requirements, banks have portfolios that are vulnerable to losses due to the increased severity in physical and transition risks over the short and long-term. Additionally, there are growing expectations from various stakeholders that banks effectively communicate their climate risk considerations. Therefore, banks timely preparedness in climate risk management right now can help them tackle the impending developments in a way that is both effective and cost optimized.

An important step in climate risk management is the identification and classification of portfolios and models (from existing model inventories) that have material climate risk and the assessment on how these might impact the bank's overall risk appetite. It is a fact that stresstesting and risk scenario analysis is resource intensive, and banks may not see the sense in investing in them if regulations are not mandatory. However, having insight of their portfolios and a defined climate model risk management practice right now can help banks mitigate sudden losses and the cost of compliance with future regulations.

When discussing climate risk, generally, only the financial loss aspect is mentioned. However, the US small and medium sized banks have a unique opportunity to identify portfolios and business that show growth in response to climate risk factors. Scenario analysis and stresstesting are useful to identify such new business opportunities.

Appropriate stresstesting assessments on banks' portfolios from a climate risk perspective provide banks with insight into sectors, geographies, and businesses that are promising considering a forward-looking environment under different climate scenarios. Knowing, with some certainty, what their portfolios will look like until 2050 under different climate scenarios can help small and medium sized banks identify those opportunity gaps they have not been able to capture yet.

Climate risk must become part of banks risk management framework to remain competitive and build more sustainable businesses. There is minimal cost if banks start applying climate risk management and governance today. Moreover, an appropriate model risk management infrastructure will be useful to identify climate risk related opportunities. KDOA has extensive experience in financial regulations and risk management, specially from model risk management perspective, across all key risk types. KDOA can help financial institutions incorporate climate risk into their risk appetite framework, perform model risk management practices including development, validation, monitoring, and documentation, and help banks with their physical and transitional risk materiality assessments to find portfolios prone to high, medium, or lower climate risk so that climate risk is managed in a way that is most relevant and cost effective to the bank. Small and medium sized banks will benefit from achieving a transparent view of climate risk on their portfolios when making business decisions.

### **Akanksha Sahay**

#### **Senior Quantitative Analyst**

Akanksha is a Risk modeling and analytics specialist with 7+ years experience in regulatory stress testing, scenario analysis, and revenue/loss forecasting. She has worked with some of the largest American and European banks on validation of models including PPNR, corporate credit risk, fraud, and consumer scorecard models. Since 2019, she has been working on climate risk modeling and climate change strategy with focus on the financial sector (including PRA CBES, ECB climate stress test, and TCFD and SEC disclosures). Akanksha has an undergraduate and master's degree in Economics with specialization in applied quantitative finance.