



Climate Risk White Paper Series Transitioning from Thinking into Action

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Executive summary

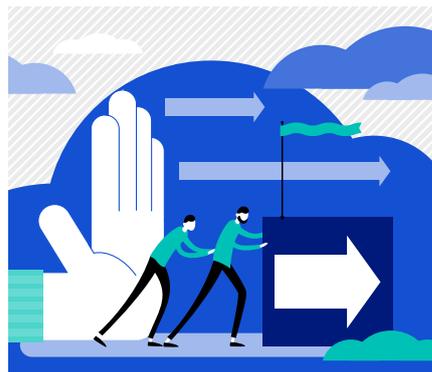
Speaking at a conference in Amsterdam in 2018, Mark Carney¹, financial adviser for COP26, talked about the “[transition in thinking and in action](#)”². He noted that, while the Paris Agreement³ had marked a sea change in the way governments and industry thought about climate change and its attendant risks, further work was needed to translate this into action.

Writing 2 years later, the time of action is upon us. The trickle of high-level principles on climate change risk management in the insurance sector has now turned into a flood of new supervisory guidelines and, increasingly, regulatory rules regarding climate risk management and reporting. At the forefront of these new developments is the advancement of climate scenario analysis to enable insurance firms and supervisors to take a forward-looking approach to assessing and managing climate risks, led by the Network for Greening the Financial System (NGFS)⁴. While work on the underlying models is still nascent, “wait and see” is no longer an option.

We expect continued fast-paced developments in this space, particularly as we move towards the 26th UN Climate Change Conference (“COP26”), now scheduled for November 2021. Our expectation is that full integration of climate risk management for firms will become mandatory over the medium-term, including scenario analysis as a key tool.

In this series of papers, we will set out the context of this work; review the developments to date by regulators and the industry; and review some of the tools available to insurance companies to make a start on climate risk.

Part 1 Climate risk and regulation: full steam ahead



Part 2 Climate scenario analysis: the devil is in the detail



Part 1

Climate risk and regulation: full steam ahead

Physical risk

Costs relating to **acute risks** arising from damage to infrastructure and property due to more frequent and more extreme weather events; or **chronic risks** arising from changes in the natural environment such as water scarcity and rising sea levels.

Transition risks

Costs relating to changes in the **policy environment**, such as carbon pricing; **technological changes**, such as developments in carbon capture and renewables; and changes in **consumer attitudes** such as moves towards more electric vehicles.

Introduction

There is growing recognition from the financial regulatory community of the link between climate change and financial stability. Climate change risk represents a unique challenge given its distinctive features - these risks are complex and far-reaching and manifest in non-linear chain reactions where exceeding tipping points could lead to catastrophic and irreversible impacts, all of which make quantifying the potential financial impact impossible. This effect is increasingly has been dubbed the “green swan” effect, referencing the phenomena known as the “black swan theory” in financial markets of highly unpredictable market shocks with long-term consequences. Unlike “black swans, however, there is certainty that such climate risks will materialise, the only question is when”⁵.

Climate risk impact to the insurance sector can be categorised as physical risks or transition risks. The insurance sector has been at the forefront of assessing physical risks given its impact on underwriting risk, particularly from weather-related events. The number of registered weather-related losses has already tripled since the 1980s with inflation-adjusted insurance losses increasing from \$10bn to around \$45-50bn on average annually over the past decade (see figure 1).

However, supervisors have raised concerns that the insurance sector has yet to wake up to the much larger risks stemming from transition risks in their investment portfolios. The UK Prudential

Regulation Authority (PRA), for example, highlighted the “cognitive dissonance in some insurers whose careful management of climate risks on the liability side of their balance sheets is not always matched by similar considerations on the asset side”⁶. A [study](#) by the European Insurance and Occupational Pensions Authority (EIOPA) on European insurance undertakings exposure to climate-related equity and corporate bond holdings found that exposures could account for 10% of their investment portfolios and found that European insurance undertakings were overweight in key climate-related sectors, based on an assessment using the Paris Agreement Capital Transition Assessment methodology (PACTA) (see figure 2).⁷

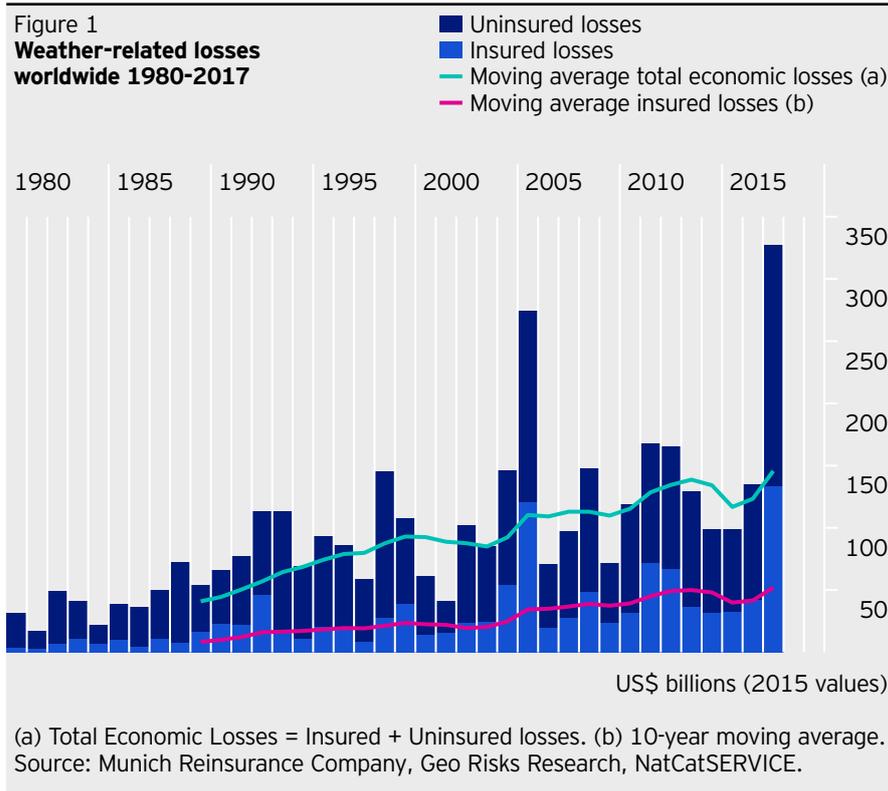




Figure 2
Exposures in the mapped equity portfolio using the PACTA methodology compared to the global listed equity market

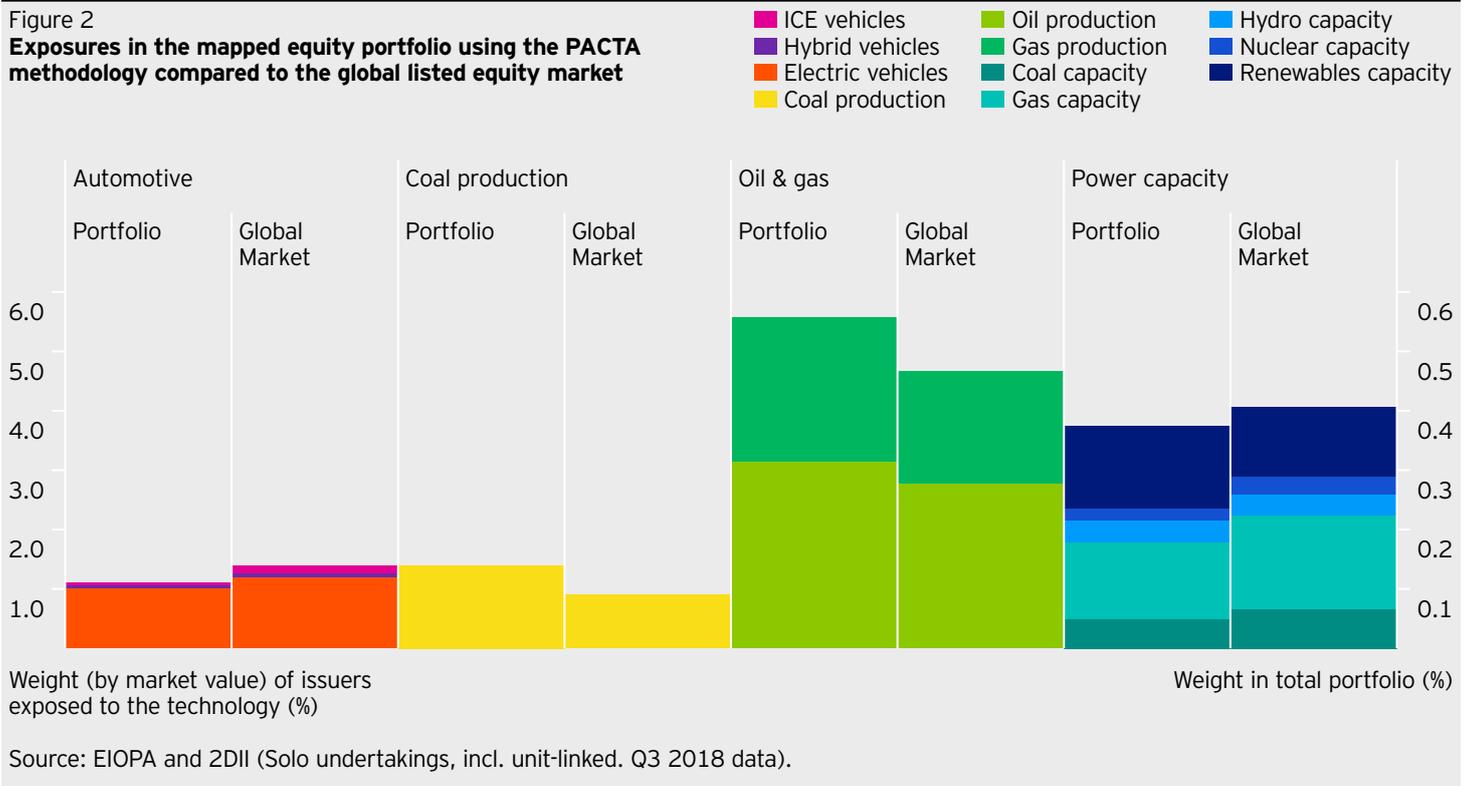
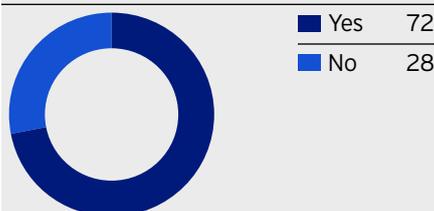
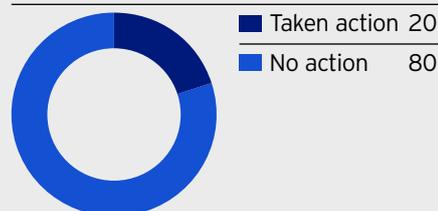


Figure 3
Comparing climate risk awareness with TCFD implementation

Number of insurers expecting that climate change will impact their business (%)



Number of insurers having taken steps (or planning) to implement TCFD recommendations (%)



Source: SIF Survey, 2019.

Despite the significant risks faced by firms, the industry is still finding its feet when it comes to responding to the challenge at hand. According to a Sustainable Insurance Forum (SIF) [survey](#) undertaken in 2019, 72% of surveyed insurers consider that climate change will have an impact on their business, from increasing claims to impacts on investments and changing dynamics in the insurance market⁸. However, the survey found that despite the high-level of awareness, translating awareness into action was lagging behind. For example, of those surveyed, only 20% had taken steps to implement the [Taskforce on Climate-related Financial Disclosures \(TCFD\) recommendations](#) (see figure 3).

Setting the foundations: governance, risk management and reporting

Where once climate and ESG issues were primarily seen as reputational issues that fell under the bracket of Corporate Social Responsibility, supervisors are increasingly calling on firms to pursue a more strategic orientation to managing climate risks.

In order to develop a globally consistent approach to climate risk, the Network for Greening the Financial System (NGFS) was formed in 2017 and now includes 72 central banks, and prudential and financial market supervisors amongst its membership. The NGFS published its [first comprehensive report](#) in April 2019 and one of their central recommendations was to integrate climate-related risks into financial stability monitoring and micro-supervision⁹. In particular, the NGFS called for the integration of climate risks into prudential supervision and to ensure that climate risks are understood and discussed at board level, considered in risk management and investment decisions, and embedded in firms' strategy.

Measures to date by supervisors have focused on soft law, with supervisors undertaking reviews and setting out best practice. For example, the [UK PRA](#)¹⁰ and [French ACPR](#)¹¹ have both undertaken reviews on current practices and have set out their supervisory expectations in this space, which are coalescing around the following issues:

- **Adapting Governance:** Climate risks should be considered as part of the company's strategy, including appropriate oversight by the Board, including setting the firm's climate risk appetite and providing effective oversight. Firms should ensure clear responsibilities and accountability across the different functions involved in the management of climate risk.
- **Risk management and metrics:** To manage climate risks, firms should go beyond qualitative assessments towards more quantitative assessments of climate risks, on both liabilities and assets as part of the Own Risk and Solvency Assessment (ORSA). Firms should adopt forward-looking assessment approaches using scenario analysis and stress testing to inform the risk identification process and understand the short- and long-term financial risks to their business model from climate change.
- **Scenario analysis:** Firms are expected to conduct scenario analysis to inform their strategic planning and determine the impact of the financial risks from climate change across a range of climate outcomes on their overall risk profile and business strategy. Approaches to scenario analysis are expected to evolve and mature over time.
- **Disclosure:** Insurers have existing requirements to disclose information on material risks within their so-called Pillar 3 reporting requirements under Solvency II and should consider further disclosures in line with the Task Force on Climate-related Financial Disclosures.

Further guidance and best practice have been published under the auspices of the UK PRA/FCA-sponsored [Climate Risk Forum](#) in June 2020¹² and by the NGFS in its [Occasional Paper on Case Studies on Environmental Risk Assessment Methodologies](#)¹³ published in September 2020. Building on the work of national supervisors and the NGFS, the International Association of Insurance Supervisors (IAIS) published a draft Application Paper on Climate Risk in October 2020¹⁴.

However, regulators and supervisors are exploring how climate risks can be integrated into existing prudential frameworks and we are seeing an increasing trend towards the introduction of more hard law requirements, particularly in Europe.

In the UK, following on from the PRA supervisory statement on climate risk of April 2019, the PRA [wrote to firms](#) in July 2020 calling on firms to fully implement their plans by the end of 2021, complemented with a full climate stress test also planned for 2021¹⁵. In a [speech](#) in September 2020, Anna Sweeney, Executive Director for Insurance Supervision at the PRA concluded that more explicit incorporation of climate risk into the insurance prudential framework was being explored¹⁶. In addition, the UK Government has also set out its expectation for all large asset owners to report in line with TCFD recommendations by end of 2022, as part of its [Green Finance Strategy](#).

In the European Union, new legislation ([Sustainable Finance Disclosure Regulation](#) - "SFDR") due to enter into effect on 10 March 2021 will mandate all financial market participants, including insurance undertakings, to disclose their policies for the integration of sustainability risks. Large undertakings with more than 500 employees will also have to disclose policies for the management of principal adverse impacts of their investment decisions on sustainability factors.

Furthermore, the European Commission is expected to adopt changes to the [Solvency 2 Delegated Acts](#) by the end of 2020 that would introduce legal requirements for insurance undertakings to consider sustainability risks within the risk management function and integrate sustainability risks as part of the prudent person principle. Further changes to Solvency 2, including mandating scenario analysis could be introduced as part of a wider review of Solvency 2 in 2021.

A running theme throughout the regulatory literature on this topic is the lack of reliable and comparable data on which to build climate risk models and tools. Enhancing the availability of climate data in order to develop more granular climate models is seen as a key challenge to this agenda, with regulators calling for the broader adoption of the TCFD recommendations. (See *Invesco White Paper "Finding the opportunity in ESG- ESG disclosures, the bedrock of the sustainable finance agenda"*).

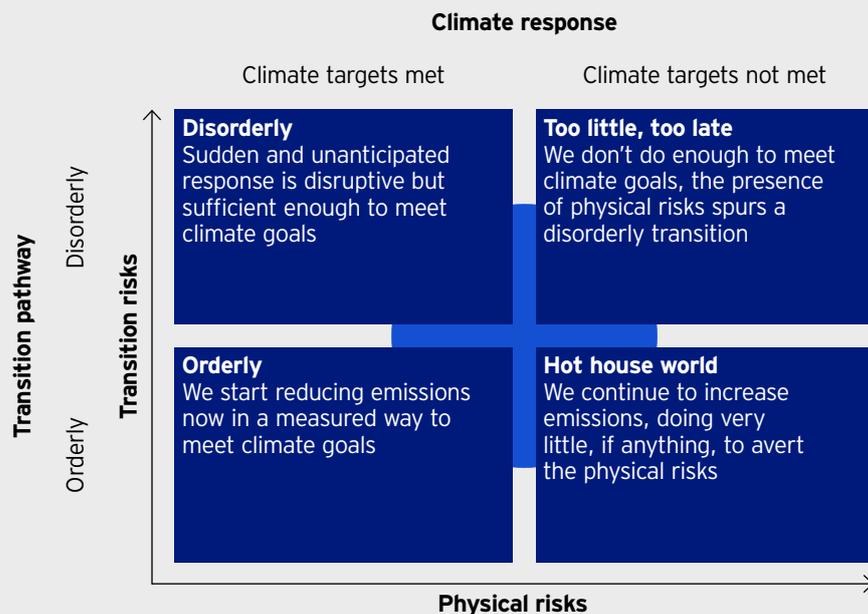
Look forward, rather than back: climate scenario analysis

One of the core findings of regulators is that existing prudential frameworks are currently ill-equipped to tackle climate risks given that they are largely based on models relying on historical data, whereas climate risks need to be considered in a forward-looking way.

Scenario analysis has, therefore, become a key focus of regulators as a means to develop forward-looking perspectives. Scenario analysis first came to prominence within the financial regulatory community when it was proposed as a core element of the TCFD. However, implementing scenario analysis has proven challenging for firms. One the reasons for this is that is that most publicly available climate scenarios were originally designed for policy evaluation and research and are therefore not entirely appropriate for central banks and supervisors' purposes. The Intergovernmental Panel on Climate Change (IPCC) is the main body responsible for globally coordinating and publishing assessments on climate change for policymakers.



Figure 4
Representative High-Level Scenarios



Source: NGFS.

These scenarios set out pathways for the emissions of greenhouse gases, their future atmospheric concentrations, and projections for consequent climate impacts. However, for supervisors and firms to be able to use them to measure financial risks linked to climate change, there is a need to translate these scenarios into macroeconomic and financial impacts. The NGFS, along with EIOPA, the Bank of England and the Banque de France have all been pioneers in this space. While the design features of the stress tests proposed by regulators are evolving rapidly, they have identified similar objectives and challenges:

- **Multiple scenarios:** Supervisors are coalescing around the three main scenarios set out by the NGFS: an orderly transition to net zero where action is taken in 2020, a disorderly transition where action is taken late and therefore requires a very steep reduction in emissions; and a hot house scenario where insufficient action is taken and world temperatures reach 4°C by 2100. However, within these scenarios, there remain a range of variable that need to be calibrated, including assumptions regarding the availability of carbon reduction technologies such as Carbon Capture and Storage.

- **Translating scenarios into financial impacts:** Translating these scenarios into financial impacts remains challenging, requiring numerous assumptions to be made regarding a range of input variables over long time horizons, which significantly impact the outcome of the stress scenario. The level of granularity to be explored is also a core question for supervisors looking to strike a balance between complexity of the scenario on the one hand and how meaningful the results are likely to be.
- **Lack of data:** The lack of comparable and reliable data remains one of the biggest hurdles. Many of the proposed methodologies require firms to segment their portfolios by economic activity or by technologies, which in many cases is difficult to do based on current data available.

While they recognise that this is only the start of the journey and that scenario analysis remains in its infancy, supervisors have been keen to spur activity in this space. Despite these challenges, insurance firms in Europe, at least, can expect to be increasingly expected to take part in such climate simulations and encouraged to develop their own internal capabilities to model climate impacts on their assets and liabilities.

The guide sets recommendations for supervisors and regulators to take when considering their approach to scenario analysis. The 4-step approach set out by the NGFS cover:

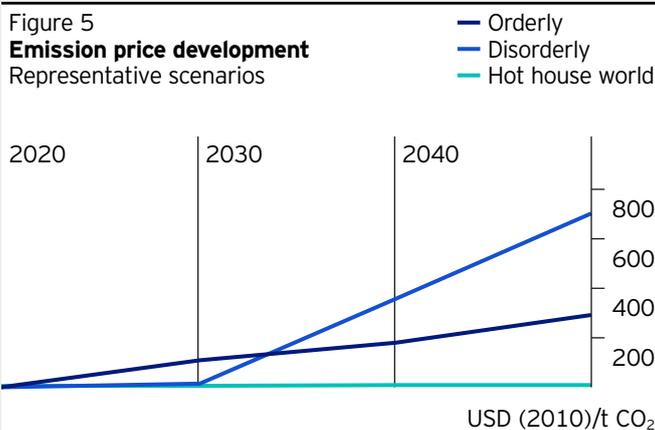
- **Identify objectives and exposures**, including a materiality assessment based on whether this is a targeted exercise or a systemic assessment.
- **Define climate scenarios**, with NGFS scenarios as a basis but these will need to be tailored by each central bank/regulator according to their needs and objectives
- **Assess the economic and financial impacts**, this could include using models such as IAMs but recognising that a suite of models is likely to be needed in the absence of further work to define more sophisticated modelling tools
- **Communicating and using the results**, including the assumptions that underpin the results

The NGFS set out three primary scenarios, as baseline scenarios that can be adapted by supervisors:

- **Orderly** assumes climate policies are introduced early and become gradually more stringent. Net zero CO₂ emissions are achieved before 2070, giving a 67% chance of limiting global warming to below 2°C. Physical and transition risks are both relatively low.
- **Disorderly** assumes climate policies are not introduced until 2030. Since actions are taken relatively late and limited by available technologies, emissions reductions need to be sharper than in the Orderly scenario to limit warming to the same target. The result is higher transition risk.
- **Hot house world** assumes that only currently implemented policies are preserved. Nationally Determined Contributions are not met. Emissions grow until 2080 leading to 3°C+ of warming and severe physical risks. This includes irreversible changes like higher sea-level rise.

The NGFS has also set out 5 additional scenarios to drill down in further aspects as well as multiple models for each scenario with the aim of “embracing uncertainty”. Key variables in the models are the carbon price trajectory and the availability of carbon reduction technologies. The NGFS considers that assumptions are key and have significant bearing on output, which help to explain why some models suggest the transition will result in decreased growth while others report a positive green growth effect.

These scenarios remain preliminary and the NGFS will look to publish updated scenarios by the end of 2020. In particular, the NGFS is keen to explore how to factor in non-linearities and second-order effects.



Source: IIASA NGFS Climate Scenarios Database, using marker models.

In 2019, the PRA undertook its first exploratory climate stress test for insurance firms using a top-down model for firms to assess their exposure to climate risks. Results from the exploratory climate scenario, published in a feedback statement in June 2020, revealed significant gaps in the industry's capability to evaluate climate-related scenarios, in particular in relation to gaps in data, tools, processes and expertise. These gaps were found to be particularly acute in relation to the evaluation of climate impacts on investments. The PRA felt that to share the results at this stage would show an aggregation of disparate estimates that largely reflect differences in capabilities, rather than an indication of potential impacts relating to climate risk. The PRA also found that the model design/specifications used in that exploratory test constrained scenario outcomes and that existing models will need to be significantly enhanced if they are to reflect the increased complexity of the longer timeframe and the interrelated impacts required under a climate scenario.

The learnings for this exploratory stress test will feed into the Bank of England's first comprehensive biennial exploratory climate stress test, due to take place in 2021. While the precise specifications for this stress test have yet to be published, in a consultation released in December 2019, the Bank of England set out the following design features it intends to pursue:

- **Multiple scenarios:** Following the NGFS, the Bank of England climate stress test will include scenarios that embody the risks of earlier (“orderly transition”) and later policy action (“disorderly transition”) to reach the Paris Agreement target, and a ‘no additional policy action’ scenario (“hot house world”) where the Paris Agreement target is not met and more severe physical risks crystallise as a result.
- **Extended modelling horizon** based on a 30-year modelling horizon. To make these scenarios credible and tractable, the stress test will examine firms’ resilience using fixed balance sheets, focusing on sizing the risks and the scale of business model adjustment required to respond to these risks, rather than testing the adequacy of firms’ capital to absorb those risks.
- **Integrated climate and macro-financial variables:** the Bank will provide pathways for temperature, emissions, and climate policies to capture the underlying physical and transition risks in each scenario. The Bank will also provide a consistent set of macrofinancial variables to enable firms to model the impact of the scenarios.
- **Counterparty-level modelling expectations:** firms will assess the vulnerability of individual counterparties’ business models to the underlying climate-related risks in each scenario.
 - **Corporate exposures:** Participants would perform financial analysis of individual companies. This would include modelling cash flows and collateral values and should reflect judgements about how companies would be positioned in light of both their underlying risks and opportunities, including an assessment of their current mitigation and adaptation plans.
 - **Household exposures:** The scenario variables would specify country-level economic impacts such as changes in household income and property prices. Their calibration would account for some adaptation by households over the scenario. Participants would assess the impact on their household exposures based on their vulnerability to transition risks (e.g. energy efficiency of mortgaged properties) and physical risks (e.g. perils to borrowers in a particular location).
 - **Government exposures:** The scenario would specify bond yields for major countries (e.g. UK, US, Germany) in order to impose common background assumptions for participants’ modelling (e.g. on discount rates). Participants would perform sovereign risk analysis on countries not specified in the scenario. These are likely to include countries most impacted by climate change, such as those in emerging markets.

EIOPA Discussion Paper on Climate and Liquidity Stress Testing

The climate stress would take place in two parts. The first part would focus on **sizing the risks** to understand the vulnerability of current business models to climate change by quantifying the change in the value of their assets and liability at different points in each scenario. The second part would focus on **sizing the response** by assessing how firms would change their business models in response to the risks in each scenario.

The biennial stress test has been postponed to 2021 due to COVID.

Figure 6
Firm inputs and outputs for the 2021 BES



Source: Bank of England, [Discussion paper The 2021 biennial exploratory scenario on the financial risks from climate change](#).

The thinking at EIOPA as evolved significantly since its first discussion paper on stress testing, which had less than a page on climate and largely focuses on natural catastrophe risk. Its second discussion paper dedicates over 40 pages to the topic but emphasises the explorative nature of the exercise as a learning opportunity rather than as a regulatory or supervisory tool.

The discussion paper focuses on the main design features of its first climate stress tests and sets out the following conclusions:

- **Multiple climate scenarios** should be evaluated focusing on different climate outcomes and/or scenario narratives, given the uncertainty of future climate outcomes and to allow a range of different combinations of physical and transition risks.
- **Intermediate level of granularity** of scenario and technical specifications with specific climate variables at regional (intra-country) level for perils and financial impacts at a sectoral level (for corporate bonds, equities and real estate) and country level (for government bonds), to ensure a balance between complexity and comparability.
- **A medium-to-long-term time horizon**, with end-of-modelling horizon scenario impact evaluated as an instantaneous shock (without reactive management actions) to the reference baseline.
- **A separate forward-looking assessment** to capture the reactive management actions/responses to climate change-related risks to identify the risk mitigation responses that are considered by insurers in response to climate change and better understand the implications of these responses on insurers' business models, their resilience and the potential spill-over effects.



The French regulator, the ACPR, announced the intention to undertake a pilot climate stress test in the second half of 2020 and first half of 2021, with the results expected by April 2021. While the design features broadly follow the NGFS guidelines, they differ in some key respects.

- **Multiple scenarios:** The French stress test design deviates from the other approaches seen to date in that the scenarios chosen include an orderly transition and two disorderly transition scenarios (a delayed transition and a sudden transition) but excludes the “no action” scenario.
- **Time horizon:** the stress test will consider the impact of climate risks up to 2050. To simplify the test, the ACPR will focus on 4 key dates: 2025, 2035, 2040 and 2050. The simulation will be based on a static portfolio between 2020-205 in order to measure the short-term impacts on the insurance industry, but introduce behavioural impacts for the time period 2025-2050.
- **Investment shock:** the stress simulation will primarily focus on market risk to the asset side of the balance sheet. For equity and corporate bond exposures, firms will apply market stress to their portfolios broken by sector based on the World Input-Output Tables sector classification. On the equity side, the shock applies to the dividend yield from the equity portfolio, while for corporate and sovereign debt, the shock is calibrated using the EIOPA risk free rate and corporate and sovereign bond spreads, broken down by sector and geography.
- **Liability shock:** the shock applied to the liability side of the balance sheet will be not only cover the increased cost of extreme weather events but also the increase in mortality rates and impact on health due to the increase in pollution and tropical diseases.

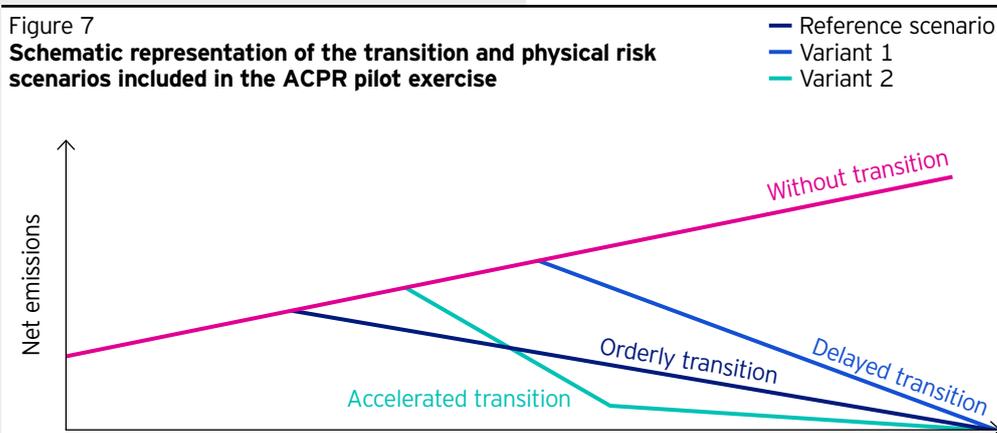
In his “[Road to Glasgow](#)” speech, Mark Carney set out the three pillars for net zero: reporting, risk management and returns. With progress towards the implementation of TCFD is growing momentum and supervisors increasingly focusing on risks management and scenario analysis, attention is now turning to the final R, returns, and the potential for insurers to invest in climate solutions. For example, industry initiatives, such as the [IIGCC Net Zero Framework](#) that is currently under development, are increasingly emphasising the need to define net-zero in relation both to **decarbonising investment portfolios and increasing investment in climate solutions.**

The forthcoming [EU Taxonomy](#), which will define standards for economic activities to be considered environmentally sustainable, is rapidly gaining traction as the gold standard for identifying climate solutions. According to EIOPA, 13% of equities and 6% of corporate bonds held by European insurers are in sectors that are covered by the EU Taxonomy for climate change. The EU Taxonomy will also form a key component of the upcoming European Commission proposal for an EU Green Bond Standard, which will set clear requirements for green bonds. The potential for insurance firms to green their portfolios could rise with the increase in sovereign green bond issuance such as the announcement of Germany’s first green Bund issuance, allowing insurance firms to also green their sovereign bond portfolios. Finally, the development of [EU Climate Transition Benchmarks and Paris-Aligned Benchmarks](#) will also allow insurance companies to benchmark their investment portfolio against suitable benchmarks.

To spur the investment in climate solutions, the European Commission is considering whether green assets should benefit from lighter capital treatment under Pillar 1 of Solvency 2. However, supervisors underline the need for Solvency 2 to remain a risk-based framework and have argued that penalising brown assets may be more consistent with this objective. To date, supervisors have failed to identify any risk differential between green and brown assets, however, regulators have pointed to the difficulty in clearly delineating green and brown assets. For example, an NGFS report published in May 2020 found that firms conducting such analysis had largely failed to reach a strong conclusion on the risk differential between green and brown assets¹⁷. Part of this, the NGFS concluded, was down to lack of clear taxonomy and inherent limits of backward-looking analysis.

With the introduction of the EU Taxonomy, the ability to clearly define green assets should become simpler, easing the way for the introduction of a new prudential treatment for such assets. We expect this to be one of the big political battles of the upcoming Solvency 2 review in 2021.

Figure 7
Schematic representation of the transition and physical risk scenarios included in the ACPR pilot exercise



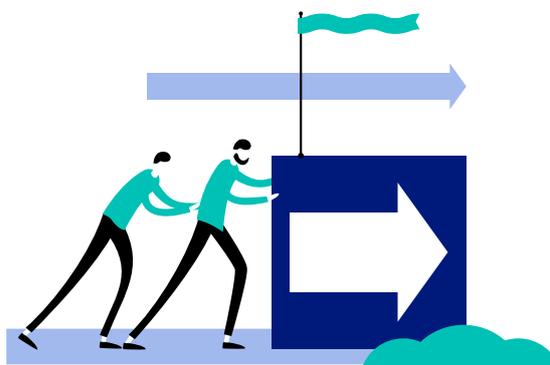
ACPR, Banque de France, Présentation des hypothèses provisoires pour l'exercice pilote climatique, 19 June 2020.

Conclusion

The speed with which regulatory and supervisory expectations have evolved has been exponential and firms will need to turn policy into action over the course of 2021. Regulators have noted the progress being made by firms on governance and reporting, but risk management and, in particular, scenario analysis, remains underdeveloped.

While regulators recognise that climate scenario analysis remains in its infancy, there is a clear will by regulators to pursue the development of these tools both for their own systemic risk assessment purposes but also for insurance companies' internal risk management. While the focus of scenario analysis for regulators is to enable top-down analysis across the insurance sector, insurance firms are increasingly looking to more granular, bottom-up approaches for their own internal risk management purposes, which we will explore in more detail in the next paper in this series.

While it is natural that financial regulators should be focused on risk, insurance firms are increasingly also looking at climate changes as a driver of returns, with the development of numerous tools and frameworks to enable the implementation of net zero investment strategies in insurance companies' investment portfolios.



¹ Mark Joseph Carney is an economist and banker who served as the Governor of the Bank of Canada from 2008 until 2013 and the Governor of the Bank of England from 2013 to 2020. He holds Canadian, British and Irish citizenship and was Chairman of the Financial Stability Board from 2011 to 2018. Prior to his governorships, Carney worked at Goldman Sachs as well as the Canadian Department of Finance.

² Carney, Mark, A Transition in Thinking and Action, April 2018.

³ The Paris Agreement is a landmark environmental accord that was adopted by nearly every nation in 2015 to address climate change and its negative impacts. Source : United Nations Climate Change.

⁴ The Network's purpose is to help strengthening the global response required to meet the goals of the Paris agreement and to enhance the role of the financial system to manage risks and to mobilize capital for green and low-carbon investments in the broader context of environmentally sustainable development.

⁵ Bolton, P., Despres, M., Pereira da Silva, L., Samama, F., Svartzman, R., The green swan: Central banking and financial stability in the aged of climate change, Bank for International Settlement, January 2020.

⁶ Carney, Mark, A new horizon, April 2019.

⁷ EIOPA, Discussion Paper: Insurance sector climate-related transition risks, December 2019.

⁸ IAIS, Issues Paper on the Implementation of the Recommendations of the Task Force on Climate-related Financial Disclosures, February 2020.

⁹ NGFS, A call for action: climate change as a source of financial risk- First comprehensive report, April 2019.

¹⁰ See PRA supervisory statement of April 2019 on Enhancing banks' and insurers' approaches to managing financial risks from climate change;

¹¹ See ACPR report of April 2019 on Les assureurs français face au risque du changement climatique.

¹² Climate Financial Risk Forum Summary Guide, June 2020.

¹³ NGFS, NGFS Occasional Paper: Case studies of Environmental Risk Analysis Methodologies, September 2020.

¹⁴ IAIS, Application Paper on the Supervision of Climate-related Risks in the Insurance Sector, October 2020.

¹⁵ See Dear CEO letter of 1 July 2020 on thematic feedback of the PRAs review on the supervisory statement and clarifying expectations.

¹⁶ Sweeny, Anna, Paving the way forward: managing climate risks in the insurance sector, September 2020.

¹⁷ NGFS, A status report on financial institutions' experiences, May 2020.

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