

Introduction to Climate-related and Environmental Financial Risks



Brief History

The year 2015 was filled with a number of events that officially placed environmental and climate-related risk on the agenda for many countries, financial regulators, supervisors, institutions and service providers.

Main Events

- ◇ The Former Governor of the Bank of England, Mr. Mark Carney, in his now famous “Tragedy of Horizons Speech” on 29 September 2015 highlighted the connection between climate change and its related impacts on economic systems, financial markets and their stability. He urged the industry to look beyond their immediate business and political cycles and mandates to assess the potential impacts that could derive from unmanaged risks related to global climate change.
- ◇ The 21st Conference of the Parties (COP21) on the United Nations Framework on Climate Change was held in France in 2015 which led to a landmark international climate change accord, the Paris Agreement which was adopted by 196 countries. This Agreement is a legally binding international treaty on climate change to limit global warming below 2 degrees Celsius. The participants of this Agreement aim to reduce greenhouse gas emissions. These changes require both economic and social transformation.
- ◇ On 4 December 2015, the Financial Stability Board (FSB) announced that it would be establishing an industry-led disclosure task force on climate-related financial risks. This was in response to a request in April 2015 from the G20 Finance Ministers and Central Bank Governors “to convene public and private sector participants to review how the financial sector can take account of climate-related issues”. The Task Force on Climate-related Financial Disclosures (TCFD) was created to develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to lenders, insurers, investors and other stakeholders.

In June 2017, the TCFD published its recommendations on climate-related financial disclosure designed to help organizations provide better information to support informed capital allocation. The recommendations were structured around the four (4) thematic areas: *Governance; Strategy; Risk Management; and Metrics and Targets*

In December 2015, the Network for the Greening of the Financial System (NGFS) was formed by eight (8) central banks and supervisors. In 2019, the NGFS published six (6) recommendations to help regulatory authorities in their quest to understand and develop guidance for each sector:

- i. Recommendation n°1: Integrating climate-related risks into financial stability monitoring and micro-supervision;

- ii. Recommendation n°2: Integrating sustainability factors into own-portfolio management;
- iii. Recommendation n°3: Bridging the data gaps;
- iv. Recommendation n°4: Building awareness and intellectual capacity and encouraging technical assistance and knowledge sharing;
- v. Recommendation n°5: Achieving robust and internationally consistent climate and environment related disclosure; and
- vi. Recommendation n°6: Supporting the development of a taxonomy of economic activities.

Both the TCFD and the NGFS continue to publish guidance and conduct research to help stakeholders in environmental and climate-related risks .

Core Elements of Recommended Climate-Related Financial Disclosures



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 to assess and manage relevant climate-related risks and opportunities

Key Definitions and Classifications

Many countries, supervisors and institutions are now recognizing the threat that environmental and climate-related risk pose to the economies and financial systems. To start managing and monitoring these risks, an understanding of these risks is vital.

1. **Environmental-related risks** refer to risks (credit, market, operational and legal risks, etc.) posed by the exposure of financial institutions and/or the financial sector to activities that may potentially cause or be affected by environmental degradation (such as air pollution, water pollution and scarcity of fresh water, land contamination, reduced biodiversity and deforestation).
2. **Climate-related risks** refer to risks posed by the exposure of financial institutions and/or the financial sector to physical or transition risks caused by or related to climate change (such as damage caused by extreme weather events or a decline in asset value in carbon intensive sectors).

Environmental and climate-related financial risks have several distinguishing characteristics which include:

- ◇ **Dependency on short-term actions:** the magnitude and nature of the future impacts will be determined by the actions of today, which need to follow a credible and forward-looking policy path.
- ◇ **Foreseeable nature:** while exact outcomes, time horizons and future pathways are uncertain, there is a high degree of certainty that some combination of increasing risks will emerge in the future.
- ◇ **Far-reaching impact in breadth and magnitude:** environmental and climate-related risks will affect all agents in the world economy. The risks will likely be correlated and the impact could be larger and more widespread and diverse than those of a structural nature.

According to the G20 Green Finance Study Group (2017), NGFS (2019a), the environmental and climatic sources of financial risks can be mapped to two broad risk categories:

- ◇ **Physical risks** may be defined as impacts that could arise from extreme climatic and weather related events such as hurricanes, droughts, degradation of soil quality or marine ecology, as well as environmental incidents such as chemical leakages or oil spills.

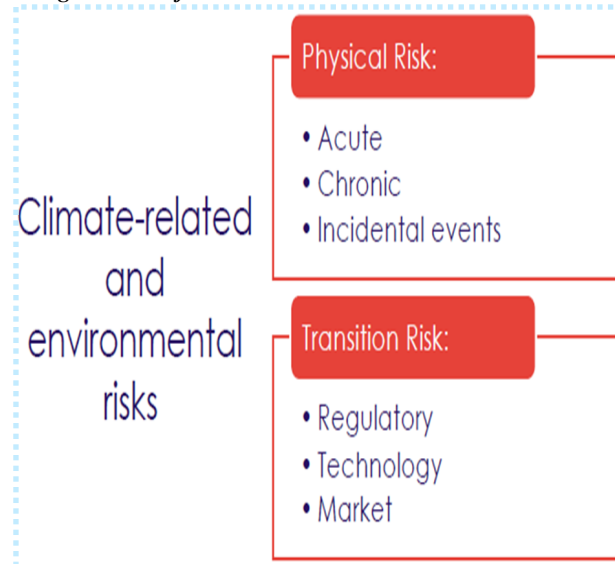
These risks may have a wider systemic as well as firm level impact resulting in large financial losses. Physical risks include the economic costs and financial losses resulting from the increasing severity and frequency of extreme climate change-related weather.

For example, if losses due to events mentioned above are insured, then insurance and reinsurance companies are affected by higher claims; if not insured, then the burden falls on households, corporations and governments.

- ◇ **Transition risks** may be defined as impacts that arise from human efforts to address environmental and climate challenges such as low-carbon emissions, changes to public policies and technological innovations.
- ◇ The scale of economic and financial transformation required for this transition is considerable and relevant to financial stability, safety and soundness. A credible long-term approach based on effective measures is needed, as an abrupt transition could also have an impact on financial stability and the economy in a broader sense.

For example, changes in climate policies, technological breakthroughs or market sentiment could prompt a value reassessment of a large range of financial assets as changes in cost and opportunities become apparent.

Categorization of Climate-related and Environmental Risks



Transmission of Environmental and Climate-related Risks

Risk management, which is an important function for financial institutions, forms the core of financial stability. Conventionally, financial institutions manage risks – including credit risk, liquidity risk, market risk, underwriting risk and operational risk – through a framework often under regulated prudential requirements.

It has been noted that the risk resulting from environmental and climate-related factors has not been explicitly recognized and effectively addressed by many financial institutions and supervisors. One reason for the lack of analysis and management is the limited understanding of the transmission mechanisms.

The following are two scenarios of the transmission of environmental and climate-related risk. Case one represents an example of physical risk and case two addresses transition risk.

Case 1: Transmission from tropical cyclone/typhoon risk to market risk, credit risk and underwriting risk.

1. Climate change exacerbates the intensity and frequency of tropical cyclones/typhoons (physical risk);
2. Higher intensity and frequency of tropical cyclones/typhoons lead to severe damages to real estate assets located in coastal areas, thus reducing the value of properties (market risk);
3. Lower property values reduce collateral values of mortgage loans and increase Loss Given Default (LGD);
4. Lower collateral values of mortgage loans and disruption to economic activities (e.g., income) due to extreme weather events increase mortgage default rates. By extension, higher default rates and LGD increase the expected losses of banks (credit risk); and
5. For insurers that provide property insurance for real estate assets in coastal areas, larger than expected damage losses of property could result in unexpectedly high claims (underwriting risk).

Case 2: Transmission from energy transition policies to market and credit risks.

1. Energy transition policies may include measures (e.g. carbon tax/pricing scheme) to limit utilization of fossil fuels (transition risk). These measures may result in higher costs for oil & gas companies, coal mining companies and coal-fired power producers, while reducing market demand for their products;
2. Higher costs and reduced revenues cut profits and reduce the future cash flows of these companies; and
3. From an FI perspective, these result in lower asset valuation (market risk) and/or higher loan default rates and LGD for carbon-intensive companies (credit risk).



St. Kitts and Nevis Status

The Federation of St. Kitts and Nevis has already experienced losses and damages from environmental and climate-related risk which are projected to continue. The increasing intensity of tropical cyclones from 1989-2017 and resultant damages of over US\$700 million have been strongly linked to the drivers of environmental and climate-related risks.

The Government of St. Kitts and Nevis has also committed, in its Nationally Determined Contribution (NDC) dated 29 October 2021, to reducing the countries emissions and limiting the average global temperature rise to 1.5° C. This revised and strengthened NDC pledges a significantly more ambitious mitigation target of **reducing economy-wide CO2 emissions by 61% by 2030, compared to the base year 2010**, conditional upon adequate access to resources including climate finance as well as capacity building support. This will be achieved by switching to 100% renewable energy in electricity generation and increasing the share of electric vehicles in the vehicle fleet to at least 2%.

With the increased intensity of storms and the projected policy changes necessary for the Government to achieve its NDC goals, the financial system of St. Kitts and Nevis needs to examine not only how these local changes will affect the system but also look at the regional and internal changes that are scheduled to occur.

Representatives of the Financial Services Regulatory Commission have participated in a number of sessions with regional regulators in an aim to better understand these risks. These sessions were conducted by the United Nations Environment Programme (UNEP FI) and the Agence Française de Développement Group (AFD and Expertise France) in collaboration with the Organization of Eastern Caribbean States (OECS) and the Eastern Caribbean Central Bank (ECCB).

The FSRC intends on using these sessions and forth coming technical assistance to develop proper guidance for the non-bank financial sector in the Federation.

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References

Network for Greening the Financial System “Macroeconomic and financial stability: Implications of climate change” (June 2019)

Network for Greening the Financial System “Guide for Supervisors : Integrating climate-related and environmental risks into prudential supervision” (May 2020)

Network for Greening the Financial System “Overview of Environmental Risk Analysis by Financial Institutions” (September 2020)

St. Kitts and Nevis Updated Nationally Determined Contribution Communicated to the UNFCCC (October 2021)

www.fsb-tcfd.org

[The Paris Agreement | UNFCCC](#)

[Publications | Task Force on Climate-Related Financial Disclosures \(fsb-tcfd.org\)](#)

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