

Being business-minded about climate change

Ten ways to address climate-related
risks and opportunities in 2020 and
beyond



Building a better
working world




Introduction

Climate change has risen up public and political agendas. The fact that the world has just experienced its hottest year on record is known by everyone. The realities of the recent fires in California and Brazil in 2018 and 2019 (respectively) and now Australia are prime-time television. As of January 2020, 12 million acres have burned in Australia from the bushfire crisis and the country is just halfway through the fire season.¹ Hurricanes in Asia and Central America made global headlines. It could not be more real. Climate change has moved quickly from what seemed like a sometimes esoteric, academic debate (notably about cause and magnitude) to a political and societal issue globally, not least because the biggest impact of climate change will fall on many of the world's developing countries.

Climate change has shot up financial services' agendas. Initially, it was through discussions around environment, social and governance (ESG) performance, specifically around how companies understand and assess their environmental impact (i.e., corporate social responsibility (CSR), sustainability reports or CDP reports² and shareholder proposals). To some degree, this confused matters, at least with boards and senior executives, because it was siloed with philanthropy-type activities instead of being linked directly with management and operations. Terminology has been relatively imprecise, and some of the issues were viewed negatively and became politically loaded or emotionally charged.

Climate-change risk is more specific. It relates to the effects of climate change directly on financial institutions, as well the impact on their customers, clients and communities within which they operate. These effects can be physical (that is, the direct impact of changing weather patterns) or related to the manner in which stakeholders transition successfully to a low-carbon economy. Both issues require institutions to embed climate-related analysis into core capabilities, such as portfolio (sector and regional) decisions, the development or refinement of products and services, pricing and underwriting, overall risk management, and business continuity management.

Climate-change risk is a business issue and presents risks as well as opportunities. It requires innovative new thinking and analytics, bringing together risk and underwriting competencies with those associated with sciences related to how specific regions or sectors will be affected by climate change. Companies must understand direct impact to their supply chains and indirect impact to their balance sheets. Academics in quantitative credit analysis have to work alongside academics in earth and sea sciences. It is a rare combination.



This report outlines 10 steps financial institutions can take to formulate a firmwide strategy to adapting business models and risk management practices to incorporate climate-related risks and opportunities. It sets out the case to act now. Climate change is palpable, and the pace of societal and political discussion is increasing in velocity.

¹ "The Shocking Size of the Australian Wildfires," *Statista*, www.statista.com/chart/20387/recent-wildfire-events-by-acreage-burned/, January 2020.

² CDP (formerly the Carbon Disclosure Project) is responsible for the global environmental disclosure system supporting companies in managing risks and opportunities on issues, including climate change. More information is available at: www.cdp.net/en



Ten ways to address climate-related risks and opportunities

1 Establish board and senior management governance and oversight

A strong governance structure is required to make a significant change in how climate-change risk is governed and managed.

Governance starts with the board of directors. The board has to determine how it will oversee the firm's climate-change risk management strategy. A full board-level discussion is required, at least annually, to allow all directors to challenge management's strategy. In addition, detailed committee oversight is increasingly necessary, whether in the risk or underwriting/investment committee or by a separate ESG or climate-change committee.

Executive leadership must determine how they will manage climate-change risk management. The issue is cross-functional and affects many parts of the firm, and it requires senior executive sponsorship. Firms that are proactive in acknowledging and understanding climate-change risk have already established a firmwide committee, with representatives from the businesses and key functions, such as risk, communications, investor relations, legal and compliance. Often, these committees are co-chaired by a senior line-of-business leader, reflecting the fact that this is a business-first issue, and, in effect, co-led by the risk or sustainability leader. Such committees are empowered by the board and management to oversee the firm's approach to identifying and managing climate-related risks and opportunities associated with their organization, customers and clients.

It is important that a senior-level executive is charged with driving the climate-change risk management strategy. For a long while, sustainability was viewed as an internal-facing activity, focused on the firm's own environmental and social strategy, and how it is communicated to external stakeholders. As such, executives in charge of these activities have often sat within investor relations. The focus on climate-change risk management is quickly changing the role and stature of those overseeing sustainability – chief sustainability officers (CSO), sustainable finance directors and ESG directors are being created or having their role materially broadened and elevated. This new breed of CSO is being charged with driving climate-change risk into the fabric of a firm's strategy and operations. They must work closely with business lines to capitalize on climate-related opportunities and with the second-line to formulate the firm's climate risk management strategy. Increasingly, these sustainability oversight roles are being repositioned to report to a chief administrative or chief operating officer, signaling their broader, strategic role.

2 Develop a firmwide, CEO-led climate-change-related strategy

A firmwide strategy is paramount. The climate-change risk management strategy cannot simply be an amalgam of activities across the firm. Rather, it has to be a cohesive, consistent, top-down strategy with a clear purpose and vision through which the CEO and senior management define objectives and mandates. A clear, CEO-led strategy will enable effective decision-making to unlock new opportunities and appropriately quantify and manage risks. The strategy should empower collaboration in addressing climate change, to avoid management-by-silos and barriers to uniting the organization. It must include business heads to the various risk management functions in order to unify the firm's climate-change objectives and approach to execute the strategy.

Increasingly, firms are adopting a specific climate-change policy, which draws together disparate policies from across the firm and identifies how these policies interrelate in terms of achieving the firm's climate-change objectives. The governance of the climate-change risk management strategy is laid out in such a policy, alongside the division of roles and responsibilities across the three lines of defense.

3 Agree and adopt a common language

Terminology in this area can be a challenge. So, the unconventional characteristics of ESG or sustainability terms should not undermine the language used around climate-change risk.

Climate risk can be broken down into two simple concepts:

- ▶ **Physical risk:** This arises from the direct effect of weather events and longer-term shifts in the climate, e.g., floods, droughts, wildfires and rising sea levels. Flood exposure to mortgage portfolios, floods leading to a repricing of municipal debt and business continuity/resiliency are all examples of physical risk.³
- ▶ **Transition risk:** This arises from the process and effects of shifting toward a low-carbon economy, e.g., policy, technology and consumer sentiment. A carbon tax on emissions, repricing of securities, and client attrition due to changing consumer preferences are all examples of transition risk.⁴

For financial institutions, physical risk affects their operations (in how climate change impacts their branches, operations and third parties) and their financing (in terms of how it affects their customers, corporate or institutional clients, and communities where they operate). The impact of transition risk is more indirect, in that it is related to how their customers and clients migrate to a low-carbon economy and transform their needs for innovative financial products and services.

Adopting a common language centered on the physical or transition risks associated with climate change should bypass confusion and avoid endless political debates about the causes of climate change. Furthermore, a common vernacular will enable a more precise analytical approach to identifying climate-related risks and opportunities.

Common terms to know and adopt

Green and social bonds

Proceeds of the bond are applied to environmental and/or social projects. The bonds are governed by Green Bond Principles.⁵

Sustainability-linked loans

A loan with built-in incentives (e.g., lower interest rate) for the borrower to achieve sustainability performance targets.⁶

Impact investing funds

Funds created with the intention to make a measurable social or environmental impact along with a financial return.⁷

40% of the US population lives in, and US\$8.3t goods and services are produced in, US coastal counties.



³ "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures," *Financial Stability Board*, www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf, June 2017.

⁴ "Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures," *Financial Stability Board*, www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf, June 2017.

⁵ Green, Social and Sustainability bonds, *International Capital Market Association website*, www.icmagroup.org/green-social-and-sustainability-bonds/, 2020.

⁶ "Sustainability Linked Loans Published," *Loan Syndications & Trading Association website*, www.lsta.org/news-resources/sustainability-linked-loans-published/, March 2019.

⁷ "Impact Investing," *Global Impact Investing Network website*, thegiin.org/impact-investing/, 2020.

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Embed climate-change risk management across the three lines of defense

The past decade has shown financial institutions are most effective when they address material risks across the firm and are clear on the roles of the three lines of defense in addressing those risks. Climate-change risk is no different.

An effective three-lines-of-defense model to climate change exhibits the following features:

- ▶ **First-line business ownership:** When climate change is viewed through the lens of physical and transition risks, it becomes immediately apparent that first line – notably the lines of business – have to own climate-change risk. The lines of business must be aware of the opportunities that climate change presents as they engage with their customers and clients. They also need to identify the range of associated risks and mitigate them to acceptable levels (including potential conduct-related risks that could result in misleading the customer or mis-selling products and services). The first line manages the firm's operations and relations with most third parties, and they own the customers and clients. They also own corporate communications and investor relations.

On the operational side, the first line has to manage how the firm copes with short-term extreme weather events and long-term physical impacts on their firm's locations and third parties. On the commercial side, the first line has to determine how climate risks will affect customers and clients, and alter products and services offered – and portfolios – accordingly, as well as pricing strategies and underwriting standards. They have to make sure climate-related disclosures are comprehensive, robust and accurate. Given the firmwide nature of climate change, it is not surprising the key executive in charge of climate change generally sits within the first line.

- ▶ **Second-line risk management:** The chief risk officer (CRO) is tasked with embedding climate-change risk into the firm's enterprise risk management framework. Climate change has to be woven into core capabilities, such as risk identification, risk taxonomies, risk appetite and risk reporting, scenario modeling, limit structures and underwriting standards. Novel concepts, such as climate value-at-risk (VaR), likely become a staple of risk management over time, especially as firmwide "stress tests" are conducted.

The finance function has a second-line role in climate-change risk. Capital and liquidity management and methodologies will have to be enhanced to fully capture the impact of climate-change risk on the firm's equity, debt holdings, and composition of capital and liquidity buffers. As the effects of climate change increase, finance groups will need to factor it into independent price verification, including hard-to-value assets and the identification of so-called "stranded assets" (i.e., assets that become redundant in a low-carbon economy). Planning over a business cycle – say a 5- or 10-year horizon – will have to assess how climate change impacts long-term profitability.

- ▶ **Third-line (i.e., internal audit) oversight:** Thus far, internal audit has had a limited role in assessing the impact of climate change on a firm's risk governance. This will surely change as firm's adopt firmwide strategies, policies and governance models, adapt risk management and pricing and underwriting practices, and disclose more on the impact of climate change. As with other firmwide risks, internal audit will need to evaluate the degree to which firms are adhering to new processes and controls established by policies and practices, the manner in which firms align with evolving regulatory or industry practices, and the quality and consistency of disclosures.

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\$90t of investment in climate projects needed by 2030.

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5 Treat climate change as a business opportunity to support customers, clients and communities

Climate change should not just be considered a niche issue. The issue is topical today and will remain in the headlines for years to come. Climate change presents one of the most significant opportunities for financial institutions to help their customers, clients and communities address the physical and transition risks affecting them. For example, in 2015, the global community set a goal to keep global temperature rise below 2 degrees Celsius above pre-industrial levels as part of the Paris Climate Agreement (Paris Agreement) of 2015. To achieve this goal, voluntary commitments to improve the environment by 2030 were made by countries, and with those commitments come significant opportunities for financial institutions to play an integral role. Climate change also presents a significant commercial opportunity.

Climate change offers financial institutions a wide variety of business opportunities and is expected to generate US\$2.1t worth of opportunity.⁸ To capitalize on these opportunities, financial institutions should segment their customers and clients by geography and sector. Given the complexities in modeling physical and transition risks associated with climate change over an extended period, such segmentation has to be done at a detailed level. Geographically, this translates to postal code by postal code analysis. Sector analysis has to emulate a similar granularity construct – for example, the transportation industry can be broken down further by distinguishing large-scale logistics operators from family-owned businesses with two or three trucks.

The aim is not to segment out or neglect certain regions or clients (although, inevitably, portfolio, pricing and underwriting changes may be required to better align risk and return). Rather, it is to determine how the financial institution can support customers and clients in managing the implications of climate change.

Armed with the facts, financial institutions can innovate and create new products and services. For example:

- ▶ **Incentive-based products:** Some financial institutions have already developed products that incentivize retail customers to buy green products (e.g., credit cards that offer lower interest rates or offer discounts related to purchasing green products) or offer lower cost of capital to corporate clients that lower their carbon footprint (e.g., a corporate loan that charges a lower rate if certain environmental targets are achieved). Financial institutions are developing products such as green and social bonds or sustainability-linked loans to meet growing consumer demand (see section 3, “Agree and adopt a common language,” above).
- ▶ **Public-private solutions:** Climate change will call for significant infrastructure investments, many of which will require public-private investment strategies to build or restore new capabilities, or to strengthen resilience to changing weather patterns. This will call for innovative public-private partnerships, with novel ways to risk-share. For example, there may be opportunities for tax incentives for city or state investment in renewable energy or sustainable infrastructure. Also, there are opportunities for infrastructure projects to be packaged as a “resiliency bond,” which would be a cost-sharing model between beneficiaries that may be a fixed or pay-for-success payment that reimburses investors based on adaptation measures and outcomes. Additionally, local and federal governments may have to provide loan or insurance guarantees, or support interest-rate reductions, to make such products commercially viable for financial institutions.

Financial institutions have developed and continue to innovate an array of new products and services, such as auto loans, home mortgages, home equity loans and credit cards. Sustainable finance, notably green bonds, continue to grow.⁹ In October 2019, issuance of sustainable debt surpassed US\$1t with 77% represented by green bond issuance and 10% represented by issuance of sustainability-linked loans.¹⁰ This is to be applauded and shows financial institutions are responding positively to changing customer and client demands. However, the fact that there are no clear definitions on what constitutes a “green” product leaves financial institutions open to claims of “greenwashing” (that is, simply rebranding existing products). Recent efforts by the International Institute of Finance (IIF) and other trade and industry bodies to agree global standards for green products and terms will help to identify legitimate green products.¹¹

⁸ “Businesses Would Gain US \$21 trillion By Embracing Low-Carbon Tech,” *Forbes*, www.forbes.com/sites/jamesellsmoor/2019/06/21/businesses-would-gain-us2-1-trillion-by-embracing-low-carbon-tech/#5519fd5f61af, June 2019.

⁹ “Green bond market poised to hit \$200 billion in 2019,” *Moody's*, www.moody's.com/research/Moodys-Green-bond-market-poised-to-hit-200-billion-in--PBC_1159526, January 2019.

¹⁰ “Sustainable Debt Joins the Trillion-Dollar Club,” *BloombergNEF*, about.bnef.com/blog/sustainable-debt-joins-the-trillion-dollar-club/, October 2019.

¹¹ “Global Bank Risk Management Survey,” *EY website*, sites.ey.com/sites/DS_BCM/Pages/global-bank-risk-management-survey-2019.aspx, 2019.



6 Embed climate-change risk deep into enterprise risk management

Ultimately, climate change must be built into the firm's risk management framework. This necessitates embedding it into:

- ▶ **Risk identification:** Beyond simply scanning for climate risks, this requires granular analysis of customers and clients by region and sector, as noted above. Bifurcating between physical and transition risks makes the analysis more precise and actionable. Understanding the direct impacts of physical risks on the firm's operations and third parties is essential. Beyond these risks, as noted above, associated risks, like conduct and compliance risks, have to be identified.
- ▶ **Risk taxonomies:** Banks have spent significant time and effort in overhauling their risk frameworks to include more granularity across the different risk stripes. In order to capture climate risk within existing processes and standards, firms will need to reevaluate their risk taxonomies to determine whether climate risk is material. For example, within credit risk, firms have an array of components (e.g., default risk, concentration risk, recovery risk, wrong way risk). These granular components will need to be examined across portfolios to inform credit limits and internal ratings to maintain prudent risk management.
- ▶ **Risk reporting:** Financial institutions must develop and maintain a set of risk metrics that capture their own and their customers' climate-change risks. They must also be able to aggregate those metrics to enable board and senior management reporting and oversight. These metrics should link to existing portfolios, concentration and exposure thresholds and limits, and align with the firm's disclosures on climate-related risks and commitments.
- ▶ **Risk mitigation:** Climate-risk analysis needs to support decision-making on how to manage the firm's own physical risks, as well as how it impacts how they serve their customers and clients. This may range from altering the firm's exposure to certain sectors or regions to the pricing of new loans and underwriting of investments (especially long-dated products and services) to decisions on how to deploy capital.

CROs will need to develop an independent view on how the firm is managing the climate-change risk and provide counsel to the board and senior management on how well the firm is adapting.

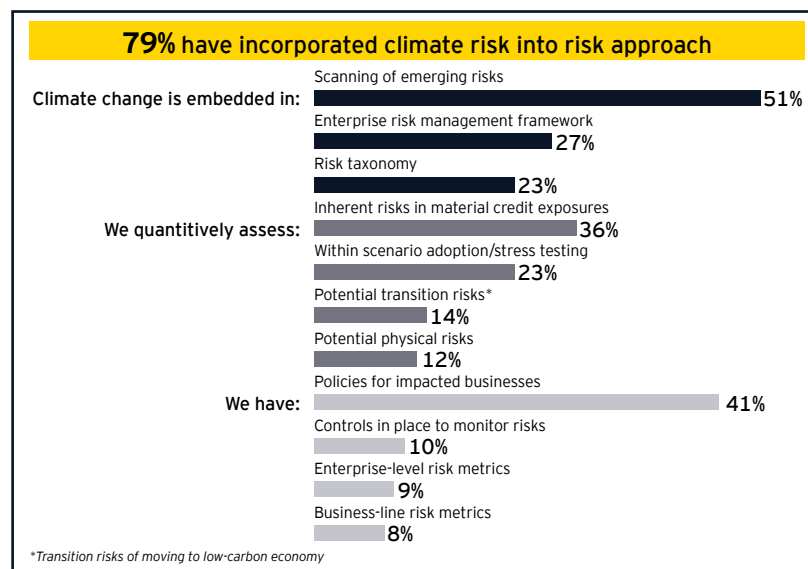


Climate change is, by definition, dynamic. If weather-forecasters are unable to accurately predict tomorrow's weather, it would be incredible if financial institutions could accurately predict physical and transition risks across customers, clients and regions over a 5-to-20-year period.

However, financial institutions are beginning to use scenario analysis to understand and quantify climate risks. Most are in the process of building capabilities to conduct robust scenario analysis to stress test their balance sheets. This may be in the context of actuarial models and underwriting standards or with capital-adequacy models, or both. Firms can use existing capabilities as a springboard to analyze the impact of climate change scenarios.

To leverage these capabilities in the context of climate change, financial institutions must develop a view on the scenario to be tested, drawing on those that have been promulgated by various public or private sector groups, or developing their own (see "Two- and four-degree tests: an enterprise assessment of impact" below). This necessitates taking a view on assumptions such as the scale and pace of environmental change (notably, the increase in global temperatures), as well factors such as the future cost of carbon, water and electricity. Typically, this means looking out over 10 to 50 years, and taking a view on the likely interplay between macroeconomic and environmental factors and translating that analysis into key variables at the sector level. Firms then have to segment the analysis to determine discrete impacts on subsectors or subregions and distinguish one cohort of obligors from another, in order to incorporate the analysis into underwriting standards and decisions (see section 8).

Figure 1: Risk management approach



Bank on climate change

Within financial services, insurers were the first to recognize the need to adapt to climate-change risk. After all, they insure residential and commercial real estate that is being directly impacted by extreme weather events. They have already starting repricing insurance and offloading more risk to reinsurers.

Banks are beginning to catch up. Climate risk has shot up bank management agendas. More than half (52%) of banks who participated in the 10th annual EY/IIF global bank risk management survey cited environmental and climate change matters as a key emerging risk over the next five years, up from just over a third (37%) a year ago.¹² Four in five (79%) banks have already incorporated climate change, in some way, into their risk management approach.

Of note:

- ▶ More than two in five (43%) identify material risks on an ongoing basis.
- ▶ More than a third (36%) have evaluated inherent risks in material credit exposures and almost a quarter (23%) have built climate-change risk into scenario planning for stress-testing purposes.
- ▶ Around a quarter have built it into their enterprise risk framework (27%) and risk taxonomy (23%).
- ▶ Almost a third (32%) are evaluating the impact on expected credit losses, more than a quarter (26%) are determining the impact on capital, and one in five (21%) are focused on the balance-sheet sensitivity changes in external conditions related to climate change.
- ▶ 1 in 10 have adopted firmwide (9%) and business-unit (8%) level risk metrics tied to climate change.

¹² 10th annual EY/IIF global bank risk management survey

Two-and four-degree tests: an enterprise assessment of impact

Various public and/or private organizations have published scenarios that firms can use as their base scenario to be tested. On the one hand, this helps firms adopt a common “stress test” to use, which should provide a level of comparability across firms and sectors. On the other hand, most of the published scenarios differ in the details, which undermines comparability and leaves firms with a challenge on which scenario(s) to test. The analysis required is substantive and time-consuming, making it challenging to test multiple scenarios.

In essence, many of the tests have some common features:

- ▶ An **orderly transition**, which assumes the earth’s temperature will increase by two-degrees Celsius above pre-industrial levels by 2100 (the limit set by the Paris Agreement) and the economy transitions to be greenhouse gas (GHG) neutral by 2050.
- ▶ A **disorderly transition**, which uses the same temperature assumptions as the orderly transition, but in a disorderly fashion; transition risk is maximized.
- ▶ A **“hot house” scenario**, whereby the earth’s temperature rises to four-degrees Celsius above pre-industrial levels by 2100 (the expected increase with business as usual) without an orderly transition; physical risk is maximized.

Obviously, the various scenarios present differing physical and transition risks. The slower two-degree scenario leads to steadily increased effects and allows more time to manage transition risks. The four-degree scenario brings much more severe physical risks to firms and their customers and clients. The “hot house” scenario greatly accentuates transition risks.

Until common global standards are developed and adopted, firms will need to select a scenario that best aligns with their chosen disclosure framework and climate-change-risk strategy and risk appetite.

The Bank of England proposes its Biennial Exploratory Scenario

The Bank of England (the Bank) is in the process of designing its 2021 Biennial Exploratory Scenario (BES) on the financial risks from climate change. The exercise will test the resilience of the current business models of UK’s largest banks and insurers and the UK financial system to the physical and transition risks from climate change. As outlined by the Bank in a December 2019 Discussion Paper, the BES will differ from traditional stress tests in a number of areas, including:¹³

1. **Three scenarios:** Multiple scenarios are needed to reflect the range of possible pathways and climate outcomes. To capture the range of different combinations of transition and physical risks, the Bank is proposing three distinct climate scenarios: “early policy action” scenario, “late policy action” scenario, and “no additional policy action” scenario.
2. **Multiple variables:** Climate risk variables (physical and transition variables) and macrofinancial variables (macroeconomic and financial market variables) will be provided to enable firms to model the financial impact of the three scenarios.
3. **Broader participation:** As climate change affects all parts of the financial system, and the potential for spill over between different sectors is significant, the Bank will test the resilience of large banks and large insurers. Insurers will participate via a set of BES-aligned climate scenarios added to the 2021 Insurance Stress test.
4. **Longer time horizon:** A longer time horizon is needed as climate change, and the policies to mitigate it, will occur over a much longer time frame than normal risks for stress testing. The Bank proposes a modeling horizon of 30 years with participants assuming the nominal size and composition of balance sheets do not change over the course of the time horizon to provide “snapshots of risks.” However, the Bank proposes calibrating the 30-year “no additional policy action scenario,” assuming the material climate change risks anticipated between 2050 to 2080 in the absence of a rapid transition, occur by 2050.
5. **Counterparty-level modeling:** A bottom-up, granular analysis of individual counterparties’ business models (including understanding the geographical and sector vulnerabilities), is proposed to accurately capture counterparty-level exposure to climate-related risks in each scenario.

The Bank proposes two parts to the BES. In part one (sizing the risks), firms understand the vulnerabilities of their current business models to the direct and indirect impacts of climate-related financial risks. In part two (sizing the responses), firms assess how they would change their business models in response to the risks in each scenario and identify the management actions they would take to mitigate risks and respond to opportunities. The Bank would then add up the management actions from participants to identify system-level impacts: it would also ask firms for modeling approaches, assumptions, and data to aggregate and compare against firms to identify leading practices in risk management.

The Bank anticipates disclosing the aggregate results of the financial sector’s resilience to climate-related risk, rather than individual firms’ results, but may publish ranges of results across participants to identify system-level impacts. It would also ask firms for modeling approaches, assumptions, and data to aggregate and compare against firms to identify leading practices in risk management.

£200b of UK properties currently at risk of flooding affecting more than four million people.

¹³ “Bank of England consults on its proposals for stress testing the financial stability implications of climate change,” *Bank of England news release*, www.bankofengland.co.uk/-/media/boe/files/news/2019/december/boe-consults-on-proposals-for-stress-testing-the-financial-stability-implications-of-climate-change.pdf?la=en&hash=F5793F43311398FA061D5FD41A2E668A0E9252F9, December 2019.



8 Incorporate climate-change analysis into underwriting

Ultimately, climate change analysis must influence underwriting for financial institutions to really know their customer and gain an improved understanding of a firm's carbon footprint. Four important steps are required:

- ▶ **Data gathering:** Firms must gather external data – whether it be publicly available information on customer and client's GHG emissions or supply chain information, or ESG ratings and rating agencies data on climate change or environmental factors promulgated by third parties – to enable customer- or client-level and regional analyses.
- ▶ **Underwriting analysis:** Climate-change-related factors – such as GHG emissions, carbon intensity, financed emissions – must be embedded into the firm's underwriting analysis along with qualitative information such as the transition of energy, new technology, etc. Firms must make decisions on how to properly weight climate-change factors, and those weightings will likely vary by region and sector.
- ▶ **Base and adjusted scores:** Each customer and client has to be assessed using the revised underwriting analysis, as well as adjustments made to the overall impact of climate change on the obligors – in the end, is it positive, neutral or negative?
- ▶ **Obligor ratings:** Each customer and client is then assigned a rating, which influences what products and services are available to them, at what price and under what conditions. Ratings should influence the probability-of-default (PD) and loss-given-default (LGD) factors.

It will take time for firms to refine their underwriting practices to integrate climate change. The science behind climate change is changing every day, making analysis over extended periods challenging. The available data – whether from customers and clients, or from third-party data providers – is also nascent and difficult to compare.

However, it is important that financial institutions start the process of factoring climate-risk considerations into the credit underwriting process not only to manage the risk but also to be prepared for increasingly challenging questions from credit rating agencies on how firms are building climate change into the underwriting and credit process. While, to date, questions from rating agencies have been general in nature, rated firms can expect, over time, rating agencies will ask for granular information on region or sector exposures and conduct their own analysis on the impact of climate change on a firm's creditworthiness.



US coastal properties sell for **15% less value** if there is a perceived impact from rising sea levels.

9

Enhance the firm's resilience to physical risks

The increased number and severity of extreme weather events has put the impact of climate change on firms' own operational resilience or that of their third parties high on their agenda, as well as that of regulators.¹⁴ The practical reality is weather is directly testing if firms can continuously deliver services to customers and clients when they or their providers experience these weather events.

Within a broader rethink of how firms strengthen operational – or enterprise – resilience, firms are taking a number of steps to be prepared:

- ▶ **Consolidating crisis-management and incident-response frameworks:** Too often, firms have a plethora of frameworks that get deployed when a weather event occurs, and few of these frameworks function well together, especially in the context of severe events. Triggers for invoking high-priority or crisis-level protocols – or escalations – are often inconsistent. Larger firms are integrating these frameworks under a firmwide crisis-management framework and aligning protocols, playbooks and triggers.
- ▶ **Enhancing communication protocols:** During severe or crisis-level events, internal and external communications often become disjointed. Communications across segments of customers are not consistent, nor are communications across stakeholders (e.g., with regulators); employee communications can sometimes be last on the list, yet they are a key interface with the outside world. A coherent communications strategy in crisis is essential, so as to put employee and customer safety as a priority and to help guide stakeholders on how to access services during disruption.
- ▶ **Assessing the resilience of third parties:** Financial services firms are highly dependent on third (and fourth and fifth) parties to conduct their business, and this dependence will continue to grow in the coming years. It is important that firms have a clear view on which third parties play a role in delivering the most important business services, as well as routinely evaluate how resilient those firms are to weather-related (or other) disruptions and have plans to cope with one of those third parties being unavailable for an extended period. Knowing what third-party substitutes can be accessed quickly is important.
- ▶ **Testing resilience:** Firms typically conduct an array of tabletop or simulated exercises to evaluate how they would cope with major disruptions, for example, due to extreme, extended weather events. Increasingly, these simulations are being conducted at senior management – or even board – levels, so that firm leaders are aware of how decisions are made in crisis situations. A calm and decisive tone from the top during a crisis instills confidence in all stakeholders. Some firms have moved from just relying on periodic, simulated exercises to real-life tests, whereby staff relocates to backup facilities on a routine to conduct business as normal. Some firms are including key third parties in their simulations.

¹⁴ "Global Regulatory Network," *EY website*, www.ey.com/en_gl/banking-capital-markets/global-regulatory-network, 2020.



10

Deliver a consistent, credible firmwide climate-risk story to stakeholders

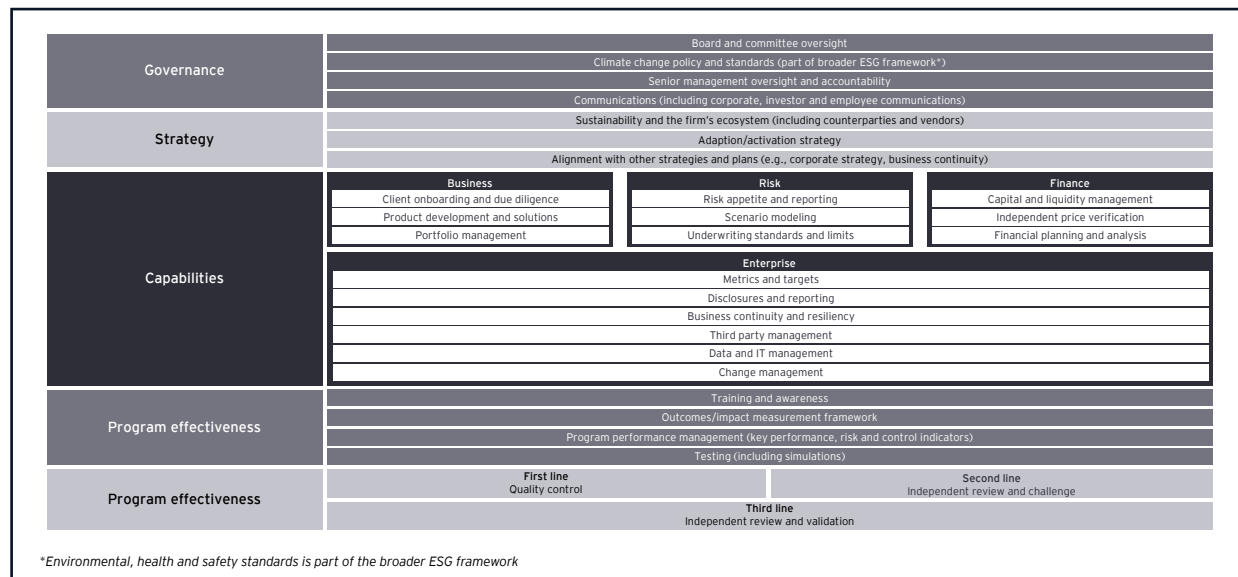
Financial institutions, like firms in other sectors, are now issuing an abundance of information related to the environment and climate change. Some of these disclosures can be found in securities filings, or within annual or quarterly reports, and some firms issue stand-alone ESG disclosures following frameworks set forth by the Task Force on Climate-related Disclosures (TCFD),¹⁵ CDP, or Sustainability Accounting Standards Board (SASB)¹⁶ (see “What is the TCFD?” below). Today accounting standards like the International Financial Reporting Standards (IFRS) address climate change issues, such as applying materiality judgments to climate-related risks and how to disclose climate-related risks in financial statements. Guidance like this provides the accuracy of information that is included in disclosures around climate-related risks.

However firms disclose commitments or commentaries on their climate-change risk management strategies, it is important that disclosures are:

- ▶ **Consistent and internally coherent**, i.e., commitments, especially those with specific targets, can be traced and aligned with one disclosure to the next.
- ▶ **Credible**, i.e., that internal and external stakeholders believe the commitments and statements being made, and that actions and results align with those commitments over time.
- ▶ **Validated by a credible source**, i.e., that a group within the organization (e.g., second-line risk management or internal audit) or an outside third party has assessed the validity of the commitments and statements, ideally in the context of well-established industry standards or frameworks.

In the end, each financial institution has to communicate a narrative to internal and external stakeholders that shows their commitment and governance on how they are managing through the effects of climate change on their firm, customers and clients, and the communities within which they operate. The narrative should highlight not just the governance and strategy commitments, but also the capabilities that have been built or refined to address climate-related risks and opportunities and the methods to measure program effectiveness (see Figure 2: EY climate-related risks and opportunities framework below). The narrative must be supported by actions to be substantive and real; the reputational damage of being insincere is too high. The narrative has to fit with the firm’s overall purpose, mission and values, and run deep into the fabric and culture of the organization.

Figure 2: EY climate-related risks and opportunities framework



¹⁵ TCFD has developed recommendations for companies on climate change risk disclosures with the aim to develop consistent climate-related financial disclosures that provide the details required by investors. More information is available at: www.fsb-tcfid.org/

¹⁶ Sustainability Accounting Standards Board (SASB) develops industry-specific standards for reporting on key sustainability topics to allow for investor comparison between companies. More information is available at: www.sasb.org/



What is the TCFD?

The Taskforce for Climate-related Financial Disclosures was initiated by the Basel-based Financial Stability Board, an international body comprising central banks and financial services regulators, and from the outset included private-sector constituents. The aim was to create a common framework within which to disclose each firm's approach to embedding climate-change risk across their firm. The role of regulators, central banks specifically, is evolving, however regulators can play a foundational role by defining a transparent set of rules and guidelines for disclosing climate-related risks and disclosures which will improve consistency and comparison across firms and sectors. Already, **374 financial services firms globally have committed to disclose using the TCFD framework**, and more are expected to do so in the coming years.

The framework has four major components:

Governance

The organization's governance around climate-related risks and opportunities.

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.

Risk management

The processes used by the organization to identify, assess and manage climate-related risks.

Metrics and targets

The metrics and targets used by the organization to assess and manage relevant climate-related risks and opportunities.



Economic cost of Australian wildfires exceeded \$4.4b.

Why act now?

The increasing effects of climate change represent a major risk and opportunity for financial institutions over the short and long terms.

It would be easy to conclude action to address climate-related risks can be pushed off. Haven't we been discussing climate change for 15 to 20 years? What's so different today?

First, the climate is changing, materially and quickly. The number and severity of extreme and not-so-extreme events can be felt by everyone across the globe. At a minimum, it is affecting how firms conduct their business-continuity and crisis-management planning and testing. But more broadly, it is affecting firms' customers and clients, as well as their supply chains.

Second, the financial needs of customers and clients is changing. Retail customers, especially millennials and Generation Z, are becoming more discerning and demanding financial institutions incorporate climate-related or broader environmental factors into the products and services they consume. Corporate clients' needs are also changing, especially as they seek to adopt their business and operating models to successfully transition to a low-carbon economy. Firms that address those needs more quickly will gain market share and be viewed as partners in supporting the sustainable revolution that is unfolding across the globe. These firms will be better placed to build climate-related analyses in core risk management disciplines and portfolio and pricing decisions, and thus align risk and return appropriately.

Third, the reputational risk associated with doing little is becoming palpable. Which financial services firm wants to be called out publicly for not doing enough or greenwashing without substance?

It is not surprising that some industry leaders are moving quickly to build climate-change risk into the fabric of their organization. Those firms are giving themselves 12 to 24 months to make substantive changes in their strategies and operations. They understand that the industry doesn't have a decade or more to adopt.

The question is, how quickly and ably will your firm adapt?

Governance	Strategy	Risk management	Metrics and targets
<ul style="list-style-type: none"> Does your firm have a formal committee dedicated to climate risk? 	<ul style="list-style-type: none"> What is your firm's internal and external communication strategy? 	<ul style="list-style-type: none"> Has your firm incorporated climate change into existing frameworks or taxonomies? 	<ul style="list-style-type: none"> What is the process to approve and track progress of sustainability commitments?
<ul style="list-style-type: none"> What functions comprise the committee? 	<ul style="list-style-type: none"> Has your firm incorporated climate-related risks and opportunities into strategic decision-making? 	<ul style="list-style-type: none"> Has your firm assessed processes, tools, and models to incorporate climate-related inputs? 	<ul style="list-style-type: none"> Has your firm defined specific metrics or targets to measure and monitor climate-related impacts?
<ul style="list-style-type: none"> What is management's role in managing climate-related risks? 	<ul style="list-style-type: none"> Does your firm collaborate with nongovernmental organizations (NGOs) or local communities to assess climate change implications? 	<ul style="list-style-type: none"> Has your firm performed a scenario analysis on carbon-intensive sectors or borrowers to quantify physical or transition risks to lending portfolios? 	<ul style="list-style-type: none"> Has your firm established monitoring of defined climate-related metrics and targets?
<ul style="list-style-type: none"> Does your firm have a climate-risk policy? 	<ul style="list-style-type: none"> Has your firm identified new products or services to offer to customers in response to climate change? 	<ul style="list-style-type: none"> What is your firm's approach to evaluate financial risks posed by climate change or higher-risk industries and/or borrowers? 	<ul style="list-style-type: none"> Has your firm established reporting and communication channels for climate-related metrics and targets?
<ul style="list-style-type: none"> What is the process to generate climate-related external disclosures? 		<ul style="list-style-type: none"> What types of climate-related stress testing does your firm perform? 	
<ul style="list-style-type: none"> Does your firm provide training on climate change? 			

Ten ways to address climate-change risk across the firm

1

Establish board and senior management governance and oversight.

2

Develop a firmwide, CEO-led climate-change-related strategy.

3

Agree and adopt a common language.

4

Embed climate-change risk management across the three lines of defense.

5

Treat climate change as a business opportunity to support customers, clients and communities.

6

Embed climate-change risk deep into enterprise risk management.

7

Conduct climate-change scenario analysis to inform decision-making.

8

Incorporate climate-change analysis into underwriting.

9

Enhance the firm's resilience to physical risks.

10

Deliver a consistent, credible firmwide climate-risk story to stakeholders.

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CCaSS = Climate Change and Sustainability Services

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