Climate Finance: Evolving Regulatory Approaches[1]

Distinguished Board Members,

I am extremely delighted to be part of this event. First off, I would like convey my sincere appreciation to CAFRAL for organising this pilot workshop at RBI's request. It is my privilege to speak to this remarkable audience on a topic that is thick in the air, both literally and figuratively, for its impact on our lives. Those who are musically inclined may recall Bob Dylan's 1960s' cult folk song "Blowin' in the Wind" which had the refrain of "the answer, my friend, is blowin' in the wind". It was supposed to be a protest song and I do not intend to state the obvious parallel to the climate risk blowing all over us in plain sight. I intend to share a broad overview of regulatory context on climate finance that is gaining currency.

Sizing the Climate Risk and Climate Finance

2. Climate change describes a change in the average conditions - such as temperature and rainfall in a region over a long period of time caused by Green House Gases (GHGs). Climate risk is the potential negative effects of climate change on various aspects of the environment, businesses and society. Climate Finance aims at reducing emissions and enhancing sinks of GHGs, targets reducing vulnerability, increasing adaptive capacity and mainstreaming and increasing resilience of human and ecological systems to navigate the climate impacts. It includes financing for actions identified in a country's nationally determined contribution (NDC), adaptation communication, national adaptation plan, long-term low emission development strategy or other national plan for implementing and achieving the goals of Paris Agreement[i]. In 2023, India with 4.134 million ktCO2 / year ranks third in the world in terms of GHG emission after China (15.94 million ktCO2/year), and USA (5.96 million ktCO2 / year)[ii].

3. Climate finance is a multi-faceted concept involving local, national and transnational finance, broadly categorized into (i) mitigation finance and (ii) adaptation finance. While the former aim to reduce global carbon emissions, the

[1] Key Note Address by Jayant Kumar Dash, Executive Director, Reserve Bank of India in CAFRAL Workshop on Climate Change Risks and Sustainability for Board Members of Banks, Financial Institutions and NBFCs pon February 11, 2025 in Mumbai.

latter aim to respond to the consequences. Sources of climate finance span across public, private or alternative funding. The UNFCCC Standing Committee on Finance reported an increase in global climate finance flows in 2021-22 by 63% compared to 2019-20, reaching an annual average of USD 1.3 trillion[iii] but estimated an annual financing gap of USD 6 trillion until 2030. Globally, while mitigation finance has been at the centre, obstacles related to scaling up of adaptation funding have received less direct attention. According to the Climate Policy Initiative (CPI)[iv], more than 90 percent of global climate finance in 2021-23 was directed towards mitigation, while adaptation finance accounted for less than 5 percent of the total, while another 5 percent allocated for dual purposes. Although adaptation finance has seen in increase, there remains an annual financing gap for climate adaptation in developing countries, estimated[v] to be between USD 194 billion – USD 336 billion which is about 10 to 18 times greater than current financing flows. This gap is expected to increase between USD 315 – 565 billion by 2050. UN's Adaptation Gap Report 2024 estimates that the adaptation finance gap stands between USD 187-359 billion per annum.

4. The appeals for financing climate resilience and adaptation include a clearer understanding of the near-term trajectory of climate change, the emergence of demand for climate-resilience technologies and solutions, and the availability of investible opportunities that leverage nature-based solutions to enhancing biodiversity.[v] Scaling up such investments, however, requires effective frameworks of incentives to guide investment decisions. Planning to adaptation climate uncertainties is inherently uncertain due to incomplete data, wrong projections, bad planning and observed corruption. This uncertainty can lead to failures with some strategies even exacerbating vulnerabilities, a phenomenon known as 'maladaptation'. IPCC's 6th Assessment Report (AR6) released in 2022 pointed to growing evidence of maladaptation across various sectors and regions. Last month, our PM launched Mission Mausam, a project to forecast climate change and extreme weather events with provision of ₹1329 crore in the 2026 budget. The Govt. has to invest ₹57 trillion by 2030 for climate change adaptation as per the latest Economic Survey report.

5. As we aspire for Vikshit Bharat requiring certain minimum level of GDP growth, climate-neutral growth forecasts for India may also be relevant. Some global rating

agencies are already calculating GDP-at-Risk and abilities of countries to avoid and respond to some of these losses based on their economic and institutional strengths. In October 2024, Asian Development Bank (ADB) warned that climate change could hit India's GDP by as much as 25 per cent by 2070. This has to be seen in the context that a third of India's GDP is linked to nature-related sectors. Frequent droughts and other weather events are impacting agricultural output, a 'day-zero' water event, in which all water sources dry up, has already visited some Indian cities and electricity grids are strained by heatwaves.

Climate Risk and Trend in Banks' Role in Climate Finance

6. Though climate change has an impact on almost all economic activities, the extent and nature of impact arising from climate-related risks would vary by sector, industry, geography, and organization. Climate-related risks are primarily categorized into physical risks (acute, chronic) and transition risks (policy and legal, technology, market, reputation).

7. At the heart of the world's economies is the global financial system — a set of institutions, markets and mechanisms that enable the flow of finance and banks form the most fundamental building block of the financial system. Access to finance will be crucial to the low-carbon transition. Green and sustainable lending aims to help direct capital to where it has a positive impact. The banking industry is especially well positioned to influence the transition to a low-carbon economy, as its direct financing of companies means it has control over who does and doesn't receive capital. Outline of a few the common areas where banks focus their attention globally are as under[vi]:

(a) Financing Green Energy: Funding the construction of renewable energy projects is arguably the most obvious and direct method for banks to help drive the low-carbon transition.

(b) Influencing Emission Reduction: While green finance, such as loans, bonds, convertible bonds, letters of credit, derivatives and other instruments, aims to provide capital for climate-aligned projects, sustainability-linked loans and bonds have become a popular way of incentivizing companies to make their operations more sustainable, including through emissions reduction. In a typical structure, a lender

may offer a lower interest margin if the borrower hits certain key performance indicators (KPIs), such as a reduction in energy usage.

(c) Non-Conventional Lending: Though not allowed in Indian banking, ESG-linked leveraged finance, whereby typically PE firms take on debts to finance expansion or acquisitions, has gained popularity in EU and sustainability features are increasingly incorporated into loan agreements. Bankers in trade finance are prioritizing ESG and some focusing on offering favorable rates based on ESG scoring criteria to drive ESG in transactions. Though in nascent stage, the impact of sustainability on treasury management is also visible across some jurisdictions.

(d) Blended Finance: The use of public sources of capital to attract private investment in developing countries – is a small but growing area of climate finance. It has long been vaunted as a suitable tool for helping with the energy transition, and more initiatives are emerging with the backing of large banks.

Climate Change and Operating Perimeters for Banking Regulator

8. The role of Central Banks in assessment of climate change risks gained traction with the famous speech of the then Bank of England's Governor Mark Carney in 2015 'Breaking the tragedy of the horizon – climate change and financial stability'. This is widely seen as the moment central banks officially entered the climate change debate[vii]. It is also tempting to contextualize the role of banking regulator in addressing climate change risks with the statement of Federal Reserve Chairman Jerome H Powell in October 2023 while issuing Principles for Climate Related Financial Risk Management for Large Financial Institutions. He said that without explicit legislation, it would be inappropriate for central bank to use monetary policy or supervisory tools to promote a greener economy or to achieve other climate-based goals. Central banks are not, and will not be, a 'climate policy-maker'. The Fed has narrow, but important, responsibilities regarding climate-related financial risks, which are tightly linked to responsibilities for bank supervision. Banks need to understand, and appropriately manage, their material risks, including the financial risks of climate change. Regulator's work in this area must remain grounded in data, measured in its approach, and tightly linked to regulatory / supervisory responsibilities. This statement of his about sums up a very fundamental principle.

9. In our case, it is the primary responsibility of Government of India to set out priorities and policies with regard to addressing climate change related risks, both from domestic and global perspectives. Banking regulators would work within such intents. The COP is the supreme decision-making body and all countries which are Parties to the Convention, including India, are required to make specific commitments on decarbonisation. A general agreed philosophy behind the commitments is the principle of 'common but differentiated responsibilities', through their nationally determined contributions (NDCs) and net zero targets, which serve as the perimeter of the mitigation efforts for climate change. India as part of its commitment to COP, had announced Panchamrit targets at COP26. The Panchamrit targets are a set of five goals[viii] to reduce the country's carbon emissions and increase use of renewable energy.

10. On the question of legal powers to RBI, the overarching objective of financial stability is a great enabler. The preamble of the RBI Act, 1934 (RBI Act), provides for the RBI to inter alia "…generally to operate .. credit system of the country to its advantage, AND WHEREAS the primary objective of the monetary policy is to maintain price stability while keeping in mind the objective of growth (..)". Under Section 45JA of the RBI Act, applicable to NBFCs, the RBI has powers to determine policy and issue directions in public interest or to regulate the financial system. Similarly, Section 21 and Section 35A of the BR Act provides ample power to the RBI to issue directions to banking companies 'in the public interest' or 'in the interest of banking policy'. Additionally, the RBI also has certain powers to give directions to 'financial institutions' in relation to the conduct of business by them. Despite none of the statutory provisions enumerating 'sustainability' as a factor for RBI to consider in policy making, it is thus embedded in its overall mandate.

11. The Basel Committee on Banking Supervision (BCBS) has highlighted in its report[ix] that banks and banking system are exposed to climate change through macro and microeconomic transmission channels that arise from two distinct types of climate risk drivers. First, they may suffer from the economic costs and financial losses resulting from the increasing severity and frequency of drivers of physical climate risk events. Second, as economies seek to reduce carbon dioxide emissions, which make up the vast majority of GHG emissions, these efforts generate drivers for transition risk. These arise through changes in government policies, technological

developments, or investor and consumer sentiments. They may also generate significant costs and losses for banks and the banking system. As a central bank, the Reserve Bank recognises its vital role in addressing these risks and steering Indian economy and the financial system towards mitigation of climate change risks and sustainable growth with strong resilience capability.

Global Regulatory Ecosystem Towards Climate Finance

12. Globally, there have been streams of co-operation among the countries for assessment and mitigation of climate change risks, as well as flow of climate change related finance, at various levels such as the government, the central banks, the other financial sector regulators, etc. Several bodies have been set up either independently or by global standard setting bodies to prescribe the guidelines/ principles/ standards for the assessment and mitigation of the climate change risks and flow of green and sustainable finance. International standard-setting bodies (SSBs) like the Financial Stability Board (FSB), BCBS, International Sustainability Standards Board (ISSB), Network for Greening the Financial System (NGFS) etc., have been instrumental in shaping the regulatory action, ensuring that financial institutions embed climate-related risks into their governance and risk management structure. Some of the key SSBs which have been instrumental in shaping the global climate finance landscape are:

- **NGFS -** Established at the Paris "One Planet Summit" in 2017, the NGFS brings together 143 central banks and financial regulators (post withdrawal of Fed Reserve in 2025) is committed to integrate climate-related risk management into the financial sector. It facilitates the exchange of best practices, supports environmental and climate risk assessments, and promotes green finance to drive the transition to a sustainable economy.

- **BCBS -** The BCBS Task Force on Climate-related Financial Risks (TFCR) focuses on assessing and mitigating climate-related financial risks. In June 2022, they came out with principles for effective management and supervision of climate risks covering twelve principles for banks and financial institutions and six for regulators and supervisors. In November 2023, they released a consultation paper on climate related disclosures and integrating the same with the extant Pillar 3 disclosures.

- **FSB** - The FSB plays a central role in coordinating international efforts to address climate-related financial risks. Its 2021 roadmap outlines key steps for standard-setting bodies and regulators in data collection, disclosures, vulnerability analysis, and supervisory policies. The Climate Vulnerabilities Data Group and Transition Planning Working Group ensure that financial institutions adopt a coherent and coordinated approach to climate-related regulatory policies.

- **Task Force on Climate-related Financial Disclosures (TCFD) –** Set up by the FSB, the TCFD developed recommendations for climate-related financial disclosures to help stakeholders assess climate risks and opportunities. Since its 2017 report, the TCFD framework has guided corporates and financial institutions in improving governance, strategy, risk management, and climate-related financial metrics, fostering market transparency and better capital allocation.

- **ISSB** - Formed in 2021 at COP26, the ISSB has issued sustainability standards, IFRS S1 and IFRS S2, in June 2023. IFRS S1 provides a set of disclosure requirements designed to enable corporates to communicate to investors about the sustainability-related risks and opportunities they face over the short, medium and long term. IFRS S2 sets out specific climate-related disclosures and is designed to be used with IFRS S1. The ISSB's work has fully incorporated the recommendations of the TCFD.

- **SFWG -** The G20's Sustainable Finance Working Group (SFWG) aims to mobilize sustainable finance as a way of ensuring global growth and stability and promoting the transition towards greener, more resilient and inclusive societies and economies. It is also tasked to identify institutional and market barriers to sustainable finance and to develop options to overcome such barriers and contribute to a better alignment of the international financial system to the objectives of the Paris Agreement.

13. The global initiatives on climate change can be segregated in two cohorts – (i) prudential aspect encompassing risk management and (ii) facilitation aspect encompassing financing activities. Despite significant initiatives and progress made

in global co-ordination on climate change standard setting and prescriptions, however, there exists a developed-developing world divide. With the greater dependence on agriculture, presence of large informal sector with large number of the businesses being SMEs and MSMEs, the developing economies face elevated challenges in combating both climate change as well as putting in place the required mitigation mechanisms. One term which crops up often in the global context has been “inter-operability”. While as a concept, inter-operability seems ideal for an equal and just world, for a world with presence of stark inequalities, mandating inter-operability on similar level of commitments, may give way a differentiated approach.

Regulatory Approach of the Reserve Bank

14. RBI started its structured efforts to weave some regulatory fabrics in climate finance with setting up of ‘Sustainable Finance Group' (SFG) and joining NGFS as a member in in 2021. RBI has adopted a *festina lante* (“make haste slowly”) approach i.e striking a balance between sped and caution, to address climate finance while aligning with the national position. At this stage, the focal points have been around addressing the data gaps, assessing risks through scenario analysis and stress testing, building specific capacities and technical expertise in the system, and guiding REs towards having a robust risk management architecture for mitigation of climate change risks.

(a) RBI issued a statement of commitment to greening India’s financial system on account of COP 26, by committing to explore the use of climate scenario exercises, integrating climate-related risks into financial stability monitoring, and building awareness about such risks among REs and spreading knowledge about methods to deal with them.

(b) RBI published its survey[x] results on assessment of climate risks in July 2022 by carrying out a survey[xi] among leading scheduled commercial banks. It found that although banks had begun taking steps in the area of climate risk and sustainable finance, there remained a need for concerted effort and further action in this regard.

(c) A climate vulnerability assessment and stress testing (VAST)[xii] exercise was conducted in 2022 on pilot basis with an objective of climate risk exposure assessment and evaluating the vulnerability of banks to climate-related risks. The

exercise aimed at quantifying the potential losses banks may incur due to climate risks and enhancing banks' capabilities to manage climate risks effectively. The exercise covered three NGFS scenarios for transition risks one each from disorderly, orderly and hot-house world quadrant. As regards physical risk, floods and cyclones were covered in the exercise.

(d) The RBI came out with a consultative discussion paper[xiii] (DP), covering aspects such as (i) governance (ii) strategy (iii) risk management, and (iv) disclosures. Based on feedbacks were received from a wide set of stakeholder, RBI came out with guidelines on Green Deposits, a draft disclosure framework and a guidance note on scenario analysis and stress testing.

(e) Measuring the impact of climate risk requires granular climate and exposure level data, ideally at latitude-longitude basis as also pin code basis. Unavailability of such data remains a major limitation in conducting comprehensive climate risk assessment. Triangulation of payment data to understand the consumption pattern in climate context is an unexplored area. To address such data gaps, the RBI has announced the creation of a data repository namely, the Reserve Bank – Climate Risk Information System (RB-CRIS)[xiv]. RB-CRIS is proposed to be comprised of two parts with the first part to be a web-based directory, listing various data sources (meteorological, geospatial, etc.) which will be publicly accessible in the RBI website. The second part will be a data portal comprising of datasets (processed data in standardised formats). The access to this portal will be made available only to the REs in a phased manner. RBI is also constantly engaging with REs on a periodical basis to build specific capacities and technical expertise as also build system level enablers which will help them to comprehensively assess and mitigate climate related risks. Many other initiatives are also in the pipeline which will enable our REs to perform a comprehensive assessment of climate related risks as well as channelise finance to green and sustainable sectors.

15. To respond to the dynamic nature of evolution of climate action, RBI requires leadership buy-in and active support of the Board, and senior management of the REs. It requires establishing a business culture and practice in which all employees understand their role in delivering the RE’s objectives and integrating sustainability into their work and their decision-making. To deliver on this, the REs need to put in

place effective governance framework towards sustainability, including assigning clear roles and responsibilities, setting up effective management systems and allocating adequate resources.

Conclusion

16. As banks and financial institutions embrace innovative financial products and expand their role in climate finance, their exposure to climate-related risks continues to evolve. In response, regulatory frameworks have emerged globally to adapt to these shifting risk profiles, ensuring that financial institutions can effectively manage both physical and transition risks. These regulations aim to strike a fine balance between financial stability and urgent need for climate action. Policymakers and financial regulators worldwide are moving beyond voluntary commitments towards structured regulatory interventions, despite recent setbacks. In India, these include formulating green taxonomies, enhancing climate-related financial disclosures, integration of climate risks in micro prudential and macroprudential supervision and monetary measures, framework for transition planning and transition plans, among others.

17. As policymakers, regulators and consumers push for more action on climate, the role of banks in allocating capital for the transition will come into ever-sharper focus. Regulatory actions and inactions will be watched for its impact and resulting shape financial markets, which will eventually affect capital formation and the carbon trajectory of Indian economy. Pending stricter ESG laws and green taxonomy, sustainable finance measures can be a crucial intermediate way to urgently nudge the economy towards green transition.

I will conclude here and extend my best wishes for the ensuing sessions by very eminent speakers and productive deliberations in the workshop.

Thank you.

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[i] United Nations Framework Convention on Climate Change (UNFCCC) updated operational definition of climate finance

[ii] Emission Database for Global Atmospheric Research (EDGAR)

[iii] UNFCCC 2024 Standing Committee on Finance : Sixth Biennial Assessment and Overview of Climate Finance Flows.

[iv] B Buchner et al. (2023) Global Landscape of Climate Finance 2023

[v] UNEP (2023). Adaptation Gap Report 2023: Under financed Underprepared – Inadequate investment and planning on climate adaptation leaves world exposed

[vi] CFA Institute Insights – How Banks and Green Finance are helping address climate change, February 2024

[vii] https://www.centralbanking.com/central-banks/monetary-policy/communication/7963646/central-banks-words-matter-for-climate?total=10&position=2&utm_campaign=Central%20Banking%20-%20Daily&utm_medium=email&_hsenc=p2ANqtz-9xNcpNUITMHrhiZobTWyH9kD33ZqfqTei7T82XNuxXN7PkDRADwySTjQpaK4-cKkgtuj2Z-wubTOwjN1VaBG4a5pqmAQ&_hsmi=343472876&utm_content=343472876&utm_source=hs_email

[viii] The goals are:

- Non-fossil energy capacity: Increase non-fossil energy capacity to 500 gigawatts (GW) by 2030.
- Renewable energy usage: Meet 50% of energy needs with renewable energy by 2030.
- Carbon emissions reduction: Reduce carbon emissions by one billion tons by 2030.
- Carbon intensity reduction: Reduce carbon intensity by less than 45% by 2030, compared to 2005 levels.

Net-zero emissions: Achieve net-zero emissions by 2070.

[ix] BCBS (2021) *Climate-related risk drivers and their transmission channels*

[x] https://website.rbi.org.in/web/rbi/-/publications/reports/report-of-the-survey-on-climate-risk-and-sustainable-finance-1215

[xi] https://website.rbi.org.in/web/rbi/-/publications/reports/report-of-the-survey-on-climate-risk-and-sustainable-finance-1215

[xii] https://website.rbi.org.in/web/rbi/-/publications/rbi-bulletin/climate-stress-testing-and-scenario-analysis-navigating-uncharted-waters-22327?category=23918848

[xiii] https://website.rbi.org.in/web/rbi/-/publications/discussion-paper-on-climate-risk-and-sustainable-finance-21071

[xiv] https://website.rbi.org.in/web/rbi/-/publications/rbi-bulletin/statement-on-developmental-and-regulatory-policies-27930?p_l_back_url=%2Fweb%2Frbi%2Fsearch%3Fq%3DRB-CRIS%26type%3Dcom.liferay.journal.model.JournalArticle%26type%3Dcom.liferay.portal.kernel.model.Layout%26togs%3Dexact%26orderBy%3Dnewest