

POINT OF VIEW

OPTIMISING THE RISK AND RETURN OF CLIMATE CHANGE

September 2019

EXECUTIVE SUMMARY

Mitigating climate change is not just an environmental responsibility – it is also an economic necessity. Rising sea levels and greater storm surges are expected to cost coastal urban areas over US\$1 trillion each year by 2050.¹ The longer we delay meaningful mitigation, the greater the disruption of climate change will be.

Governments globally are making concerted efforts to mitigate the impact of climate change. The 2015 Paris Agreement provides the overarching international framework towards limiting future warming to no more than two degrees above the pre-industrial average. Delivering this commitment will be a significant undertaking. The OECD estimates that US\$6.9 trillion of investment would be required each year to 2030 to meet the Paris Agreement goals.² Government purses alone will fall short: their development budgets to finance infrastructural shifts will not be enough to transition economies to the new low-carbon standards. Private finance must be mobilised – and banks will be called on to enable and safeguard this transition.

Given the sheer sums of capital required and the exposures to climate risks already locked into financial markets, banks face significant financial and non-financial risks from both climate change itself (physical risks) and associated mitigation measures (transition risks). The very mix of banks' existing risk taxonomy – that is, what is considered credit risk, market risk, and operational risk – is set to be redefined.

Already, financial regulators are placing greater demands on banks to demonstrate effective management of climate risks. Pressure is also being applied to improve how firms report climate risks.

However, banks will have to overcome a number of hurdles. It remains uncertain how the risks emerging from the transition to a low-carbon economy will unfold over time. Allowing banks' ability to respond effectively will require greater consistency, sophistication and availability of climate risk data – which may not be feasible under the current voluntary disclosure regime.

Knowing when to act will be challenging too. Many of the financial risks associated with climate change are unlikely to manifest within banks' typical financial planning cycle (of around four years). And the degree to which banks need to seek immediate action depends on the “stickiness” of their balance sheets to climate risks.

What is clear is that the impact of climate change will only grow as more of the risks and opportunities manifest. Managing it effectively should be an integral part of banks' effort to optimise risk-adjusted performance. Doing so requires banks to incorporate climate change considerations into their risk appetite, senior manager responsibilities and strategic planning in an explicit manner. This starts with establishing an appropriate governance process to approve the inclusion or exclusion of climate risks in their existing risk management framework.

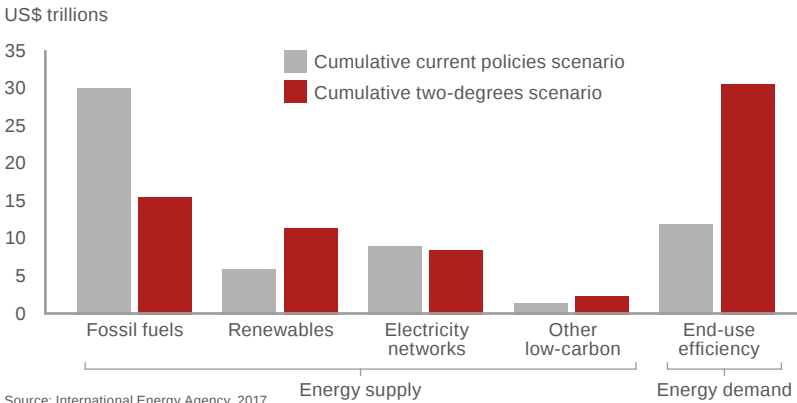
¹ Global Commission on Adaptation, 'Adapt Now: A Global Call for Leadership on Climate Resilience', September 2019.

² Global Commission on Climate and the Economy, 'Unlocking the Inclusive Growth Story of the 21st Century – Accelerating Climate Action in Urgent Times', 2018

QUANTIFYING RISK AND RETURN OF CLIMATE CHANGE

The transition to a low-carbon economy will reshuffle the risks and returns of various assets, creating green assets and resulting in stranded assets. One estimate predicts that as much as one-third of oil reserves, half of gas reserves and over 80% of current coal reserves will need to remain unused from 2010 to 2050 in order to limit man-made climate change to two degrees.³

Figure 1 – Capital re-allocation in the energy sector consistent with a two-degree pathway



In 2019, the UK became the first country in the world to commit to a legally binding target to achieve net zero emissions over the next three decades. Achieving this goal by 2050 would require:



40% → 95%

40% currently from carbon sources. 95% from low-carbon electricity.



<1% → 70%

70% of cars to be electric. Currently <1% are electric.



80%

Reduce CO2 emissions from housing by 80%.

Source: International Energy Agency

The UK subsequently published its Green Finance Strategy,⁴ with the objective of mobilising greater volumes of private capital for sustainable finance and strengthening the UK's international leadership in this space. Both in the UK and globally, the transition of this scale will likely reset the future of many firms and industries, creating opportunities and challenges – and winners and losers.

³ McGlade and Ekins, University College London, 2015

⁴ HM Treasury and Department for Business, Energy & Industrial Strategy, 'Green Finance Strategy', 2 July 2019

RISK IMPLICATIONS FOR BANKS

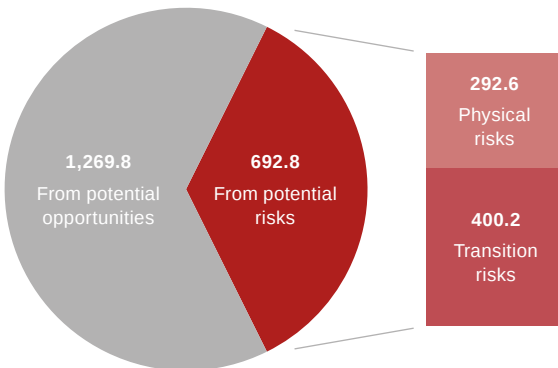
The OECD estimates that US\$6.9 trillion of investment would be required each year to 2030 to meet the Paris Agreement goals. As the financier and custodian of the economy, banks and other financial institutions have a critical role to play in enabling and safeguarding firms and industries during the transition to the new climate paradigm. This calls for both the mobilisation of private finance to fund the transition and effective management of the implications of a low-carbon economy on countries, industries and companies that banks support.

Given the sheer sums of capital required, and the exposures to climate risks already locked into financial markets, banks face significant opportunities from product and innovations as well as significant risks from both climate change itself (physical risks) and mitigation measures associated (transition risks).

According to the climate disclosures of 45 global financial institutions, the financial impact of climate-related opportunities and risks is estimated to be around US\$ 2 trillion for financial services (see Figure 2). An impact of this scale will likely change the ways in which financial institutions assess and manage opportunities and risks, both financial and non-financial. These will redial the parameters of existing risk taxonomies that govern the ways in which financial institutions assess and manage risks. In the UK, discussions between the Prudential Regulation Authority (PRA) and banks have focused on assessing the impact of climate-related risks on banks' existing risk management framework and on the value of their assets.

Climate risks are expected to have widespread implications across the entire risk taxonomy, that is, what is considered credit risk, market risk, and operational risk. A PRA survey of UK banks revealed that 90% are able to identify examples relating to credit risk, 70% to operational risk and 20% to market risk.⁵






Figure 2 – Impact of climate-related opportunities and risks on financial services (US\$ bn)



Source: CDP, 2019, based on survey of 45 global financial institutions

⁵ The Bank of England 'Transition in Thinking: The Impact of Climate Change on the UK Banking Sector' September 2018

Figure 3 – Balance sheet exposure in the UK banking sector

	 CREDIT	 MARKET	 OPERATIONAL
 PHYSICAL	<p>Increasing flood risk to mortgage portfolios.</p> <p>Declining agricultural output increases default rates.</p>	<p>Severe weather events lead to re-pricing of sovereign debt.</p>	<p>Severe weather events impact business continuity.</p>
 TRANSITION	<p>Tightening energy efficiency standards impact property exposures.</p> <p>Stranded assets impair loan portfolios.</p> <p>Disruptive technology leads to auto finance losses.</p>	<p>Tightening climate-related policy leads to re-pricing of securities and derivatives.</p>	<p>Changing sentiment on climate issues leads to reputational risks.</p>
UK BANKING SECTOR EXPOSURE*	75%	14%	10%

Source: Banking sector regulatory capital, Bank of England, Q1, 2018.
 *As measured by % of risk-weighted asset.

REGULATORY EXPECTATIONS

Financial regulators and central banks are placing greater demands on financial institutions to demonstrate that they are effectively managing these risks within their existing risk management framework. Pressure is also being applied to financial firms to improve how they report climate risks, not just to the regulator, but also to the wider market. Greater disclosure and market transparency will be a key regulatory tool in driving the shift towards a more sustainable financial system.

The speed with which banks address these emerging risks has been identified as an area for improvement. The Governor of the Bank of England, Mark Carney, coined the term “the tragedy of the horizon” to describe the mismatch between financial institutions’ current planning cycles and the long-term impact of climate change and mitigation policies.⁶ Indeed, according to a PRA survey, while nearly three quarters of banks are starting to treat risks from climate change as financial risks, these tend to be beyond firms’ usual planning horizon of roughly four years.⁷

Accelerating action to circumvent “the tragedy of the horizon” requires banks making adjustments to risk appetite, investment horizons, and balance sheet management. Regulators and financial institutions need to join forces on recalibrating capital and risk models to improve alignment with the impact of climate change and mitigation policies. Doing so effectively requires not only the nuanced understanding of the “stickiness” of banks’ balance sheets to climate-related risks, but also greater regulatory clarity on the prudential treatment of environmental exposures.

The European Banking Authority (EBA) has identified four areas of focus for prudential supervisors in addressing climate-related risks for the banking sector:

1. The need to integrate sustainability into strategy and governance of large banks and other financial institutions.
2. As part of this process, financial firms must also align disclosure and sustainability into their broader reporting requirements aligned to Paris Agreement (e.g. mandatory carbon disclosure requirements).
3. The need to improve risk management and assessment, including through bank stress testing. The EBA recognises the difficulties in undertaking this work given the current lack of market data on which to conduct the risk assessments.
4. Review the prudential treatment of environmental exposures, with the need to fully integrate sustainability into solvency and capital assessments (e.g. climate risk stress testing). As part of its work, the Network for Greening the Financial System (NGSF) is considering the possibility of Pillar 1 or Pillar 2 adjustments to capital charges for “green” or “brown” assets. This work is also being undertaken by the EU.

⁶ Speech given to Lloyd’s of London on 24 May 2016

⁷ The Bank of England ‘Transition in Thinking: The Impact of Climate Change on the UK Banking Sector’ September 2018

The regulatory authorities in the UK have already been reviewing risk management practices to address some of the EBA's concerns. This includes looking at how firms have integrated the financial risks from climate change into their risk identification and risk appetite, the use of climate scenarios to assess longer-term exposures and the maturity of more granular, bottom-up analysis to estimate potential exposures.

The PRA has published a Supervisory Statement (SS3/19) which aims to enhance and align the approaches taken by banks and insurers in managing the financial risks associated with climate change. The PRA statement makes clear that addressing environmental risks is not simply about developing green-labelled products. Climate change constitutes a unique set of challenges which require a strategic response to how banks and insurers manage risks across their business.

The emphasis on “strategic” is critical. Boards must ensure that risk management frameworks, policies and procedures, as well as key management information, incorporate climate risks, to allow for effective monitoring, management and oversight. Senior management roles and responsibilities must be clearly allocated.

Figure 4 – Summary of PRA SS3/19

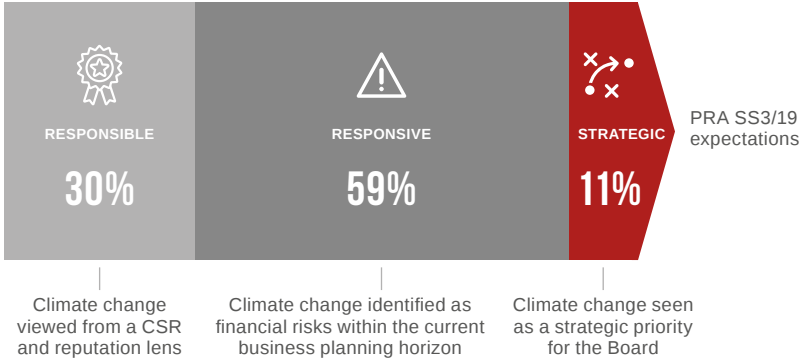
1.	The PRA expects to see evidence of how the firm monitors and manages financial impact of climate change-related risks in line with risk appetite statements, which should take into account factors such as results of stress and scenario testing and sensitivity of the balance sheet.
2.	As part of the Internal Capital Adequacy Assessment Process (ICAAP) or Own Risk and Solvency Assessment (ORSA), firms should include, as a minimum, all material exposures relating to the financial risks from climate change.
3.	Financial risks from climate change should be incorporated into the most appropriate, existing senior management function. The PRA expects to see evidence that the board and its relevant sub-committees exercise effective oversight of risk management and controls.

The current requirements on banks to make Pillar 3 disclosures relating to material business risks could also be further enhanced by the PRA in light of initial feedback from the banks.

In addition, the PRA and the FCA have created the Climate Financial Risk Forum, combining the expertise from a group of regulated firms, which aims to develop best practice approaches to identifying, mitigating, and managing these risks. The PRA's work will also inform the Bank of England's efforts to identify, monitor and remove or reduce systemic risks to the UK's financial system – the Bank is exploring whether climate-related factors should be included in the Biennial Exploratory Scenario (BES) stress test.

The UK is not alone in further developing its regulatory framework. French and Canadian regulators, for example, have set out new guidance to assist financial institutions to assess the materiality of climate change-related risks, setting out key questions boards should consider in preparing for and disclosing climate risks. This includes assessing their expertise across short, medium and long-term climate risks, avoiding boilerplate disclosures and consulting on existing frameworks such as TCFD and SASB.

Figure 5 – Readiness to meet regulatory expectations varies across the banking sector



Source: PRA survey of UK banks, 2019.

The sustainability opportunity

The financial and related professional services ecosystem has a vital role to play in how individuals, companies and communities respond to climate change and address the risks that come with it. But how our industry responds also raises challenges and questions around the future shape and nature of the industry itself.

Investors are increasingly interested in environmental impact. Media, NGOs and others closely scrutinise claims of green credentials. The reputational risks of getting this wrong are well known. The commercial risks are increasingly understood. The impact on talent acquisition is less familiar.

As recent work by the Financial Services Skills Taskforce has shown, the high talent employees of tomorrow overwhelmingly want to work at companies that demonstrate purpose and awareness of their social and economic impact. Our industry faces more competition for these employees than ever before. Against this backdrop, a strong story and good track record on climate issues has gone from being a competitive edge to a basic expectation.

TheCityUK's members consistently identify attracting talent as the number one priority for the long-term success of the industry. To do this successfully, our ecosystem of companies needs to be able to internalise and demonstrate that a strong track record on climate issues is not just good PR, but also a fundamental underpinning of competitiveness. In short, a company's commercial sustainability will increasingly depend on its environmental sustainability.

Moreover, the highly international nature of our industry positions us strongly to play our part. Climate change is an inherently global challenge. As such, it is fitting that an industry built on cross-border collaboration and transactions, with the world's leading international hub at its heart, is increasingly leading on developing solutions.



Miles Celic
Chief Executive Officer
TheCityUK





IMPROVING FINANCIAL DISCLOSURES

Improved risk management requires improved market disclosure. By encouraging firms to publish climate risk data through voluntary codes, or mandating firms through legislation, it is possible to create a market discipline on firms to collate, analyse and interpret data. This, in turn, can lead to a more efficient allocation of capital in which climate risks are fully priced in.

However, climate-related disclosures can be particularly challenging. Past incidences have little predictive power for the future as the changes in climate trends are rarely “linear”. Adding to the challenge, significant disparities can exist between the industry-level impact and that on the individual firms within an industry.

Making sense of the potential impact of climate change and forming a strategic response are also difficult due to interconnected global supply chains and a multitude of intersecting legal, regulatory and operating environments.

Figure 6 – TCFD Recommendations and Supporting Recommended Disclosures

 GOVERNANCE	 STRATEGY	 RISK MANAGEMENT	 METRICS & TARGETS
<p>Disclose the organisation’s governance around climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation’s businesses, strategy and financial planning where such information is material.</p>	<p>Disclose how the organisation identifies, assesses, and manages climate-related risks.</p>	<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p>
<p>Recommended disclosures</p>	<p>Recommended disclosures</p>	<p>Recommended disclosures</p>	<p>Recommended disclosures</p>
<p>a) Describe the board’s oversight of climate-related risks and opportunities.</p>	<p>a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.</p>	<p>a) Describe the organisation’s processes for identifying and assessing climate-related risks.</p>	<p>a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.</p>
<p>b) Describe management’s role in assessing and managing climate-related risks and opportunities.</p>	<p>b) Describe the impact of climate-related risks and opportunities on the organisation’s businesses, strategy, and financial planning.</p>	<p>b) Describe the organisation’s processes for managing climate-related risks.</p>	<p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>
	<p>c) Describe the resilience of the organisation’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation’s overall risk management.</p>	<p>c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.</p>

In 2015, the Financial Stability Board (FSB) reviewed how the financial sector can take account of climate-related issues to help inform investment, lending, and insurance underwriting decisions, and to improve understanding and analysis of climate-related risks and opportunities. The industry-led Task Force on Climate-related Financial Disclosures (TCFD) was created to develop solutions. The TCFD's recommendations span governance, strategy, risk management and target metrics. They were designed to be applicable to both financial and non-financial institutions across sectors and geographies.

The progress report published in June 2019⁸ highlights that the TCFD is now supported by over 700 global companies, with a market capitalisation of more than US\$9tn and endorsements from financial institutions managing over US\$110tn in assets.

This includes:



Three-quarters of the globally systemic banks



Eight of the top ten global asset managers



Leading insurers and pensions managers from across the globe

However, inconsistencies remain both across firms and across industries. Within financial services, there is currently a varying degree to which firms explicitly link disclosures to specific TCFD recommendations, hence hindering comparability across firms. In addition, even though most firms provide qualitative information and some share quantitative scenario analysis results, few disclose their criteria for materiality of climate change risks.

The progress in climate disclosures also varies across industries: while global banks currently lead the pack, many large companies in other industries have still yet to fully align with the TCFD recommendations. This will likely result in incomplete market data across companies, sectors and countries, in turn limiting the ability of banks to fully assess the nature of climate risks on the physical assets they lend to or invest in.

As part of the UK's climate change strategy, the government has set an expectation for all listed companies and large asset owners to disclose as per the TCFD recommendations by 2022. However, just 23% of large UK companies are expected do so in 2019. This rate of progress may be too slow to effectively inform financial markets and institutions of the risks associated with climate change. As such, there may be a good case for making disclosures mandatory in the UK company reporting framework.

A joint Task Force of UK regulators has been created, consisting of The Financial Conduct Authority (FCA), Financial Reporting Council (FRC), The Pensions Regulator and Prudential Regulation Authority, and chaired by the Government, to examine the most effective ways to improve disclosure. This includes exploring mandatory reporting.

Furthermore, in October 2018 the FCA published the discussion paper DP18/8, to seek ways to improve green disclosures by issuers and to help investors understand the full impact of climate change on any investments they make. These same concerns regarding slow progress led to the paper seeking market views on the need to introduce new (mandatory) disclosure requirements.

⁸ TCFD, '2019 Status Report', June 2019

WHERE NEXT

Climate related risks are multi-faceted and dynamic. The materiality of physical climate risks can change unexpectedly from climatic or technological developments. At the same time, how risks emerging from the transition to a low-carbon economy will unfold remain uncertain. To enable banks to respond effectively will require greater consistency, sophistication and availability of climate risk data.

Knowing when to act is equally challenging. Many of the financial risks associated with climate change are unlikely to manifest within banks' current financial planning cycle (which is around four years). And the degree to which banks need to seek immediate action depends on the "stickiness" of their balance sheets to climate issues. For example, physical risks are more immediately relevant for banks with a high share of products with a long loan term (e.g. mortgages) while transition risks are more important for those with a greater portion of commercial loans to certain industry sectors.

What is certain is that the impact of climate change on banks will grow over time. As such, all institutions need to have in place an appropriate governance process to approve the inclusion or exclusion of climate risks in their overall risk management framework. This will require banks to take four key actions as a no-regret move:

- **Adjust risk appetite:** climate risk will affect all risk types and the considerations should be incorporated into the risk appetite of each type of the existing taxonomy, rather than having a separate climate risk category.
- **Create a climate risk register:** banks need to both gain a point-in-time view of their exposure to climate risks and conduct regular monitoring to identify relevant risks that require active management.
- **Conduct framework gap analysis:** based on the relevant climate risk register, banks need to conduct assessment on their maturity in terms of climate risk management.
- **Quantify and measure climate risks:** the development of tools to support active risk management and scenario analysis.

Ultimately, the effective management of climate risk should be an integral part of banks' effort to optimise risk-adjusted performance amid an evolving risk landscape and increasing regulatory complexity. This will require banks to incorporate climate change considerations in product innovation, capital management, business planning and strategic transactions in an explicit and deliberate manner.

At Parker Fitzgerald, we help clients understand the strategic impact of changes in the economic, regulatory and industry environment on the risk profile of their firms. This includes assisting clients to respond to stress testing requirements, build and validate stochastic and statistical risk models, as well as engagement with regulatory authorities.

Through our relationship with key regulatory authorities, central banks and industry groups, we provide critical insight and advice on the direction of policy making that enables our clients to make well-informed decisions on investment in new capabilities.

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He has been a member of several industry working groups and initiatives focussing on sustainable finance and climate change including PRA Physical Climate Change Risk Working Group, EFRAG led European Lab Project Task Force on Climate-related Reporting, EBRD led Advancing TCFD Recommendations for Physical Climate Risk initiative, ClimateWise Physical Risk framework. He has authored several S&P articles on the impact of climate change and natural catastrophes on the rating profiles of financial services and corporates, and insurers' risk management, economic capital modelling and natural catastrophe modelling. He is an actuary and has MSc in Mathematics.

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