

BANKS NEED CLIMATE RISK SCENARIOS TO WORK THROUGH THE UNCERTAINTY OF BONN

THE RECENT UN CLIMATE MEETINGS IN BONN DID LITTLE TO REMOVE UNCERTAINTY FROM THE NEEDED GREEN TRANSITION, BUT THEY DID HIGHLIGHT THE NEED FOR BANKS TO PREPARE FOR A NUMBER OF POSSIBLE OUTCOMES.

Climate Risk Perspectives

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Bonn, the bridge between Scotland and Egypt...

The June UN Framework Convention on Climate Change (UNFCCC) climate convention in Bonn was both the first major UN climate event since COP 26 in Scotland, and the staging event to set up COP 27, to be held in Egypt in November. The plan was to begin negotiations for the implementation stage, but that ambition was seriously dimmed by the shadow of six months of the war in Ukraine and its impact on food and energy supply chains.



Instead of seeing a post-pandemic 'build back better' commitment to strengthen national plans to meet the more aggressive targets on global warming (limiting that rise to 1.5 degrees above pre-industrial levels by 2100), there was a return to traditional areas of dispute between the developed and developing nations.

The status of national commitments is such that if all were met, as they stand, the 2100 average temperatures would be 2.4 degrees above pre-industrial levels, missing both the 1.5 and 2-degree targets. This climate route would inevitably see a switch of funding to be imperative from mitigation to adaptation.

While the details are complex, the unresolved points between the developed and developing countries include, at a high level:

- **Loss and Damage** - This is the cost of dealing with the effects that climate change has already caused in some poorer countries. The main contention is that this damage has been caused by

developed countries and their industrial revolution but borne by those states that did not contribute to or benefit from it.

- › **Adaptation** - Assistance in funding the adaptations that will be needed to supply energy and infrastructure in the developing world has long been included in COPs, as these countries are effectively required to build their economies and transition to a greener future simultaneously.
- › **Mitigation** – This is the extent to which the burden of CO2 reduction falls differentially on the two brackets (developed and developing). This is contentious and can lead to perceived anomalies such as China and India, both being prominent emitters and sitting in the group of countries being asked to further reduce those emissions.

The Bonn convention highlighted consistent areas of difference and did not act as the intended bridge between the Scottish and Egyptian COPs. At the same time, the climate policy ‘ratchets’, where each country strengthens its national targets by November 2022, are still in place, and these will become the real acid test as to how much damage has really been done to climate milestones for 2030, 2050 and 2100.

Steepening the ramp...

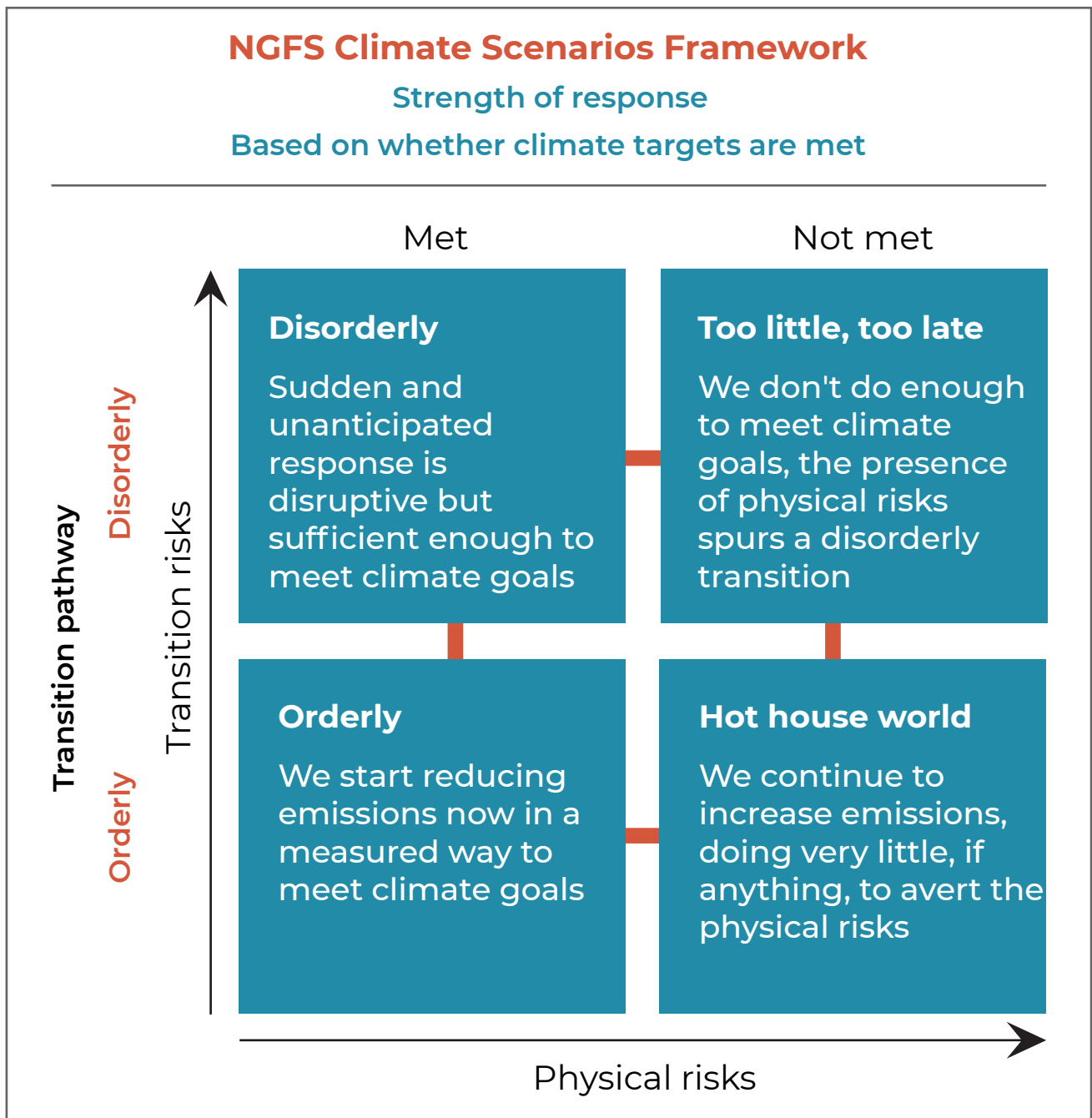
If the Bonn outcome is indicative of what can be expected at COP27, then it is likely that:

- › National targets will be notionally strengthened, but not to the extent needed for the 1.5 or 2-degree targets
- › The commitment to a 2-degree limit will be reaffirmed with promises to increase policy ambitions again in 2023

The effect of this from a banking risk management perspective is that we are moving into a higher probability of a ‘disorderly’ transition. Orderly and disorderly can be defined as:

- › **Orderly** - The transition from a brown to a green economy is proactive, with clear, agreed targets at an international and national level, where governments, people, and companies have time to adapt to the transition in a way that avoids sudden draconian measures that derail corporate planning and business models.
- › **Disorderly** - Climate planning is more ad-hoc and reactive, forcing firms to comply with sudden regulatory changes and severely impacting their ability to align their corporate strategy with a well-laid-out transition plan.

As unfortunate as the situation is, work has been done by the ‘Network for Greening the Financial System’ (NGFS) group and bodies such as the ‘International Energy Agency’ (IEA) to put dollar costs at the GDP level against current policies and various Intergovernmental Panel on Climate Change (IPCC) climate pathways. These include orderly and disorderly approaches.



Source: NGFS (2019a)

This data is available and can be used as the basis for a range of risk scenarios, providing banks with a number of outcomes that can be used to plan for credit and liquidity events that may occur as a result of the final policy pathways in each jurisdiction.

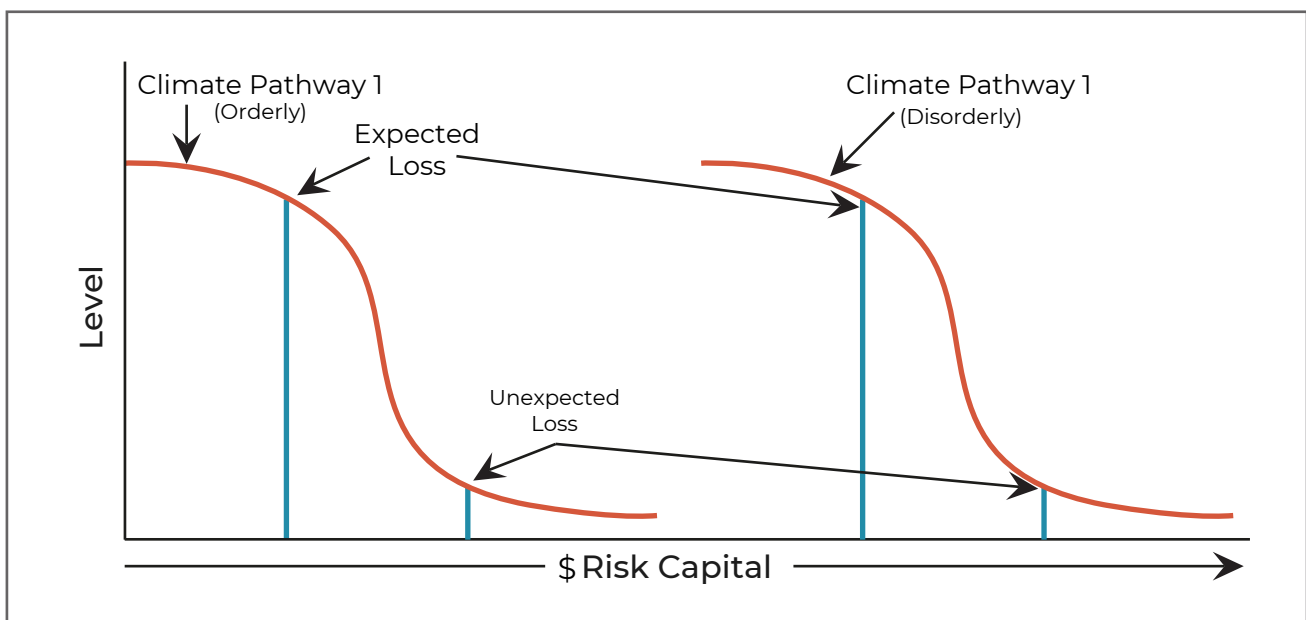
The key is the fact that while the high-level commitment stands at 2 degrees, with every delay in putting national policies in place that could make it a reality, the ramp is just getting steeper.

Risk management is designed to quantify uncertainty...

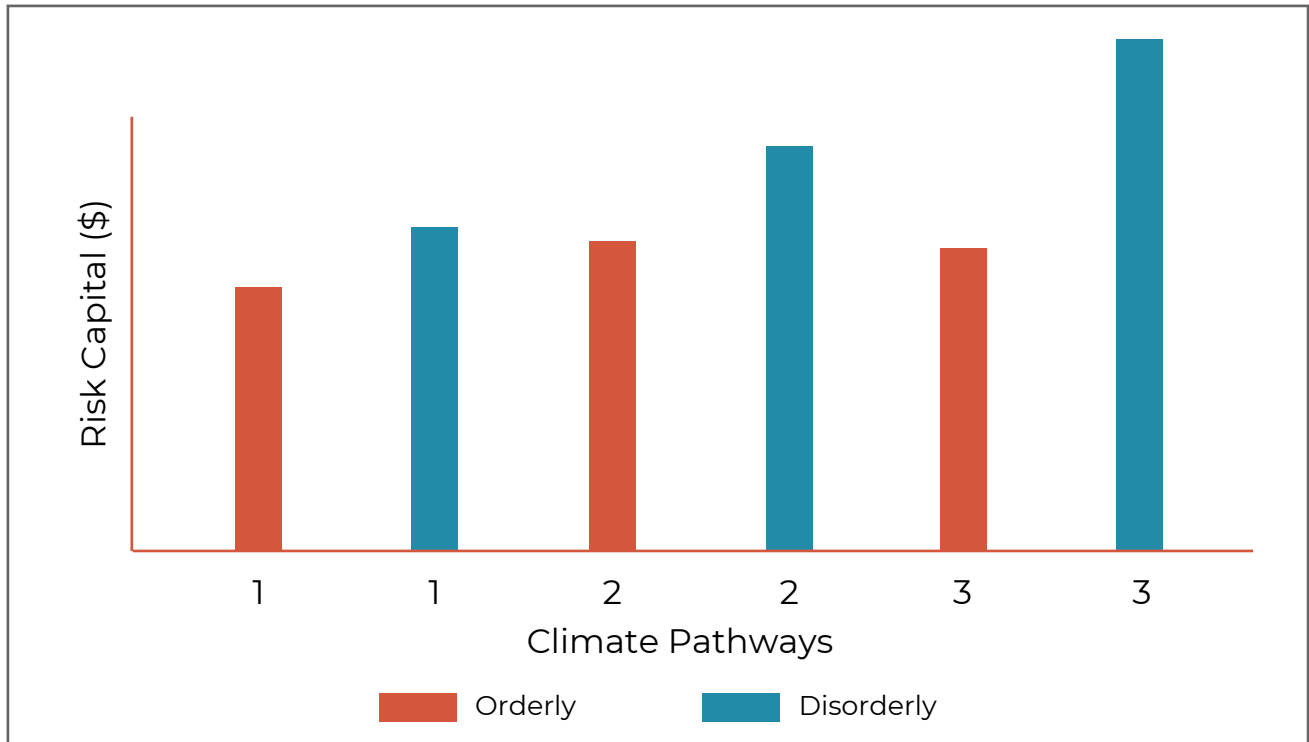
To build a set of climate scenarios that can be used for credit pricing and risk capital estimations, banks must think about:

- › Potential climate endpoints (expressed as degrees above pre-industrial levels by 2100)
- › Milestones for those targets (typically CO₂e levels by 2030, 2050, and 2100)
- › Target economic sectors (energy, agriculture, infrastructure, etc.)
- › Supply chain impacts from sector targets
- › Adaptations already made by borrowers, in anticipation of regulation
- › Impacts on the bank (expected and unexpected losses)

These become the parameters that define what is reported and how that information can be used. When we think about estimating expected and unexpected losses, it is helpful to visualize these on a scale where each progression from a low target pathway to a higher one, or from an orderly to a disorderly approach to that pathway moves the loss distribution further up the cost line.



Ultimately, providing a range of losses by an approach that can then be used to price credit facilities according to expected changes in risk profiles, as well as form part of contingency liquidity planning within the bank, as per the BASEL liquidity guidelines.



Once the range of outcomes is computed, it has to be kept up to date with policy announcements and the drift towards the ultimate pathway to be followed. The fact that this uncertainty will remain for some time means that banks will have to present a number of possible impacts and indicate where they believe the most likely route lies, both to senior management for liquidity strategy and external stakeholders as a core part of their sustainability planning. The fact that there is so much uncertainty also means that risk planning ought to focus on the period to 2030, and the first real CO2 milestones to remain in line with the policy makers' agendas.

GreenCap can help...

GreenCap is a 'Risk as a Service' (RaaS) solution that provides banks with the capacity to assess the impact on their balance sheets, of a range of climate pathways and scenarios. The solution:

- Allow scenarios to be expressed in terms of cost and targeted sectors
- Adaptations already in place to be reflected at loan level
- Increases in risk capital to be estimated by loan and scenario, as well as aggregated across the balance sheet
- Borrowers throughout the supply chain to be included in the analysis
- Loans to be repriced to take account of the most likely impacts

Scenario Report 1



- 1 Scenario details shown with results.
- 2 Loan portfolio, shown with green impacts.
- 3 Graphical breakdown of impacts of the scenario.
- 4 Evaluation of green targets, under the specific scenario.

GreenCap is designed for quick implementation and to provide an intuitive user experience that allows banks to include the credit risks inherent in climate change to be reflected appropriately at all levels of the bank, in order that they can become a major factor in strategic planning.

Visit GreenCap.live for more insights into the impact on banks, for physical and transitional climate change, as well as resources curated to assist banks in fully understanding how climate change will impact their business through its effects on their customers' risk profiles.



ABOUT GREENCAP

- › GREENCAP is a turnkey 'Risk as a Service' (RaaS) solution, designed for banks to include climate change as a category in their risk management frameworks.
- › The solution allows banks to replicate climate pathways within their scenarios for economic impact and risk analysis.
- › Using GreenCap, banks can modify pathways and scenarios to include the timing effects of delayed sustainability transition measures.
- › Loans and credit facilities are measured and monitored against risks arising from both 'physical' and 'transition' impacts.
- › GreenCap provides support for risk reporting and governance in the areas of 'Responsible Banking' and climate change.
- › With GreenCap, banks can ensure that their climate strategies are financially grounded, and loan pricing is optimized throughout the transition to a green global economy.



ABOUT GREENPOINT FINANCIAL

- › GreenPoint Financial is a division of GreenPoint Global, which provides software-enabled services, content, process and technology services, to financial institutions and related industry segments.
- › GreenPoint is partnering with Finastra across multiple technology and services platforms.
- › Founded in 2006, GreenPoint has grown to over 500 employees with a global footprint. Our production and management teams are in the US, India, and Israel with access to subject matter experts.
- › GreenPoint has a stable client base that ranges from small and medium-sized organizations to Fortune 1000 companies worldwide. We serve our clients through our deep resource pool of subject matter experts and process specialists across several domains.
- › As an ISO certified by TÜV Nord, GreenPoint rigorously complies with ISO 9001:2015, ISO 27001:2013, and ISO 27701:2019 standards.



Marcus Cree

MANAGING DIRECTOR AND
HEAD OF FINANCIAL TECHNOLOGY AND SERVICES

Marcus has spent 25 years in financial risk management, working on both the buy and sell side of the industry. He has also worked on risk management projects in over 50 countries, gaining a unique perspective on the nuances and differences across regulatory regimes around the world.

As Managing Director, Marcus heads GreenPoint Financial Technology and Services and has been central in the initial design of GreenPoint products in the loan book risk area, including CECL and sustainability risk. This follows his extensive experience in the Finastra Risk Practice and as US Head of Risk Solutions for FIS. Marcus has also been a prolific conference speaker and writer on risk management, principally market, credit and liquidity risk. More recently, he has written and published papers on sustainability and green finance.

Marcus graduated from Leicester University in the UK, after studying Pure Mathematics, Psychology and Astronomy. Since graduation, Marcus has continually gained risk specific qualifications including the FRM (GARP's Financial Risk Manager) and the SCR (GARP's Sustainability and Climate Risk). Marcus's latest academic initiative is creating and teaching a course on Green Finance and Risk Management at NYU Tandon School of Engineering.



Sanjay Sharma, PhD

FOUNDER AND CHAIRMAN

Sanjay provides strategic and tactical guidance to GreenPoint senior management and serves as client ombudsman. His career in the financial services industry spans three decades during which he has held investment banking and C-level risk management positions at Royal Bank of Canada (RBC) Goldman Sachs, Merrill Lynch, Citigroup, Moody's, and Natixis. Sanjay is the author of "Risk Transparency" (Risk Books, 2013), Data Privacy and GDPR Handbook (Wiley, 2019), and co-author of "The Fundamental Review of Trading Book (or FRTB) - Impact and Implementation" (Risk Books, 2018).

Sanjay was the Founding Director of the RBC/Hass Fellowship Program at the University of California at Berkeley and has served as an advisor and a member of the Board of Directors of UPS Capital (a Division of UPS). He has also served on the Global Board of Directors for Professional Risk International Association (PRMIA).

Sanjay holds a PhD in Finance and International Business from New York University and an MBA from the Wharton School of Business and has undergraduate degrees in Physics and Marine Engineering. As well as being a regular speaker at conferences, Sanjay actively teaches postgraduate level courses in business and quantitative finance at EDHEC (NICE, France), Fordham, and Columbia Universities.