



Oral Testimony of Steven Rothstein
Managing Director, Ceres Accelerator for Sustainable Capital Markets

Prepared for the U.S. House of Representatives, Committee on Financial Services,
Subcommittee on Consumer Protection and Financial Institutions

Hearing: [Addressing Climate as a Systemic Risk:
The Need to Build Resilience within Our Banking and Financial System](#)

Wednesday, June 30, 2021 2:00 pm

Thank you for the opportunity to appear before you today. My name is Steven Rothstein. I am the Managing Director of the Ceres Accelerator for Sustainable Capital Markets. Ceres is a non-profit organization working with investors and companies to build sustainability leadership within their firms and to drive policy solutions throughout the economy. I represent our membership networks of Fortune 500 companies and 200 investors with over \$30 trillion of assets under management.

My testimony today also draws from Ceres reports that include detailed recommendations. We have also submitted these into the record.

I am not here only to talk about the direct systemic risk climate has on our planet or people, although that is paramount to the lives of our children and grandchildren.

I am here to highlight both the under-recognized risk to the safety and soundness of our financial institutions due to climate change and the risks the business-as-usual approach of some financial institutions pose to a livable, climate-safe world.

If a banker or a bank regulator suggested they did not need to plan for another pandemic or cyber attack, there would be a chorus of opinions saying that they were not meeting their fiduciary responsibility. Potential exposure to climate risk is bigger and more systemic, yet there are leaders in banking, insurance and even financial regulators that do not fully account for climate risk.

Even as we are working to overcome the unprecedented pandemic, and the pain and loss it brought, we simultaneously had record-breaking fires, hurricanes and unparalleled climate-related transition risks.

We are, as the Secretary of State said, running out of records to break.

In short, we know more about the climate risks than we knew about the mortgage finance risks facing our financial system in 2008. But, surprisingly, we are not acting with the urgency required.

There are dozens of strong international examples from financial regulators we can learn from. We appreciate that the Treasury Department, the Federal Reserve, the SEC and some others have taken initial actions but we need to move faster.

We recommend regulators take five essential steps:

1. Immediately affirm the systemic nature of the climate crisis and its impacts on financial market stability.

This affirmation should take the form of a statement from the agency chair or an agency-issued report to underscore the risks posed by climate change to financial markets.

2. Activate action on prudential supervision.

U.S. regulators have explicit responsibilities to supervise the risks that financial institutions take on. Consistent with this mandate, financial regulators should integrate climate change into their prudential supervision of banks, insurance companies and other regulated financial institutions.

The Federal Reserve, in particular, should take immediate steps to assess the climate risk to financial markets and mandate scenario analyses by the banks and other financial institutions it supervises. The Fed should also outline plans for conducting pilot climate stress tests on its supervised institutions to measure the impact of climate-related shocks, and consider enhancing capital and liquidity requirements to integrate climate risk.

In addition, we recommend the Federal Reserve, the FDIC, the Office of the Comptroller of the Currency and the National Credit Union Administration expand their examiner training programs and manuals to ensure staff fully understand the climate risk faced by the financial institutions they monitor.

3. Support the Securities and Exchange Commission's work on mandatory climate disclosure.

We congratulate the SEC for seeking comments and for hopefully issuing bold rules later this year mandating corporate climate disclosure.

4. Address how climate risks further exacerbate systemic racism, particularly reflected in financial institutions.

Financial regulators should develop strategies to address systemic climate risks and structural racism in an integrated way. The Community Reinvestment Act (CRA) offers ripe opportunities to enhance economic and climate resilience for low-income and vulnerable communities.

5. Build capacity for smart decision-making on climate change by coordinating action with other U.S. and global financial regulators and by hiring and training additional staff.

Coordinated action by U.S. financial regulators at the global, federal and state levels is essential to accelerating efforts to address climate risk. The Financial Stability Oversight Council (FSOC) generally and the Executive Order on Climate-Related Financial Risk plays a critical coordination role.

We appreciate the recent actions of U.S. financial regulators to coordinate with global peers to build on their learnings and experiences to date.

To conclude, U.S. financial regulators have a critical role to play in ensuring the resilience of our economy, weakened from a global pandemic, systemic racism, and threatened by future climate shocks. The safety and soundness of our financial institutions are relying on them and all of you to act.

Thank you.

**Background Materials for Oral Testimony of Steven Rothstein
Managing Director, Ceres Accelerator for Sustainable Capital Markets**

Prepared for the U.S. House of Representatives, Committee on Financial Services,
Subcommittee on Consumer Protection and Financial Institutions

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Ceres Reports

- April 2021 Ceres report presenting progress by U.S. financial regulators on addressing climate as a systemic risk to the financial system: "[Turning Up the Heat: The need for urgent action by U.S. financial regulators in addressing climate risk](#)"
- February 2021 Ceres analysis on [Financing a Net-Zero Economy](#): The role of Time Horizons and Relationship Banking
- October 2020 Ceres report on the risks the largest banks across the country are taking with their current syndicated loan portfolios: "[Financing a Net-Zero Economy: Measuring and Addressing Climate Risk for Banks](#)"
- June 2020 Ceres report outlining how and why U.S. financial regulators need to recognize and act on climate change as a systemic risk: "[Addressing climate as a systemic risk: A call to action for US financial regulators](#)"
- October 2020 Ceres report [Automaker Roadmap for Climate Scenario Analysis](#) outlines how auto companies can use climate scenario analysis to assess climate change-related risks and opportunities in line with the latest science from the IPCC 1.5°C report
- August 2019 Ceres report [Climate Strategy Assessments for the U.S. Electric Power Industry: 2019 Update](#) provides a framework developed by M.J. Bradley & Associates (MJB&A) that provides specific guidance for assessing climate change-related risks and opportunities for companies in the U.S. electric power industry
- March 2017 Ceres report [A Framework For 2 Degrees Scenario Analysis: A Guide For Oil And Gas Companies and Investors for Navigating the Energy Transition](#). This paper proposes the basis for 2 degrees scenario analysis for oil and gas companies, examples of best practices to date, the basics for meaningful climate disclosures, and key questions investors ask when engaging with companies on these analyses
- See Appendix B for highlights of key recommendations from Ceres reports relevant to the hearing.

Past Ceres Testimony

- [Written testimony](#) of Veena Ramani, Senior Program Director, Capital Market Systems, Ceres. Prepared for the U.S. House of Representatives, Committee on Financial Services, Subcommittee on Investor Protection, Entrepreneurship and Capital Markets. Hearing: "**Climate Change and Social Responsibility: Helping corporate boards and investors make decisions for a sustainable world**" (February 25, 2pm)
- [Written testimony](#) of Mindy S. Lubber, Chief Executive Officer and President, Ceres. Prepared for the U.S. House of Representatives, Committee on Financial Services, Subcommittee on Investor Protection, Entrepreneurship and Capital Markets. "**Building a Sustainable and Competitive Economy: An Examination of Proposals to Improve Environmental, Social and Governance Disclosures**" (July 10, 2019)

Recent Regulatory Filings

- Ceres [comments](#) in response to the Securities and Exchange Commission's RFI on Climate Disclosure
- Sign-on [statement](#) (over \$2.7 trillion in AUM) to the SEC asking for mandatory climate disclosure
- May 2021 Ceres [submission](#) to the National Association of Insurance Commissioners (NAIC)
- April 2021 Ceres [comment letter](#) in response to the Federal Housing Finance Agency (FHFA) RFI
- February 2021 Ceres comment letter in response to the Federal Reserve's Advanced notice for proposed rulemaking for public comment regarding the modernization of CRA
- January 2021 Ceres [comment letter](#) to the Municipal Securities Rulemaking Board's (MSRB) RFI on strategic goals and priorities

Other

- [Letters to Federal Reserve Chairman Jerome Powell and other leaders of key financial regulatory agencies](#) coordinated by the Ceres Accelerator from a broad-based, bipartisan collection of investors, businesses, former regulators, politicians, and nonprofit leaders. (See stories in the [New York Times](#), [Forbes](#), [Financial Times](#), and [Washington Examiner](#)).
- Forbes piece by Mindy Lubber, President & CEO of Ceres: [The Time for Mandatory Climate Disclosure is Now](#)
- Commodity Futures Trading Commission (CFTC) report: "[Managing Climate Risk in the U.S. Financial System](#)," that issued dire warnings about the impact of climate change on financial markets, as the costs of extreme weather events continue to spread through the insurance industry, mortgage markets, the banking sector, and pension funds and other institutional investors. See also our column in [Barron's](#), as well as press coverage thus far in the [New York Times](#), [Reuters](#), and [Pensions and Investments](#).

Appendix A

SCORECARD for Initial Steps on Climate Change Action

This table identifies only the foundational steps that federal financial regulators should put in place to activate climate change across their mandate

Affirmed climate change as systemic risk

Public research on climate change

Senior staff focused on climate change

Federal Reserve System		
Chair remarks, Financial Stability Report	Conferences and events	Climate Supervision Committee
Federal Deposit Insurance Commission		
Board member remarks		
Office of the Comptroller of the Currency		
National Credit Union Administration		
Securities and Exchange Commission		
Acting Chair statement on climate disclosure, Acting Chair call for public comments		Senior Policy Advisor for Climate and ESG and other staff
Commodity Futures Trading Commission		
Acting Chair remarks	Climate-Related Market Risk Subcommittee report	Climate Risk Unit
Public Company Accounting Oversight Board		
Municipal Securities Rulemaking Board		
Federal Housing Finance Agency		
Remarks by Director	Economics of Climate Change Summit; RFI, summit and research by GSEs	Hired economist and recruiting two climate staff
Financial Stability Oversight Council		
Treasury Secretary remarks on climate change	Commitment to establish a climate "hub"	Senior staff

ACTION

SOME ACTION

NO NOTABLE ACTION

Information as of March 30, 2021
For the latest version of this scorecard, visit our website:
ceres.org/turninguptheheat



THE CERES ACCELERATOR FOR
SUSTAINABLE CAPITAL MARKETS

TURNING UP THE HEAT

The need for urgent action by US financial
regulators in addressing climate risk

APRIL 2021

EXECUTIVE SUMMARY

In June 2020, Ceres released [Addressing Climate as a Systemic Risk: A Call to Action for U.S. Financial Regulators](#). It laid out how climate change threatens the stability of financial markets and the overall economy, and how and why U.S. financial regulators must address this systemic risk as part of their existing responsibilities.

Much has changed since the report’s release 10 months ago.

We have seen early progress from financial regulators to acknowledge the systemic financial risks of climate change. Of particular note, in November 2020 the Federal Reserve [identified climate as a near-term “financial stability risk.”](#) The U.S. Commodity Futures Trading Commission (CFTC) climate risk subcommittee [issued a comprehensive report](#) with an unequivocal warning: “Climate change poses a major risk to the stability of the U.S. financial system and its ability to sustain the US economy.” Regulators are starting to indicate their intention to integrate climate change into their mandate and are starting to build up their own internal capacity.

Despite these advances, most U.S. federal and state financial regulators have yet to act on the climate crisis and lag far behind their global counterparts and what the science demands.



THE CERES ACCELERATOR FOR SUSTAINABLE CAPITAL MARKETS

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Acting Chair remarks	Climate-Related Market Risk Subcommittee report	Climate Risk Unit
Public Company Accounting Oversight Board		
Municipal Securities Rulemaking Board		
Federal Housing Finance Agency		
Remarks by Director	Economics of Climate Change Summit; RFI, summit and research by GSEs	Hired economist and recruiting two climate staff
Financial Stability Oversight Council		
Treasury Secretary remarks on climate change	Commitment to establish a climate “hub”	Senior staff

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Information as of March 30, 2021

For the latest version of this scorecard, visit our website [Click on hyperlinked text in boxes for further information](#)

This lack of urgency is playing out in the face of mounting climate risks and a changing investment landscape



Systemic racism has worsened climate impacts on vulnerable communities

2020 put the spotlight on how historic social and economic inequality combine with climate impacts to disproportionately affect disenfranchised communities



Climate policy measures are gaining momentum

Government policies and legislative actions to reduce greenhouse gas emissions ramped up during the past nine months, driven by state action and the new Biden administration's pledge of net zero by 2050



Physical impacts of climate change are exacerbating

Overall damages from record setting weather disasters—wildfires, floods and storms—across the U.S. totaled \$95 billion, nearly double 2019



Liability exposure from climate change is growing

The number of climate-related cases and proceedings hit 1,300, creating more financial risk for governments, companies, financial firms, and corporate directors

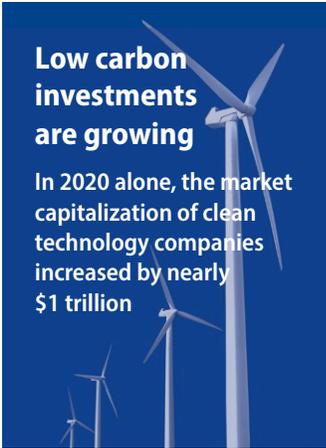


CLIMATE IMPACTS ON FINANCIAL MARKETS ARE GROWING



Climate impacts are interconnected and amplify each other

All of these impacts are interconnected and reinforce each other, creating far bigger risks to financial market instability



Low carbon investments are growing

In 2020 alone, the market capitalization of clean technology companies increased by nearly \$1 trillion



Banks and insurers face growing risks from this transition

More than half of syndicated loans of major U.S. banks carry significant transition risk from industries across the economy—agriculture, construction, manufacturing, as well as oil and gas



Fossil fuel companies are struggling financially

North American and European oil and gas companies wrote off \$145 billion in losses during the first nine months of 2020

The past year was also marked by a national reckoning on systemic racism and its [longstanding linkages to the American economy](#). Astonishing [wealth gaps, damages from climate disasters](#) and broader [social and economic inequities](#) were laid bare. Financial regulators can no longer afford to look at systemic racism, climate change or the pandemic in isolation. Each feeds into the other, with significant populations, especially communities of color, [bearing the most severe burdens](#).

The coming months are a unique opportunity for U.S. financial regulators to leapfrog into global leadership on the climate crisis. With [an engaged president](#) and senior administration officials, financial regulators can help catalyze a low-carbon transition that will bolster the country's competitiveness while driving a more equitable economy. With the clock ticking on the climate crisis, quick and decisive action is crucial.

This report lays out the steps that U.S. financial regulators should take now to address climate change consistent with their mandates. Among our recommendations:

I. Immediately affirm the systemic nature of the climate crisis and impacts on financial market stability

This affirmation should be in the form of a statement from the agency chair or an agency issued report. It should underscore the risks posed by climate change to financial markets writ large and should outline specific action steps.

Such statements are particularly important given the complex nature of climate risks and continuing ambiguities about the extent to which the issue falls under specific agency mandates. Arguments that climate change is a special interest environmental issue and that climate solutions should be handled only through legislation are no longer valid.

Some state and federal financial regulators have already acknowledged the systemic nature of climate risks, including the [Federal Reserve](#), the [CFTC](#) and the [New York State Department of Financial Services](#). Many [global regulators](#), especially in Europe, have also taken this first step.

II. Activate action on climate-related measures, including prudential supervision, investor protections and enhanced climate disclosure mandates

PRUDENTIAL SUPERVISION

Many U.S. regulators have explicit responsibilities to supervise the risks that financial institutions and the financial sector take on. Consistent with this mandate, financial regulators should be integrating climate change into their prudential supervision of banks, insurance companies and other regulated institutions.

The **Federal Reserve**, in particular, should take immediate steps to assess the overall health of financial markets from climate risks and should mandate climate scenario analyses by banks and other financial institutions. The Fed should also outline plans for conducting climate stress tests, which measure how climate-related shocks, whether from a sudden drop in economic growth or the decline of a specific industry, would affect individual institutions and the broader financial system. Many [other central banks globally](#) are already taking such steps.

Stronger leadership is needed from other federal and state regulators as well. The Federal Reserve should coordinate with other banking regulators to develop guidance on how financial institutions should integrate climate change into their risk management, internal controls, business strategies, governance and disclosures. State insurance and bank regulators should also require banks and insurers to address climate risks. The New York Department of Financial Services [issued proposed guidance](#) on climate change to the banks and insurance companies it supervises.

INVESTOR PROTECTIONS

Reinstating and reinforcing mechanisms that help investors manage climate risks should be a high priority for financial regulators.

The **Securities and Exchange Commission** (SEC) and **Department of Labor** (DOL) play especially important roles in influencing how investors can consider climate change in decision-making. Many SEC- and DOL-governed rules that investors have long relied on were stripped away in 2020 under the Trump administration.

The SEC and DOL should move immediately to amend or eliminate Trump era rules, including SEC Rule 14a-8 that increases [share ownership requirements for filing shareholder proxy proposals](#) and DOL Rule 1210-AB95, [which limits how fund managers can consider climate and ESG](#) (environmental, social and governance) factors when making decisions on 401-Ks and other retirements plans governed under the ERISA law. The DOL has recently announced that [it will not enforce Role 1210-AB95](#).

MANDATE CLIMATE CHANGE DISCLOSURE

While current voluntary climate disclosure practices have been important steps, they are [not producing](#) the standardized, reliable and actionable data that investors and other market players need to assess risks and make informed decisions. The SEC should build on its initial steps and issue rules mandating climate change disclosure, building on reporting frameworks developed by the Task Force on Climate-related Financial Disclosures (TCFD).

Other federal financial regulators should coordinate with the SEC and identify opportunities to get additional climate disclosures from industries that they supervise.

Some U.S. regulators are already moving in this direction. In February 2021, the SEC's Acting Chair Allison Herren Lee [directed SEC staff](#) to enhance their focus on climate-related disclosures. In March, she called for [public comments](#) to inform the SEC's thinking on climate change disclosure rules.

III. Pursue holistic approaches, including considering climate impacts in addressing the pandemic and addressing systemic racism and the climate crisis as interrelated stability risks

Financial regulators, especially the Fed, should more proactively link pandemic recovery efforts to climate mitigation and resiliency. Among the options the Fed should consider include withholding financial support for assets with significant climate risk exposure, attaching climate conditions to loans made to carbon intensive industries and including climate factors in qualitative easing.

Financial regulators should also develop strategies to address systemic risks of climate change and structural racism in an integrated way. The Community Reinvestment Act (CRA) especially offers ripe opportunities to enhance financial access and economic and climate resilience for low-income and vulnerable communities. Ceres submitted [specific recommendations](#) in this regard as part of the Fed's recent public comment process for modernizing CRA regulations.

IV. Build capacity for smart decision-making on climate change by coordinating action with other U.S. financial regulators, global peers and other external stakeholders and by hiring and training staff

Coordinated action by U.S. financial regulators at the federal and state levels and with global financial regulators is essential to accelerating climate mitigation efforts and low-carbon capital flows. The Financial Stability Oversight Council (FSOC), which plays a critical coordination role among federal financial regulators, should immediately declare that climate change threatens financial stability and start engaging with members to develop coordinated responses, including on prudential oversight and climate disclosure.

The FSOC could also charter a “climate committee” comprised of relevant member regulators to drive climate action across the regulatory ecosystem. Related to this, Treasury Secretary Janet Yellen [recently pledged to develop a Treasury “Hub”](#) that would examine financial system risks from climate change. This hub could also coordinate with the FSOC and Office of Financial Research on needed research on climate-related impacts on market stability.

Financial regulators should also find opportunities to coordinate with global peers to build on their learnings and experiences to date and to develop a shared global playbook for action. For example, by [recently joining](#) the global Network for Greening the Financial System, the Fed is well positioned to coordinate with other global central banks on issues such as climate stress testing scenarios.

Finally, regulators should hire staff with expertise with climate change, and educate and train existing staff on how climate change fits into their roles. Regulators could also consult with external advisory groups, including advocacy groups, scientists, academics, industry groups and others, in pursuing an informed approach to climate change regulation.

Our full list of recommendations is available on pages 17-37.

CONCLUSION

U.S. financial regulators have a critical role to play in bolstering our economy, weakened from a global pandemic and threatened by future climate shocks. Financial regulators in countries around the globe have shown leadership in this work. Rather than standing back, U.S. regulators should seize the vast opportunity of a sweeping economic transformation that can stabilize our climate while reducing long-standing social and economic inequalities.





Financing a Net-Zero Economy: The Role of Time Horizons and Relationship Banking

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February 23, 2021 | [Blair Bateson](#) and [Dan Saccardi](#) | [Banking and Finance](#)

Technical Analysis by CLIMAFIN consultants Stefano Battiston, Antoine Mandel and Irene Monasterolo

Banks' exposure to climate risk is much broader than they are disclosing—and than is commonly understood by regulators and investors. In an October report, [Financing a Net-Zero Economy: Measuring and Addressing Climate Risk for Banks](#), Ceres found that more than half of bank lending is potentially exposed to climate risks due to the failure of many bank clients to plan for the transition to a net-zero economy.^[1] A worst-case scenario could result in hundreds of billions of dollars in losses for U.S. banks and potentially trigger a new financial crisis.

In assessing climate risks, many banks reason that transition risk may be less of a threat because most of their loans are short term, and they can simply decide not to renew the loans that might face increased risk due to climate change. New analysis from Ceres finds that that reasoning is flawed, and that banks must look beyond the individual loan to the long-term and multi-faceted relationship with the client. When that lens is applied, the need for banks to address climate risk in their portfolios becomes much more urgent.

The urgency comes from the fact that, due to the complexity of these long-term client relationships, it might take a decade to implement a proactive engagement strategy that puts clients on the path to decarbonization. Right now, most banks aren't even thinking about time horizons longer than five years. The solution is for banks to do three things:

1. Think longer term by adopting 10-year time horizons for risk management
2. Plan longer term by creating 10-year financing plans for each sector
3. Act longer term by engaging clients starting now and incorporating phases of evaluation, collaboration and execution over the next 10 years.

Those solutions are supported by quantitative analysis from our partners at CLIMAFIN and Ceres' in-depth interviews with industry experts and investors on the topic of relationship banking. The long-term focus is needed because banks can't quickly move away from long-term client relationships, which are built on a valuable combination of customer loyalty and the mutual sharing of information, without significant costs. And for decarbonization to happen within banks' portfolios, as one former banker said, "it has to be a profit center rather than a cost center for the bank."

By examining the unique aspects of relationship banking, we outline recommendations below for how banks can think, plan and act in ways that will minimize the risk of climate change for themselves, their clients and society.

Part 1: The Value of Relationship Banking to Banks

If all loans and other banking services were independent of each other, banks could theoretically move quickly to react to escalating climate risks within a five-year planning window.

However, even casual observers can see that interdependencies exist. Just like most consumers establish a relationship with their bank that starts by opening a checking account but then grows to include savings and loans, banks' commercial customers rely on them for many related products and services.

We've found through multiple interviews that banks work to move clients up a "food chain" of financial services. Typically, this means offering clients favorable terms on lower-margin products like revolving credit facilities to try to secure more profitable services (typically investment banking- and advisory-related).^{[2][3]} Losing out on a loan doesn't just forgo the revenue from that loan, it also jeopardizes these other lucrative opportunities. As one former bank executive put it, "banks will typically fight over opportunities to participate in revolving credit facilities because that's seen as an entrée into conversations about other, more profitable services."



banking can help banks maintain profitability despite competitive pressure.^[1] Research shows that it increases in more competitive lending markets, like the U.S.^[8]

Given these dynamics, it doesn't make sense to assess the risk of individual corporate loans in isolation. That would misleadingly suggest that since loans only last 25 months on average, it's possible for a bank to just walk away when that time is up.^[9] In reality, since client relationships typically generate revenue from many products and services over decades, a different unit of analysis and a longer time horizon for risk management and strategic planning are required.

Recommendation: When evaluating climate risk, the unit of analysis banks should use is the client relationship, including all the revenue derived from that relationship over time.

Recommendation: To effectively assess the financial impact of climate change on client relationships, banks should extend their planning and risk management time horizons to include a 10-year view.

This longer term view is uncommon in the U.S., where the regulatory framework is built around time horizons of nine and 20 quarters. Confidential Ceres research from 2019 shows that only one of nine banks studied is looking at a risk management time horizon longer than five years. Two others are looking longer term with respect to climate risk, but not for more conventional risks like credit risk or market risk.

Part 2: Relationship Banking and Climate Policy Relevant Sectors

If they do have to confront a disorderly carbon transition, banks that have deep relationships with high-carbon firms will face a difficult trade-off.^[10] They will either have to refinance customers whose credit quality has suddenly deteriorated or stop lending to them. In the first case, they might avoid losses in the short term but end up increasing their long-term transition risk. Alternatively, banks could abruptly terminate lending relationships with certain borrowers (i.e., by declining to roll over credit facilities). This would destroy value on two levels. First, for some banks, it would lead to a substantial loss of customers and drop in market share. As one former JPMorgan banker put it, "It would be very damaging to the relationship with a client if a bank said it wouldn't roll over a revolver, particularly if other banks continued to extend credit." Such abrupt action would destroy the informational value of the lending relationship.

The way to avoid this value destruction—and mitigate the worst impacts of climate change—is for banks to help clients gradually and strategically reduce their risk through transition plans aligned with the objectives of the Paris Agreement. This means that banks and their clients need to set net-zero targets that aim to decarbonize most sectors by 2040, and the whole economy by 2050.

Banks can help clients make the business case for change (and reduce their own risk) by adjusting the pricing of products and services to match the level of climate risk their clients face. Banks can also help clients by providing transition finance – many firms' decarbonization plans will require significant injections of capital.

While target setting, pricing adjustments and transition finance are approaches that can help clients in all sectors lower their climate risk, other engagement considerations (material issues, due diligence procedures, data availability, level of sophistication, technology pathways) might vary depending on the sector.

As a result, banks need to prioritize certain sectors, at least in the near term. While the most important criteria that banks should use to decide which sectors to prioritize are their level of financial exposure to a given sector and the level of climate risk that sector faces, the extent of relationship banking in a sector is also important.

In sectors with high levels of relationship banking, there is additional value at risk beyond what's on the balance sheet. It may take longer to move away from certain clients in these sectors if engagement isn't successful. Conversely, high levels of relationship banking in a sector may allow engagement to move faster and have a higher chance of success, not only because a bank might have more leverage in these situations but also because of pre-existing trust and connectivity.

Recommendation: Banks should adjust their sectoral engagement strategies based on the level of relationship banking in each sector. Sectors with many valuable relationships should be prioritized, engagement should move faster and more time should be allocated for these relationships to potentially unwind or be restructured.



lenders may be indicative of a high level of relationship banking.

To analyze the interplay between climate risk and relationship banking, Figure 1 maps economic sectors (using CLIMAFIN's CPRS classification system) along these two dimensions.^[10]

This indicates that relationship banking is more prevalent in the most climate-relevant sectors, especially electricity, oil and transportation. Substantial bank resources should be directed toward client engagement in these sectors as soon as possible. It is also apparent that the average maturity of loans in the coal sector is lower than for other fossil fuels. This gap has emerged recently, and hints at an increase in the perceived riskiness of coal and the associated decline of banking relationships in many cases.

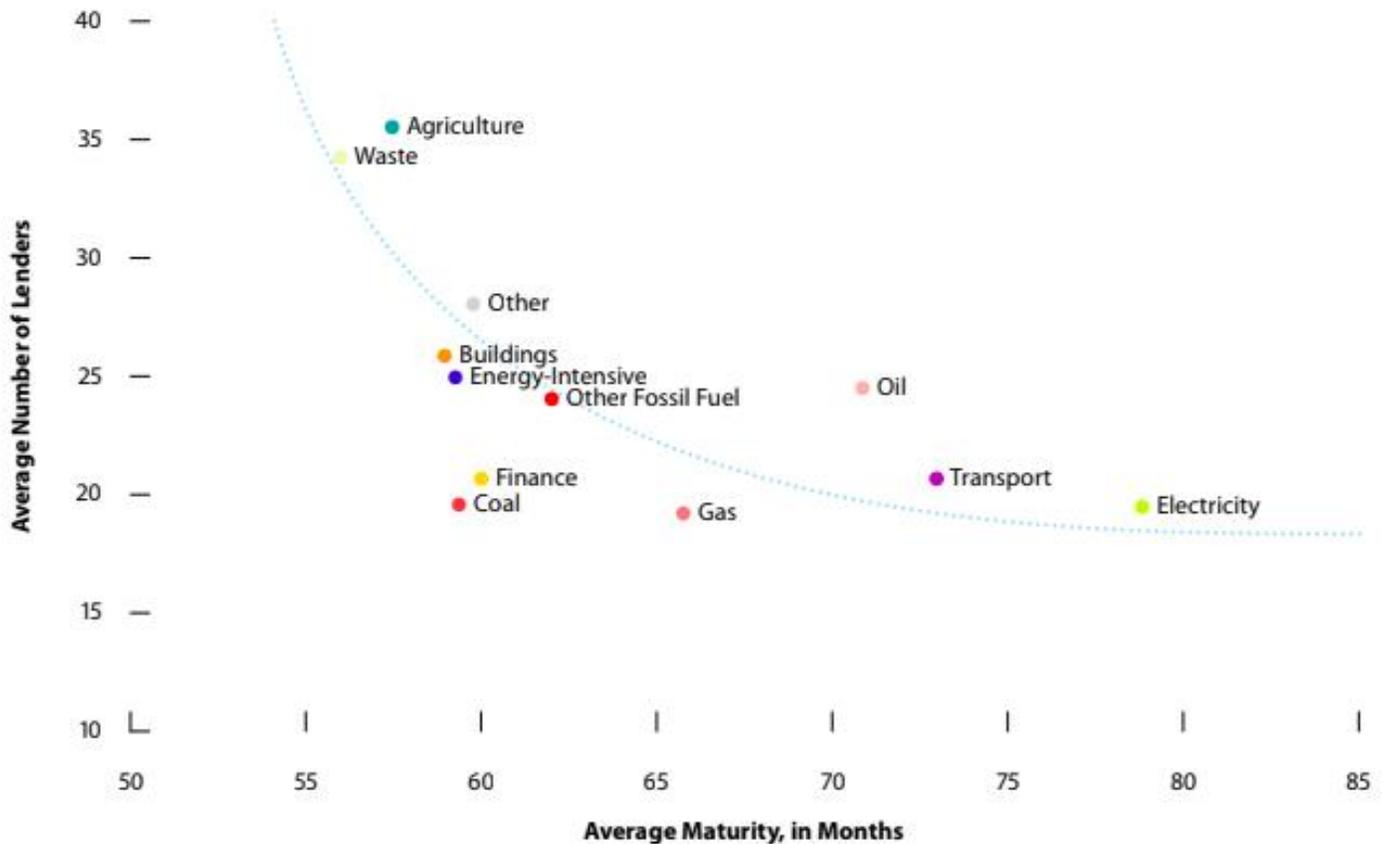


Figure 1: Average # of lenders and average maturity of syndicated loans in climate relevant sectors and other sectors ("Other")

Figure 1 is based on the Refinitiv DealScan® dataset focused on syndicated loans. These loans have a longer maturity than the average commercial and industrial loans, 60 months compared to 25 months.^[9] Our inferences about relationship banking in climate-relevant sectors would ideally rely on internal bank data, but we have no reason to expect that would change them significantly; if anything, the nature of syndicated loans (i.e., involving many banks) could mean that the extent of relationship lending is underestimated.

Part 3: The Need for a 10-Year Plan to Mitigate Risks and Capitalize on Opportunities

Banks have built their reputations on "keeping clients happy...and ensuring they are well positioned." This is why it has been easier for banks to capture opportunities associated with climate change, such as sustainable finance, than it has been to mitigate climate risk, which inevitably involves having to decline certain transactions.

Yet, while relationship banking can add risk, it paradoxically provides an opportunity to develop a positive approach to climate risk mitigation that banks can sell to their clients. Typically, environmental financing restrictions apply to individual transactions (for example, "we won't lend you money to



around them. "The next step is to have a much more in-depth client experience," said Savage.

We see the client engagement process moving through the following stages:

Short term: Evaluation

1. Banks work to understand their exposure to climate-relevant sectors, the level of risk in each sector and the relationship dynamics at play
2. Banks define long-term climate ambitions consistent with the latest science and set 2030 targets specific enough to build a financing plan around
3. Banks develop 10-year Paris-aligned financing plans for each sector

Medium term: Collaboration

1. Banks implement the Ceres Accelerator's recommendations on transition risk
2. Sectors are prioritized based on exposure, risk and relationships
3. Banks' 10-year plans are presented to clients
4. Banks develop firm-level risk assessment tools like climate-conscious earnings models or internal carbon prices to identify the firms at greatest risk and the lowest-cost ways for those clients to transition
5. Banks ask clients to set targets and adjust pricing and provide related expertise to incentivize such action

Long term: Execution

1. Client decarbonization plans are in place and capital needs are understood
2. Banks focus on deploying transition capital effectively to capture key opportunities
3. Clients and banks that acted early will begin to reap the rewards
4. Banks will shift their capital further toward proactive firms and away from those firms where engagement has not been successful
5. Pricing will fully reflect climate risks and opportunities

Losing clients will be a concern as banks move through these phases. If banks move too fast, there could be a short-term cost as affected clients look elsewhere for financing. This could be counterproductive, especially if those clients move to less regulated parts of the financial system where they won't face climate-related scrutiny. This is another reason why banks need to allow a longer lead time for execution, and why the largest U.S. banks need to begin now.

The progression through these stages will vary by sector and firm. Banks are already in the execution phase in the most exposed sectors, such as coal. In other key sectors, such as oil, gas and electricity, banks are quickly moving into the collaboration phase as their risk becomes increasingly clear. The remaining climate-relevant sectors are in the evaluation phase, as banks grapple with the risk these sectors could present and the technological paths their transitions could take.

Getting all clients on the path to success means that banks will have to be well into the execution phase by the end of the decade. It will take time to exit relationships that don't fit with a bank's climate strategy. More specifically, our research shows that, given the share of banks' portfolios in the fossil fuel and electricity sectors and the average rate of change of overall portfolio composition, it could take several years for most banks to make important structural changes to this part of their lending portfolio.

Figure 2 shows that, for most U.S. banks, the sectoral composition of their loan portfolios evolve slowly, with a yearly rate of change between 5 and 10%, despite market shocks such as the 2007-2008 financial crisis. This rate has been decreasing progressively over the past 20 years.

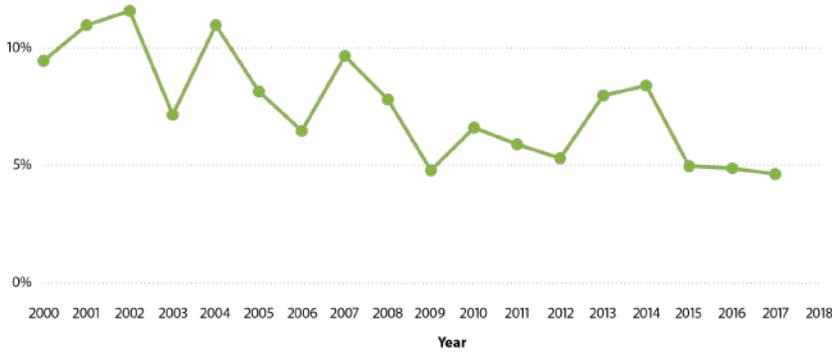


Figure 2: Average Yearly Change in the Sectoral Composition of the Loan Portfolio of Major U.S. Banks (Top 12 Banks Measured by Total Loan Value).

Figure 3 shows the evolution of the exposure that banks face to the most climate-relevant sectors. CLIMAFIN research finds that while close to two-thirds of bank lending is climate-relevant, a smaller proportion (about 15%) is in “core” sectors related to fossil fuels and electricity. These “core” sectors, shown in the graph, have the highest levels of relationship banking and, in many assessments, they also face the most climate risk.^{[1][4][5]}

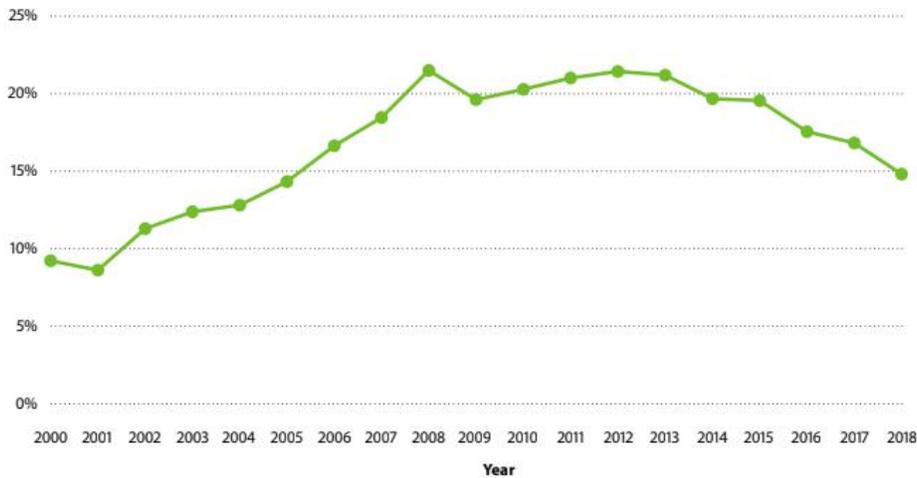


Figure 3: Percentage of U.S. banks' syndicated loans in fossil-fuel and utility sectors. (Top 12 Banks Measured by Total Loan Value)

Comparing the two charts at a high level, we see that the share of banks' portfolios in the fossil fuel and electricity sectors is substantially larger than the average rate of change of overall portfolio composition. This means decisions about the success or failure of client engagement in these sectors will have to be made in the next few years, to allow sufficient time for the relationships to be unwound or restructured, if necessary.

The coal industry (see Figure 4) provides a useful illustration of what happens when a climate-relevant sector comes under gradually increasing but ultimately severe economic pressure. The fall in loan value of about 70% from the peak reflects both transition (as companies move away from coal and their loans are reallocated to a different subsector) and disengagement (as coal companies that did not transition are deemed a poor investment.)

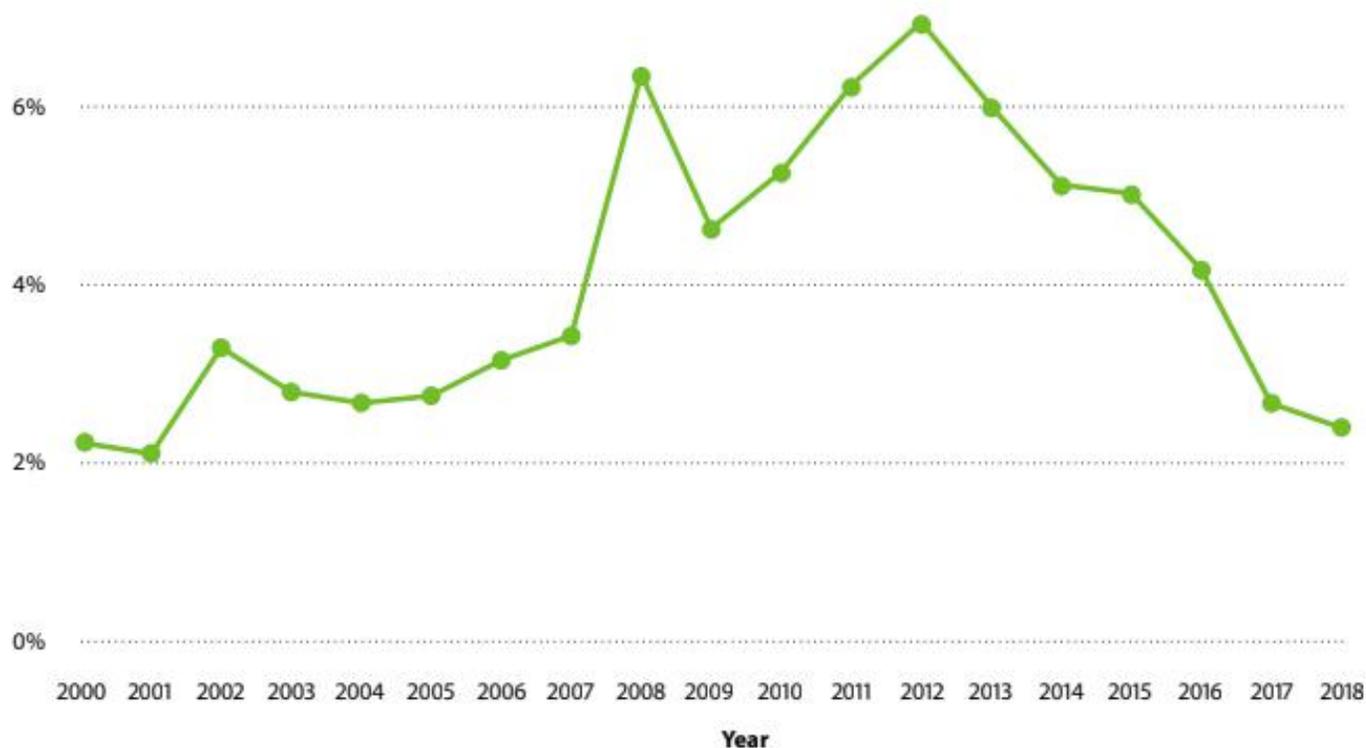


Figure 4: Percentage of banks' syndicated lending in the coal sector over time.

In transition scenarios where a sudden crisis is avoided, other fossil fuel sectors might follow a similar pattern. The fall in coal lending, spread over a decade, represents a reasonable upper bound for the possible speed of transition and should inform the development of banks' 10-year plans. A rapid exit from any of these sectors is unlikely, as one former banker noted: "There will be tremendous pressure not to fire profitable clients...the fear of not being top of the league table is the cultural driver." A more feasible transition will take time and should start as early as possible. "They will need to make the case clear to the client with a lot of runway to get them to change," said the same former banker. Working backward from 2030 means that much of the decision-making within banks will have to be done in the next three to five years. This adds to the urgency created by the possibility of a near-term systemic shock and should prompt banks to take immediate action.

Recommendation: Banks should immediately prioritize client engagement in climate-relevant sectors, with the aim of determining, before 2025, the ability and willingness of clients in the riskiest sectors to implement robust transition plans.

Some banks are already acting. JPMorgan Chase recently established a [Center for Carbon Transition](#) that is focused on client engagement.^[6] Other banks must devote even greater resources to this challenge to address the risk to capital markets and society more broadly. Banks that are proactive will have major upside over the next few years, with winners and losers being determined quickly. As one former Goldman Sachs banker told us: "Fossil fuel valuations have collapsed already...the [leading] banks see what's going on...they are not looking back, they're looking forward".

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THE CERES ACCELERATOR FOR
SUSTAINABLE CAPITAL MARKETS

FINANCING A NET-ZERO ECONOMY

Measuring and Addressing
Climate Risk for Banks

OCTOBER 2020

EXECUTIVE SUMMARY



As the lynchpin of the global economy, banks have an essential role to play in minimizing the worst impacts of climate change. How banks respond to the climate risk that they individually and collectively face depends heavily on how they measure and analyze their exposure to it.

The climate risk banks face stems from the failure of their clients to adequately prepare for a lower-carbon future. This risk has the potential to significantly damage financial institutions and the broader economy—and impede society’s ability to tackle climate change at the speed and scale required to avoid its worst impacts. This is doubly true because the understanding of tail risks—risks once thought too extreme to consider—has dramatically changed, first with the 2008 financial crisis and now with the COVID-19 pandemic.

Many banks have begun to act. Some lending policies are being adjusted for risky fossil fuel companies. Some banks have called on policymakers to address systemic climate risk. Global players including Barclays, ^[1] [JPMorgan Chase](#) ^[2] and [Morgan Stanley](#) ^[3] have even made climate commitments that cover their financing activities.

But for most banks, the current view of climate risk is incomplete—it focuses narrowly on fossil fuel sectors or broadly on the need for policy action. It is what lies in the middle—the massive amount of financing banks provide to sectors, including agriculture, manufacturing, construction and transportation, that rely heavily on oil, gas and coal—that could threaten climate and financial stability if unaddressed.

This report investigates the syndicated loan portfolios of the largest U.S. banks and their exposure to climate transition risk, which arises from the policy, regulatory, consumer preference and reputational impacts of the transition to a lower-carbon economy. It complements other leading-edge approaches and highlights the imperative for banks to use their proprietary data to fully test its findings.



Key Finding #1

Over half the syndicated lending of major U.S. banks is exposed to climate transition risk because many bank clients in a wide range of sectors have inadequately prepared for emissions reductions in line with the Paris Climate Agreement.

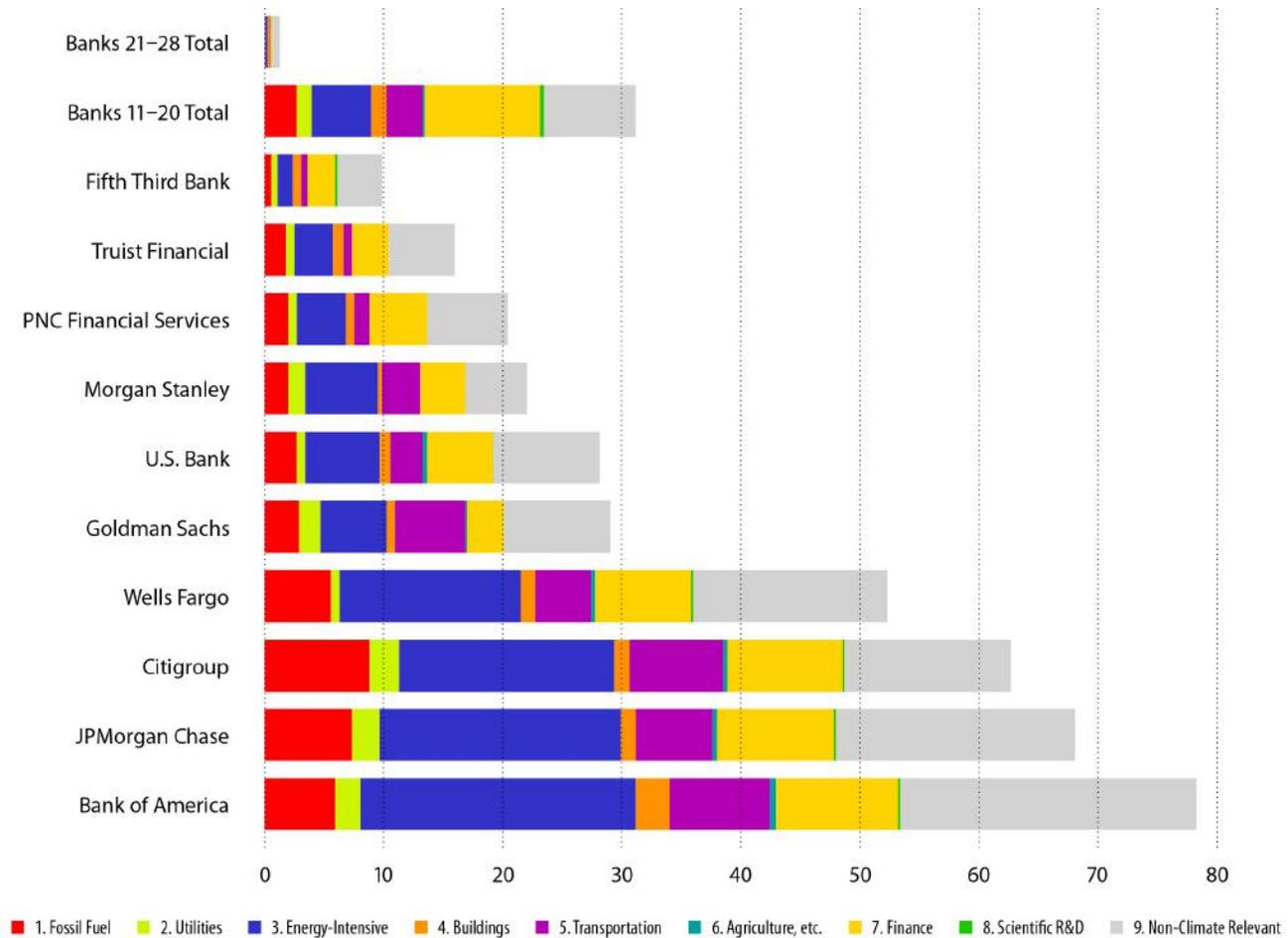


Figure 1: Climate-relevant sectors in U.S. syndicated loan portfolios (\$ billions).

Given this potential exposure, every bank should assess its resilience against disorderly climate transition scenarios (brought on, for instance, by a sudden shift in investor and public sentiment around climate risks following a policy change). The limited publicly available data show that in a worst-case scenario, banks could sustain heavy losses on their syndicated loan book and, by extension, other areas of their business, as the market shares and profitability of unprepared clients decline.

Key Finding #2

Banks may face substantial losses from direct exposure in the months following a major sentiment shift.

- The “Core-Impact” view of banks’ exposure to the fossil fuel and electricity sectors produces modest loss estimates—up to 3% for the syndicated loan portfolio of an average bank.
- But the “Wide-Impact” view, which accounts for all non-financial, climate-relevant sectors (including energy-intensive manufacturing, buildings, transportation and agriculture) produces much higher average loss estimates—up to 18% on these loans.

- The six largest banks in the U.S. all face above-average risk in the wide-impact results.

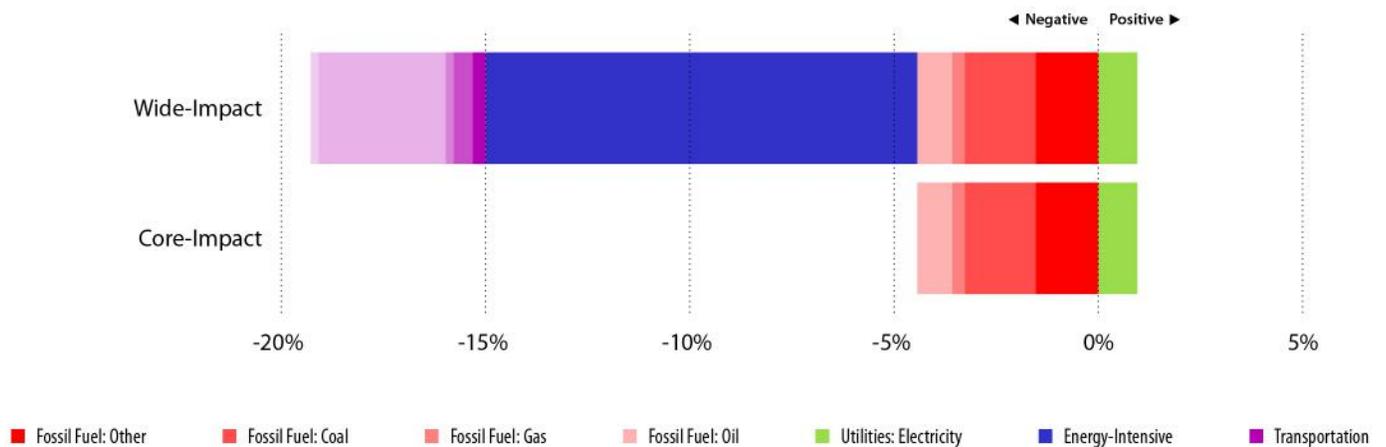


Figure 2: Percentage losses on the syndicated loan portfolios of major U.S. banks (by sector) in the months following a shock.

These losses reflect a worst-case scenario, but only for a portion of each bank’s business and a single type of risk. Banks face other risks, including from physical risk (extreme weather, fires, droughts or sea level rise). They also face potential legal liability and risks from other elements of their business lines. Together, these could combine to ratchet up total exposure even more. Just as critical but perhaps less obvious is that banks also face indirect transition risk from interbank lending and other exposures within the financial system itself. This key driver of the 2008 financial crisis has not been factored into publicly disclosed climate risk analysis to date.

Key Finding #3

Banks’ level of leverage and connectivity within the financial system could lead to substantial incremental climate risk.

- The extent to which banks finance each other leads to **indirect transition risk** from exposure to other firms’ own direct risk.
- Additionally, banks could face **balance-sheet contagion (or “fire sales,”)** where assets are rapidly devalued and banks are forced to sell them to stay in compliance with regulatory capital requirements.

These results are not the final word. **Individual banks have the power to substantially change this narrative and differentiate themselves from peers.** Methodologies for stress testing and scenario analysis are robust enough to be widely used and provide a starting point for the urgent work of conducting more granular risk assessment at the client level. By improving client selection and engagement, banks will not just lower their risk and create new upside, they will help propel the transition to a zero-carbon economy. That will, in turn, minimize risks to financial stability and the entire banking sector and help catalyze more momentum to curb the most severe impacts of climate change by meeting the objectives of the Paris Agreement.

Further dialogue and analysis around these complex issues is required, which is why Ceres views this report as the next step in a deeper collaboration with the sector on how to act on the report's recommendations, which fall into three broad categories:

➔ **Assess and Disclose Risk (Recommendations 1-5)**

Most firms in climate-relevant sectors today are exposed to climate risk, but there are a growing number that would greatly benefit from a low-carbon transition scenario. Quantifying the upside (and downside) at both the firm and portfolio levels will improve banks' client selection and identify a larger number of investable opportunities that could offset potential losses.

➔ **Improve Tools and Methods (Recommendations 6-9)**

Existing analysis can be strengthened by developing science-based, transparent valuation approaches that can be used to meaningfully engage clients on their own climate strategies. Key improvements needed as part of this include:

- Requiring that clients provide more data in key climate-related areas, such as energy technology and emissions profiles
- Aggregating those data using methods such as carbon accounting
- Further developing risk management techniques, including stress testing and scenario analysis
- Building climate risk into day-to-day decision-making tools, such as client earnings models

➔ **Act to Mitigate Climate Risk and Ultimate Impact (Recommendations 10-13)**

Good analysis allows banks to decarbonize their portfolios through **client engagement**, which is critical for achieving real economy emissions reductions. Engagement only reduces risk if it leads to target setting and emissions reductions by clients, so banks need accountability mechanisms to ensure this occurs.

That is why Ceres is calling on every bank to set a **Paris-aligned emissions target** before the next major UN climate conference in November 2021. This should include detailed interim targets and specific timelines for sectoral portfolios to reach net-zero emissions—some sectors as soon as 2030, others by 2040 or 2050.

This will ensure that client engagement is focused on results and also serve as an external signal about the bank's own risk. Banks that set such targets will send an unambiguous message that they are serious about reducing their own climate risk and about building a just and sustainable global economy.

Ceres' Recommendations for Banks

- 1.** While this report focuses on transition risk, banks should assess all elements of climate risk and opportunity that may affect their business (including transition risk, physical risk and litigation risk), and disclose an overall assessment to investors and other external stakeholders.
- 2.** Banks should assess their entire balance sheet to identify which assets may be exposed to climate transition risk (including indirect risk from elsewhere in the financial system).
- 3.** Banks should disclose a portfolio risk assessment that identifies the sectors that the bank considers to be climate relevant and the percentage of assets in these sectors that the bank considers to be at risk.
- 4.** Risk assessment should include stress testing based on both backward-looking data (such as past emissions) and forward-looking data (such as planned expenditures). The findings of these analyses should be disclosed at a high level.
- 5.** U.S. banks should align their policy positions and lobbying with the regulatory recommendations outlined in Ceres' June 2020 report **Addressing Climate as a Systemic Risk**.
- 6.** Banks should use, improve and develop internal valuation tools that translate climate-relevant information into securities prices, earnings forecasts and value-at-risk estimates.
- 7.** Banks should seek industry agreement to use their market power and relationship leverage to incentivize clients to voluntarily disclose additional forward- and backward-looking climate data.
- 8.** Banks should internally prioritize and reward their employees for integrating climate considerations into day-to-day decision-making.
- 9.** Banks should recognize the risk mitigation potential of constructing a more fundamentally sound, equitable and sustainable economic system.
- 10.** Banks should publicly state that they will use engagement and leverage to accelerate client transition plans and wind down relationships that do not include such plans.
- 11.** Banks should communicate to employees and investors any risk-mitigation value they ascribe to their sustainable finance programs.
- 12.** Banks should set and disclose financing portfolio targets that are aligned with the goals of the Paris Climate Agreement and should include detailed interim targets and specific timelines for sectoral portfolios to reach net-zero emissions—some sectors as soon as 2030, others by 2040 or 2050.
- 13.** Banks should publicly commit to and begin work on the 12 recommendations above within the next year.



THE CERES ACCELERATOR FOR
SUSTAINABLE CAPITAL MARKETS

ADDRESSING CLIMATE AS A SYSTEMIC RISK

A call to action for U.S. financial regulators

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Systemic risks have the potential to destabilize capital markets and lead to serious negative consequences for financial institutions and the broader economy. Under this definition, climate change, like the current COVID-19 crisis, is indisputably a systemic risk. Its wide-ranging physical impacts, combined with expected transitions to a net-zero carbon economy and other socio-economic ripples, are likely to manifest in both cumulative and unexpected ways and present clear systemic risks to U.S. financial markets -- and the broader economy. Left unmanaged, these risks could have significant, disruptive consequences on asset valuations, global financial markets and global economic stability.

This Ceres report, "Addressing Climate as a Systemic Risk: A call to action for U.S. financial regulators," outlines how and why U.S. financial regulators, who are responsible for protecting the stability and competitiveness of the U.S. economy, need to recognize and act on climate change as a systemic risk. It provides more than 50 recommendations for key financial regulators to adopt, including the Federal Reserve Bank (the Fed), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CTFC), state and federal insurance regulators, the Federal Housing Finance Agency (FHFA), and the Financial Stability Oversight Council (FSOC).

Given the ongoing response to the COVID-19 pandemic, the role of financial regulators is more prominent than ever. While financial regulators are taking critical actions to support the U.S. economy in response to this immediate crisis, it is imperative that their efforts do not inadvertently worsen the impacts of climate change.

"The evidence on climate risk is compelling investors to reassess core assumptions about modern finance. Research from a wide range of organizations – including the U.N.'s Intergovernmental Panel on Climate Change, the BlackRock Investment Institute, and many others, including new studies from McKinsey on the socioeconomic implications of physical climate risk – is deepening our understanding of how climate risk will impact both our physical world and the global system that finances economic growth."

"These questions are driving a profound reassessment of risk and asset values. And because capital markets pull future risk forward, we will see changes in capital allocation more quickly than we see changes to the climate itself. In the near future – and sooner than most anticipate – there will be a significant reallocation of capital."

Larry Fink

Chairman and CEO, BlackRock

"A fundamental reshaping of finance,"

Fink's 2020 CEO Letter to BlackRock portfolio companies



ADDRESSING CLIMATE AS A SYSTEMIC RISK

Frequent extreme weather events are leading to mounting economic losses.

Physical risks from [rising global temperatures](#) – up 1.8° F since the mid-20th century – are the most immediate threat to the U.S. economy. Catastrophic flooding, droughts, [wildfires and storms are becoming more frequent and extreme](#) and have caused billions of dollars in financial losses. As global greenhouse gas (GHG) emissions and temperatures continue to rise, deeper economic losses are projected for the years ahead.

The [Fourth National Climate Assessment \(Vol.11\)](#), based on the work of thousands of researchers, suggests that unmitigated climate change could reduce the U.S. economy by as much as 10% annually by 2100. In a 2019 [CDP survey](#), 215 of the world's largest listed companies reported nearly \$1 trillion at risk from climate impacts, much of it in the next five years. A [London School of Economics](#) study projects that, unless it is addressed, climate change could reduce the value of global financial assets by as much as \$24 trillion – resulting in permanent damage that would far eclipse the scale of the 2007-2009 financial crisis.

Social and environmental factors are exacerbating the economic impacts.

Unmitigated climate change and extreme weather events will have significant health impacts, including respiratory issues, the spread of diseases and premature deaths. Climate change and extreme weather events will also create major [productivity losses](#), particularly in industries that require workers to be outside. Migration forced by [climate change has already displaced an average of 26.4 million people per year](#) globally between 2008 and 2015. By 2050, [climate change will force 50 to 700 million people to emigrate](#). Finally, the rapid loss of forests and other ecosystems is starting to impact ecosystem-dependent industries such as agriculture, tourism, drinking water and pharmaceuticals.

Climate impacts are already manifesting in the largest state economies.

In just the last few years, [California has experienced recording-breaking wildfires](#), in both number and size, that have taken hundreds of lives, bankrupted the state's largest utility, left millions regularly without power and brought home insurability into question. Florida is facing rapidly rising sea levels and now-routine flooding that are eroding coastal property values and wiping out freshwater supplies. [Texas experienced two devastating once-in-a-thousand-years flood events between 2016 and 2019](#), each caused by torrential rains of 40 inches or more.

An unplanned transition to a low-or-zero-carbon economy could cripple key industries.

Changes in government policies, consumer sentiment, liability risks and technological innovation could cause significant losses for high-carbon industry sectors, and those that rely on them. Given the large size of these industries, these cumulative losses could send broad, intersecting and amplifying financial ripples on major financial institutions holding related assets.

Economists and financial leaders say the scale of the [losses from climate change could eclipse the subprime mortgage securities meltdown](#) that triggered bank failures and, ultimately, a deep global recession a dozen years ago. "Even if only a fraction of the [climate] science is right, this is a much more structural, long-term crisis [than the 2007-2009 recession]," said BlackRock CEO Larry Fink in 2020.

Despite these risks, national and global efforts to mitigate climate change's impacts could create enormous clean energy investment opportunities that would translate into economic growth and job creation. Research suggests that transitioning to a low-carbon [sustainable economy could deliver direct economic gains of \\$26 trillion](#) through 2030, compared to business as usual.

Insurance companies and banks are on the frontlines of risk.

The insurance sector is particularly vulnerable to the physical impacts of climate change, and has already faced growing losses; insurers' investments are also at risk. Banks and financial institutions that have lent to and invested in risky, carbon-intensive sectors have the potential to have their investments become "stranded" in the face of the transition to a low-or-zero-carbon future.

The cumulative and unpredictable nature of climate impacts poses a risk to financial market stability.

While any of the impacts outlined above are significant, their cumulative, correlated and nonlinear nature poses the real risk to financial market stability. To put it simply, the whole is not only greater than the sum of its parts – it magnifies them, as well. If climate change affects markets suddenly and unexpectedly, it could burst a "carbon bubble," which could pose grave dangers to financial markets and the real economy, already weakened from the ongoing coronavirus pandemic.

At the same time, the response to the pandemic has also underscored the power financial regulators have to buttress markets in the face of a disruptive risk. With that power, regulators also have the responsibility to assess market vulnerability to such risks, and take action to make the economy resilient to such shocks. As stewards of the largest economy in the world, U.S. financial regulators, including the Federal Reserve, the SEC and others, have critical roles to play. They can send the appropriate market signals about the risks posed by climate change to the U.S. and global economy, and take the necessary steps to recalibrate our financial system.

**ACTIONS NEEDED**

This report outlines why and how key U.S. financial regulators can and should take action to protect the financial system and economy from potentially devastating climate-related shocks. Financial regulators have a mandate to maintain financial market stability, foster capital growth and competitiveness, protect consumers and investors and ensure market efficiency and integrity. Climate risk is relevant to each of these considerations.

This report focuses on the roles of those financial regulators that Ceres believes are particularly important to jumpstart the necessary action on climate risk now. However, we also believe that all regulators – financial and otherwise – have important roles to play in addressing the climate risk. "Addressing Climate as a Systemic Risk" makes a series of recommendations that build on the existing mandates of the relevant regulatory agencies. We also identify similar actions being taken by global regulators that could serve as important models for U.S. agencies to consider.

Our key recommendations:

The **Federal Reserve System**, including the **Federal Reserve Bank**, should:

- Acknowledge that climate change poses risks to financial market stability and immediately begin assessing their impacts. This includes building awareness of regional climate vulnerabilities, and conducting the needed research.
- Integrate climate change into their prudential supervision and regulation of systemically important financial institutions to ensure they adequately address climate change as a part of their risk management and are well prepared for transition risks. One clear opportunity is to require financial institutions to conduct climate stress tests. Another opportunity is to work with the SEC and other agencies to require banks to assess and disclose climate risks, including carbon emissions from their lending and investment activities. Finally, the Fed should coordinate with its global counterparts to define activities that are likely to exacerbate climate risks.
- Explore how climate risks can be addressed through monetary policy to keep the economy resilient in the face of disruptive risks. This policy assessment should include considering the climate impacts of injecting more liquidity into the economy, and integrating climate risk into collateral frameworks and economic outlook assessments.
- Explore the integration of climate risk into the community reinvestment process to bolster the resilience of low-income communities to climate change.
- Join efforts, such as the [Network for the Greening the Financial System](#), and to allow for globally coordinated efforts on climate risks.

“When you put all these pieces together, it becomes pretty clear: climate change is an economic issue we can’t afford to ignore.

This isn’t just a concern for the Twelfth District. Or even the United States. Countries around the world are dealing with the economic impacts of climate change. And conferences like this are essential to understanding the challenges that lie ahead – for all of us.

Ultimately, this is our job. The San Francisco Fed is a public service organization. We’re responsible for the people and the communities we serve. So, we have to get out in front of this issue and do what we do best.

Convene the best people and ideas. Study data and conduct research.

Talk to the communities we serve – and really listen when they tell us what they need.”

Mary Daly

President and CEO, Federal Reserve Bank of San Francisco

“Why climate change matters to us,” November 2019

The **Office of the Comptroller of the Currency** and the **Federal Deposit Insurance Corporation** should:

- Coordinate with each other and all banking regulators to ensure that climate change is integrated into the financial supervision process. This integration could include jointly issuing a bulletin highlighting the wide ranging ways that climate risks could impact financial performance and outlining principles to help financial institutions prudently manage them.
- (OCC) update the Comptroller’s Handbook to issue enhanced guidance on climate risk to examiners, to be used in supervision of financial institutions. They should also integrate climate-risk supervision into the examiner education process.
- (FDIC) closely monitor the impacts of climate risk on bank lending and investments activities and explore how to integrate climate risk into the risk-based premium system for the Deposit Insurance Fund.

The Securities and Exchange Commission should:

- Analyze climate risk impacts on the securities markets and on the SEC mandate, and consider establishing a cross-divisional taskforce to allow for coordinated responses.
- Make clear that consideration of material environmental, social and governance (ESG) risk factors, such as climate change, is consistent with investor fiduciary duty.
- Issue rules mandating corporate climate risk disclosure, building on the framework established by the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). In the short term, the SEC should enforce the existing regulations and interpretive guidance on climate risk.
- Direct the Public Company Accounting Oversight Board (PCAOB), overseen by the SEC, to assess whether firm audits adequately detect climate risks, and issue guidance to help auditors better understand how climate risk affects audits and accounting. The PCAOB should also assess existing standards to identify when amendments and updates may be needed, and issue such amendments.
- Encourage the Financial Accounting Standards Board to drive consistency in the way that climate risk is disclosed in financial statements.
- Issue guidance encouraging credit raters to provide more disclosure on how climate risk factors are factored in ratings decisions. They could also examine the extent to which climate risk is considered by credit raters, and summarize findings in annual examination reports.

The Commodity Futures Trading Commission should:

- Upon receiving the Climate-Related Market Risk Subcommittee's report, engage other financial regulators on climate change.
- Use the report's recommendations to enhance oversight of climate risk in the commodities and derivatives market.

"We purport to modernize, without mentioning what may be the single most momentous risk to face markets since the financial crisis. Where we should be showing leadership, we are conspicuously silent. In so doing, we risk falling behind international efforts and putting U.S. companies at a competitive disadvantage globally."

State and federal insurance regulators should:

- Acknowledge the material risks climate change poses to the insurance sector and pledge coordinated action to address them.
- Assess the adequacy of current insurer actions for addressing climate risks.
- Join the Sustainable Insurance Forum.
- Require insurance companies to conduct climate risk stress tests and scenario analyses to evaluate potential financial exposure to climate change risks.
- Require insurers to integrate climate change into their Enterprise Risk Management (ERM) and Own Risk and Solvency Assessments (ORSA) processes.
- (State regulators) require insurance companies to assess and manage their climate risk exposure through their investments, and examine how climate trends affect company holdings and long-term solvency.
- (State regulators) encourage insurers to develop products for the new technologies, practices and business models that will emerge in response to climate risk that are responsive to both risks and opportunities.
- (State regulators) mandate insurer climate risk disclosure using the TCFD recommendations.
- Assess the sector's vulnerabilities to climate change, and report findings to the Financial Stability Oversight Council.

Allison Herren Lee
Commissioner, Securities and Exchange Commission

"Modernizing' Regulation S-K: Ignoring the elephant in the room,"
January 2020

The **Federal Housing Finance Authority**, responsible for government-sponsored mortgage giants Freddie Mae and Fannie Mae, should:

- Acknowledge the impacts of climate risk on the housing market.
- Conduct research to examine the impacts of climate risk on the mortgage holdings of Government-Sponsored Enterprises, particularly Fannie Mae and Freddie Mac.
- Launch a formal effort to develop strategies to address climate risk, being particularly aware of the impacts on vulnerable communities disproportionately threatened by climate change.

The **Financial Stability Oversight Council**, whose mandate is to identify risks to financial stability, should:

- Identify climate risk as a vulnerability and make recommendations on regulations that relevant agencies could adopt.
- Coordinate regulatory actions on climate change and the integration of efforts by all financial regulators addressing climate risk to allow for overall financial stability.

“In the crowded regulatory and supervisory space, there is limited scope for focusing attention on new issues but climate risks need immediate action in order to limit or reverse the impact of some of the negative trends under way. It is incumbent on supervisors to put in place the necessary measures for insurers to address any significant risks that could adversely affect policyholders and financial stability. In previous financial crises, events once deemed implausible have materialized. Climate change poses the same threat.”

Bank of International Settlements
“Turning up the heat: Climate risk assessments in the insurance sector,” 2019

CONCLUSION

Ceres knows that climate change is the biggest sustainability issue of our time, affecting everything from our financial markets, to our political security to our very existence on earth. For over three decades, Ceres has worked with companies, investors and policy makers to drive the consideration of climate change as a financial risk, and foster the uptake of climate solutions. We also believe that legislative action on climate change – such as a carbon price – is necessary to move the U.S. economy towards a competitive and prosperous net-zero carbon future.

But while policymakers at the federal, state and global levels need to take the lead in tackling the climate crisis, U.S. financial regulators themselves have critical roles to play in keeping a now-weakened economy resilient in the face of ongoing and future climate shocks. Rather than standing back, they should seize the opportunity in this moment of potential economic transformation to join global peers and develop a playbook for climate action. With global emissions and average temperatures still rising, watching and waiting are no longer responsible options, and will in fact guarantee the worst. And, unlike in the possible resolution to the COVID-19 pandemic, there will never be vaccines developed to protect against climate risk. But the good news is: we already have all the tools and knowledge in the financial markets to take sound preventative action.

Climate change presents risks to both the future and today -- unless regulators act boldly, now.

