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**“Five Climate Questions Every Bank Board Should Ask”**

This year, there have been several notable reports and pronouncements regarding climate change. In August, the Intergovernmental Panel on Climate Change (IPCC) published the first installment of its Sixth Assessment Report (AR6).<sup>1</sup> It warns of faster warming and describes in sobering detail a range of adverse impacts from climate change on different regions of the world. In October, the Financial Stability Oversight Council (FSOC) released its first ever Report on Climate-Related Financial Risk. It acknowledged climate change as an emerging threat to the financial stability of the United States and offered a set of recommendations. And last week, as part of the COP26 activities in Glasgow, Scotland, the Network for Greening the Financial System (NGFS), a group of 100 central banks and supervisors, declared a commitment to action. Consistent with that, the OCC announced that we plan to issue high level framework guidance for large banks on climate risk management by the end of this year.

These words are extremely important. Bank action is even more so.

Today, I want to move the climate conversation from the offices of scientists, policymakers, and regulators to bank boardrooms. Specifically, I want to talk about five climate change-related questions that large bank boards of directors should be asking their senior management.

Bank boards have a critical role to play in turning words into action and, in doing so, can be a strong force for good. In board meetings, the questions that directors ask senior managers

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<sup>1</sup> [Sixth Assessment Report Climate Change 2021: The Physical Science Basis | IPCC \(ipcc.ch\)](https://www.ipcc.ch/)

can shift bank priorities, reveal hidden strengths, expose fatal weaknesses, and spur needed changes. The most influential board members—the ones who are highly effective in moving the needle and driving change—tend to ask the most probing questions and expect the most of their management team.

The questions below are designed to help board members promote and accelerate improvements in climate risk management practices at their banks. Given the early state of play, boards should not be surprised to hear management respond, “We don’t know” to some, if not all, of the questions. Indeed, precise and confident responses should be met with healthy skepticism. Honest responses should prompt additional questions, rich dialogue, discussions about next steps, and management team commitments for action at future board meetings. By this time next year, management teams hopefully should be able to answer these questions with greater accuracy and confidence. The journey to get there will require large banks to build up their climate risk management and reporting capabilities. The OCC will help along the way.

**Question #1: “What is our overall exposure to climate change?”**

This is the core, animating question of climate risk management. To answer this question bank senior managers need to develop a framework, a risk taxonomy, metrics, data, scenarios, and a strong understanding of the first- and second-order impacts that physical and transition risks may have on the bank’s portfolio.

Boards will naturally want to know how material the exposure is, as that will inform the magnitude of needed adjustments or other actions. You will ask, “Is our exposure manageable?” In contrast to most exposure-related questions, the answer here cannot be meaningfully summed

up in a single number. For a large bank, there will need to be a suite of data points—some quantitative, some qualitative—to capture the *profile* of its exposures to climate change risks.

Boards should seek to balance “top-down” and “bottom-up” approaches to assessing their banks’ exposures to climate change. To date, most discussions of climate scenario analyses have assumed a top-down approach. The FSOC report, for instance, analogizes climate scenario analysis to Comprehensive Capital Analysis and Review (CCAR) stress testing, while emphasizing the longer time horizon and exploratory nature of climate scenarios. NGFS has developed a range of policy scenarios and climate “pathways,” all of which are macro in nature.<sup>2</sup> These and other top-down approaches are complex and will take time to mature, as acknowledged by Federal Reserve Board Governor Brainard in a recent speech.<sup>3</sup>

In the meantime, banks can and should engage in what I call “small s” scenario testing—that is, asking more granular “what if?” questions that directly affect parts of a bank’s portfolio. For banks with strong risk management capabilities, this is bread-and-butter stuff. During the Greek debt crisis, for instance, large banks ran batteries of “what if?” scenarios: What if Greece defaults? What if a peripheral redenominates? What if there is a wave of restructurings? These bottom-up questions can be done more quickly, can illuminate material exposures (and data gaps), and can help build the climate risk management muscles that will be needed for large banks to succeed long term.

Boards should push senior management hard to develop scenario analyses, both top down and bottom up, as doing scenario analysis well takes time. But time is running out. We are racing against increasing numbers of costly extreme weather events. Since the beginning of

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<sup>2</sup> [NGFS Climate Scenarios for central banks and supervisors | Banque de France \(ngfs.net\)](https://www.ngfs.net/en/our-work/our-scenarios)

<sup>3</sup> [Speech by Governor Brainard on building climate scenario analysis on the foundations of economic research | Federal Reserve Board \(federalreserve.gov\)](https://www.federalreserve.gov/newsevents/speech/brainard20190801a.htm)

2017, the total cost of U.S. weather and climate disasters has exceeded \$690 billion.<sup>4</sup> That is a record over any five-year period, and we still have two months left in 2021. This year will be the seventh consecutive year that the United States has experienced ten or more billion-dollar weather disasters.<sup>5</sup> The IPCC report notes that “[w]ith every additional increment of global warming, changes in extremes continue to become larger.”<sup>6</sup> In other words, every half degree Celsius increase in global warming will result in an increasing occurrence of some extreme events unprecedented in the observational record.<sup>7</sup>

Understanding one’s exposure to a given risk is foundational to monitoring and managing that risk effectively. By posing this question about climate change exposure directly and repeatedly to senior managers, boards will compel and support them in developing the frameworks, gathering the data, and building the teams and systems necessary to effectively manage risks from climate change.

**Question #2: “Which counterparties, sectors, or locales warrant our heightened attention and focus?”**

Climate change is going to significantly impact the creditworthiness of some borrowers and sectors. Both physical and transition risks can ultimately affect borrowers’ solvency and the value of their underlying assets. *Physical risks* include the increased frequency, severity, and volatility of extreme weather and long-term shifts in global weather patterns and their associated impact on the value of financial assets and borrowers’ creditworthiness. *Transition risks* relate

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<sup>4</sup> [Billion-Dollar Weather and Climate Disasters: Events | National Centers for Environmental Information \(NCEI\) \(noaa.gov\)](https://www.noaa.gov/news/billion-dollar-weather-and-climate-disasters-events)

<sup>5</sup> Id.

<sup>6</sup> See note 1.

<sup>7</sup> Id.

to the adjustment to a low-carbon economy and include associated changes from government policy, technology, and consumer and investor sentiment. Identifying those borrowers and sectors most likely to see deterioration in their ability to repay or in their collateral values under potential physical and transition risk scenarios is a critical first step to prudently managing climate risk. This is particularly important with so-called “wrong way risk” exposures—where a borrower’s probability of default (PD) and loss given default (LGD) both increase simultaneously under a particular stress.

The threat of certain physical risks may also have disproportionately large impacts on certain local economies. While communities and banks have withstood weather disasters for years, the higher frequency, increased severity, and broader scope of extreme weather events, such as hurricanes, floods, wildfires, and droughts, may inflict permanent damage on local economies or compel households and businesses to migrate.

Other communities may be particularly vulnerable to transition risks. For instance, those that are highly dependent on carbon-intensive activities for economic growth will be disproportionately affected by clean energy technological advancements, shifts in consumer and investor sentiment, and eventual policy interventions.

Assessing the potential impacts of climate change on specific counterparties, sectors, and locales is an important step to understanding and managing banks’ overall exposures to climate change.

**Question #3: “How exposed are we to a carbon tax?”**

Transition risks are especially challenging to identify and quantify. While forecasting the weather accurately is not easy, forecasting technology breakthroughs, legislative actions, and consumer preferences is nearly impossible by comparison.

Banks must start their analysis somewhere. A boundary case, like the immediate adoption of a carbon tax, may serve as a good candidate.

A carbon tax puts a price on emissions of carbon dioxide and other greenhouse gases, encouraging people, businesses, and governments to produce less of them. Most economists agree that a carbon tax would be the most efficient way to transition to a zero carbon economy. Notwithstanding, the likelihood of the United States adopting a carbon tax in the foreseeable future is low.

So why ask management to estimate a bank's exposure to a carbon tax?

A carbon tax can be thought of as the transition risk equivalent of the "severely adverse" scenario in CCAR. It is a way to flesh out, at the aggregate level, the most significant exposures, the biggest concentrations of risk, and the most highly correlated positions. More important than the estimate itself, the exercise of coming up with a number will require processes, data, and calculations that will strengthen transition risk measurement practices more broadly. Those capabilities may, in turn, enable more refined assessments of more complex and more likely transition risks in the future.

**Question #4: "How vulnerable are our data centers and other critical services to extreme weather?"**

As the pandemic has shown, households, businesses, and the financial system rely heavily on banks to maintain continuous operations, despite external events. Understanding the

potential effect of extreme weather on the continuity of large banks' critical operations is an important part of effective climate risk management.

Most large banks rely significantly on data centers to store, aggregate, process, and synthesize the data underlying their businesses. Some of these data centers may be located in areas with elevated risk to extreme weather, such as storms, tornadoes, and flooding. Risks include not only the risk of damage to physical facilities but also risks from staff inaccessibility to run those facilities.

As a corollary to this, banks increasingly are dependent on third-party vendors for a range of things, including critical services. To the extent that critical service providers are vulnerable to climate change, banks' abilities to continue critical operations may be affected.

Identifying and understanding such vulnerabilities is important for continuity and disaster recovery planning. While banks have been doing business continuity planning for years, changes in extreme weather caused by climate change may require banks to do additional analysis and adjust preparedness accordingly. Risk assessments and mitigation that take the full range of climate scenarios into account may prompt consideration of modifications to data center strategies or business continuity plans. Now is the time to start asking these questions.

**Question #5: “What can we do to position ourselves to seize opportunities from climate change?”**

It is important to remember that climate change presents opportunities, as well as risks. Banks that are poorly prepared to identify climate risks will be at a competitive disadvantage to their better-prepared peers in seizing those opportunities when they arise.

The low-carbon economy is going to look and function differently than today's economy. Renewables, carbon capture, electric vehicles, charging stations—these are the most obvious banking opportunities arising from climate change. Changes in agriculture, water infrastructure, consumer preferences, and investor sentiment will also create opportunities.

Banks with strong climate risk management systems and capabilities will not only be better prepared to withstand climate change events but will also have a better line of sight into the many business opportunities that will arise. Just as strong credit risk management capabilities can provide the assurance and confidence needed for a bank to make risky credit decisions prudently, strong climate risk management capabilities can enable the same prudent risk taking with regards to climate-related business opportunities.

The better a car's brakes, the faster you can safely drive it. The sooner large U.S. banks accept this, the more competitive they will be vis-à-vis their overseas peers.

## Conclusion

We are at an important moment. Climate change poses significant risks to the financial system. Detailed reports have been published. Eloquent words have been spoken. It is time to convert those words into action.

Bank boards can play a pivotal role. By asking pointed questions of management about their institutions' exposures to climate change risks, bank boards can help put into motion the concrete steps that banks need to take to prudently manage climate risk.

We at the OCC are here to help and to do our part. We are currently developing high level supervisory expectations for large banks related to climate risk management. We expect to issue framework guidance by the end of this year, to be followed next year with detailed



guidance for each risk area. The detailed guidance will build on a range-of-practices review that will launch this week, industry and climate groups' input, and lessons from other jurisdictions.

Our vision is that by working together, large U.S. banks will develop robust climate risk management capabilities over time. Doing so should improve their resilience and competitive positioning and enable them to address climate change more effectively.