

Catching up with climate change

A brief exploration of the Green Finance Landscape



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1 What is Green Finance?

Green finance refers to financial instruments and investments that promote environmentally sustainable economic growth and development, while also reducing carbon emissions and protecting the environment.

1.1 Definitions

There are several definitions of green finance, including:

United Nations Environment Programme (UNEP): Green finance refers to "investment in technologies, infrastructure and assets that are both environmentally sustainable and profitable."

International Finance Corporation (IFC): Green finance refers to "financial instruments and services that encourage private investment in sustainable and low-carbon projects and activities, leading to a reduction in greenhouse gas emissions and other environmental benefits."

European Union (EU): Green finance refers to "financing which contributes to environmental objectives, specifically the mitigation of, or adaptation to, climate change."

People's Bank of China (PBOC): Green finance refers to "the financial activities that support the transition towards a green and low-carbon economy, promote environmental protection and achieve sustainable development."

Green finance (Lindenberg 2014) comprises:¹

- the **financing of public and private green investments** (including preparatory and capital costs) in the following areas
 - $\circ~$ environmental goods and services (such as water management or protection of biodiversity and landscapes)^2 ~
 - prevention, minimization and compensation of damages to the environment and to the climate (such as energy efficiency or dams)
- the **financing of public policies** (including operational costs) that encourage the implementation of environmental and environmental-damage mitigation or adaptation projects and initiatives (for example feed-in-tariffs for renewable energies)
- components of the **financial system** that deal specifically with green investments, such as the Green Climate Fund or financial instruments for green investments (e.g., green bonds and structured green funds), including their specific legal, economic and institutional framework conditions.

Definitions of climate, green and sustainable finance based on findings of Building a Consensus on the Definition of Green Finance— a study developed by Climate Policy Initiative and cKinetics with the support of Shakti Sustainable Energy Foundation, and the Climate Policy Initiative – published study Accelerating Green Finance in India: Definitions and Beyond (CPI, 2020), illustrated in **Figure 1.1**: ³

²Source:<u>https://ec.europa.eu/eurostat/statistics-</u>

¹<u>https://www.cbd.int/financial/gcf/definition-greenfinance.pdf</u>

explained/index.php?title=Glossary:Environmental goods and services sector (EGSS)#:~:text=The%20enviro nmental%20goods%20and%20services,the%20management%20of%20natural%20resources

³ Landscape of Green Finance in India 2022. Climate Policy Initiative, Source:

https://www.climatepolicyinitiative.org/wp-content/uploads/2022/08/Landscape-of-Green-Finance-in-India-2022-Full-Report.pdf

Climate Finance	Green Finance	Sustainable Finance
Climate finance refers to 'local, national or transnational financing, drawn from public, private and alternative sources of financing, that seeks to support mitigation and adaptation actions that will address climate change.'	Green finance includes climate finance as well as other environmental objectives that are necessary to support sustainability, and in particular, aspects such as biodiversity and resource conservation.	Sustainable finance covers a broader set of the investment universe, aiming to build an inclusive, economically, socially, and environmentally sustainable world.





Source: UNEP Inquiry, 2016⁴

Green Finance and its components are not clearly defined in any academic/scientific literature for India (Wright H. 2011; EIB, 2017). Since there is no formal definition of Green Finance, terminologies such as sustainable finance, climate finance, responsible finance, and ESG investments are used interchangeably or in an overarching manner with Green Finance (Charter Banker Institute, 2018; Inderst G. Kaminker, Ch. Stewart F. 2012).⁵ In its annual report, "Trend and Progress of Banking in India", the Reserve Bank of India identifies the plurality of green loan definitions as one of the key barriers financial intermediaries face in lending to green sectors. Not knowing what constitutes green restricts proper tracking of capital flows into the green sectors which, in turn, causes inaccuracies in the assessment of capital flows and inadequacy of current investments to meet India's nationally determined contribution (NDC) targets.

⁴ <u>https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf</u>

⁵ Climate Policy Initiative, 2020, <u>'Accelerating Green Finance in India: Definitions and Beyond'</u>. Source: <u>https://www.climatepolicyinitiative.org/wp-content/uploads/2020/07/Accelerating-Green-Finance-in-India Definitions-and-Beyond.pdf</u>



1.2 Climate finance and the net-zero transition

According to a study by McKinsey Global Institute, global capital spending on physical assets for energy and land-use systems in the net-zero transition between 2021 and 2050 would amount to about US\$ 275 trillion, or US\$ 9.2 trillion per year on average, an annual increase of as much as US\$ 3.5 trillion (many investments have positive return profiles and should not be seen as merely costs).⁶ Government and business would need to act together with singular unity, resolve, and ingenuity, and extend their planning and investment horizons even as they take immediate actions to manage risks and capture opportunities.



Poorer countries and those reliant on fossil fuels are most exposed to the shifts in a net-zero transition, although they have growth prospects as well. These countries are more susceptible to changes in output, capital stock, and employment because exposed sectors make up relatively large parts of their economies. **Exposed geographies including in sub-Saharan Africa**

and India would need to invest 1.5 times or more than advanced economies as a share of GDP to support economic development and build low-carbon infrastructure. For example, in the Net Zero 2050 scenario, India's capital requirements would be 11% of GDP, compared to the global average of about 7.5% of GDP. Much of that capital would be used to reduce the use of existing coal power and expand low-emissions electricity capacity.

Who pays for the net-zero transition? The different aspects to consider include who provides the financing for example, public versus private actors, and the mix of financing provided by developed and developing countries. The capital may be raised via debt or equity or through taxes on companies or consumers and various such combinations.

As per the study, stakeholders need to consider the following three factors to make decisions on financing the transition:

- 1. which approach would **raise capital at the speed and scale needed**, and incentivize the deployment of this capital for example taxes on consumers could curtail spending in other parts of the economy if not balanced, for example, with fiscal stimulus elsewhere
- 2. how financing can best include **principles of equity**, including what equity would require based on the **history of emissions and who has the ability to pay** Developing countries, for example, may find it challenging to raise the capital needed for the transition on their own.
- 3. **broader consequences of different financing approaches** Certain technologies, such as electric vehicle (EV) charging infrastructure, may require public financing at scale to reach the speed of deployment needed to achieve net-zero.

Financial institutions can support large-scale capital reallocation, even as they manage their individual risks and opportunities. Some relevant practices include:



- Rethinking conventions for risks and returns. Some decarbonization projects are likely to have longer-than-normal payback periods. This possibility may compel **financial institutions to adjust their criteria for which projects they finance**.
- Assessing and disclosing climate risks. For example, various regulators and supervisors already require **banks to conduct climate-risk assessments**, and more are planning to start these assessments.
- Measuring and reducing financed emissions. Financial institutions are increasingly making pledges to align their portfolios with 1.5°C or 2.0°C warming targets or to achieve net-zero financed emissions by a certain date. They have started translating these commitments into

⁶ McKinsey, January 2022, 'The net-zero transition: What it would cost, what it could bring'. Source: <u>https://www.mckinsey.com/capabilities/sustainability/our-insights/the-net-zero-transition-what-it-would-cost-what-it-could-bring</u>

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targets for sectors and geographies. Given that emissions ultimately are from counterparties, financial institutions may find it helpful to support the transition plans of those counterparties—for instance, by offering new financial solutions, advising them on emissions-abatement methods, and introducing partnership opportunities.

• Over time, translating these commitments into actions that lower emissions, including **expanding the range of climate-finance products and services** (for example, funding for low-emissions power projects, new financial instruments to support negative emissions or nature-based solutions, and well-governed voluntary carbon markets).

2 Key developments and trends in Green Finance

Many banks, asset managers, insurers, private-equity firms, and other financial institutions have begun deploying capital in a way that supports the net-zero transition.

Estimates from the Climate Policy Initiative suggest that public and private actors increased their climate investments in the last decade and global climate finance flows reached about US\$ 632 billion in 2019-20, a 74% increase since 2011–12.⁷ However, the flows have slowed in the last few years. Also, COVID-19's impact on climate finance is yet to be fully observed. The scale of capital deployment to date, however, falls short of the spending need on physical assets as per the Net Zero 2050 scenario (illustrated in Figure 2.1 for 2019-20). As seen in Figure 2.2 below, an increase of at least 590% in annual climate finance is required to meet the internationally agreed targets by 2030.









Finance for adaptation increased by 53% reaching US\$ 46 billion in 2019/2020 compared to US\$30 billion in 2017/2018, nevertheless below the scale necessary to respond to existing and future climate change. UNEP's Adaptation Gap Report (UNEP, 2022) estimates that the adaptation finance gap in developing countries is likely five to 10 times greater than current international adaptation finance

Source: Climate Policy Initiative. 2021.Global Landscape of Climate Finance 2021

⁷ Climate Policy Initiative. 2021. Global Landscape of Climate Finance 2021 Source: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/



flows and continues to widen.⁸ Annual adaptation costs/needs are in the range of US\$ 160–340 billion by 2030 and US\$ 315–565 billion by 2050 based on 76 developing countries' nationally determined contributions (NDCs) and national adaptation plans (NAPs).

Some key developments in the green finance space:

2.1 Increase in green bond issuances



Green bonds are debt instruments that finance environmentally sustainable projects. These are any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects and which are aligned with the four core components of the Green Bond

Principles (GBP) of the International Capital Market Association (ICMA).9

In recent years, there has been a significant increase in the issuance of green bonds. The market for green bonds has issuers from about 58 countries, including multilateral institutions like the World Bank. During 2007-2018, cumulative issuances of green bonds worldwide have been US\$ 521 billion, with India ranking second among EMEs in these issuances (Climate Bonds Initiative, 2019).¹⁰

Supranational institutions have been increasingly contributing to these efforts, with the International Monetary Fund (IMF) already incorporating impact on climate into its multilateral and bilateral surveillance. In September 2019, the Bank for International Settlements (BIS) launched an open-ended US\$-denominated fund for central bank investments in green bonds aimed at the management of their forex reserves and to support the deepening of the green-bond market.

Annual green bond issuance broke through the half-trillion mark for the first time, ending 2021 at US\$ 522.7 billion, a 75% increase on prior year volumes. This lifted the cumulative total to US\$ 1.6 trillion (Climate Bonds Initiative, 2021).¹¹ **Energy, buildings, and transport** were the three largest Use of Proceeds categories, collectively contributing 81% to the 2021 total.

The Sovereign Green Bond Club continued to expand its membership. Eleven countries added US\$72.8 billion with new bonds or taps. Italy, the UK, Serbia, Spain, and South Korea issued debut sovereign green bonds.

2.2 Emergence of green loans



Green loans are like green bonds but are structured as bank loans. These loans follow Green Loan Principles of the International Capital Market Association (ICMA).¹² Developing countries currently account for just US\$1.6 billion of the estimated US\$33 billion in outstanding green loans.¹³ Green loans have had issuances amounting to US\$60

⁸https://www.unep.org/resources/adaptation-gap-report-

^{2022#:~:}text=International%20adaptation%20finance%20flows%20to,315%2D565%20billion%20by%202050. ⁹ Green Bond Principles, 2022.

Source: https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles June-2022-280622.pdf

¹⁰ <u>https://rbi.org.in/Scripts/PublicationsView.aspx?id=19363</u>

¹¹ https://www.climatebonds.net/files/reports/cbi global sotm 2021 02h 0.pdf

¹² Green Loan Principles, 2018.

Source:

https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf ¹³ https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans



billion in 2018, with an average maturity of over 15 years. Over 75% of outstanding green loans were directed to **renewable energy and power generation companies** (Institute of International Finance, 2019).¹⁴

Considering the higher transaction costs of bond issuance, the minimum bond size to be tradeable, and the fact that only bonds above a certain size are tracked by various indices, potential issuers in emerging markets with small green portfolios may feel inclined to receive a green loan instead of issuing a green bond.

2.3 Development of green finance standards and frameworks

To ensure the credibility and transparency of green finance, various standards and frameworks have been developed, including the Green Bond Principles, Green Loan Principles (mentioned earlier), the Climate Bonds Standard, and the EU Taxonomy.

Taxonomy is a term used to describe a system for the identification and classification of information. In green finance, a green or sustainable taxonomy has gained increasing market acceptance and use over the past few years and describes a classification system that identifies activities, assets or revenue segments that deliver on key environmental objectives.

A taxonomy is intended to provide clarity and guidance to financial market participants on which activities/assets are eligible for sustainable investment.



Figure 2.3: Global Green Taxonomy: in place, in draft, development or in discussion

Source: Sustainable Debt, Global State of the Market 2021, Climate Bonds Initiative

China and the EU – The Green Bond Endorsed Project Catalogue (since January 2015 updated in 2021) and EU Taxonomy, 2021 – are arguably the main jurisdictions referred to in taxonomy discussions, although many other countries have taxonomies in draft or in discussion, as illustrated in adjacent **Figure 2.3**.¹⁵ The ASEAN region, Canada, Japan, South Africa, Russia and India are developing sustainable finance taxonomies. South Africa and Colombia draw heavily on the EU model. There is also work underway to develop taxonomies that are accepted across multiple jurisdictions, setting

¹⁴ <u>https://rbi.org.in/Scripts/PublicationsView.aspx?id=19363</u>

¹⁵Sustainable Debt, Global State of the Market 2021 Climate Bonds Initiative <u>https://www.climatebonds.net/files/reports/cbi_global_sotm_2021_02h_0.pdf</u>

clear standards for green investment while allowing some flexibility for local contexts.¹⁶ India is in the early stages of developing a green taxonomy, which would replace guidance issued several years ago with a more comprehensive set of definitions and metrics.¹⁷

The **Climate Bonds Standard and Certification Scheme** is a labelling scheme for bonds and loans. Rigorous scientific criteria ensure that bonds and loans with Certification, are consistent with the 2 degrees Celsius warming limit in the Paris Agreement. The Scheme is used globally by bond issuers, governments, investors and the financial markets to prioritise investments which genuinely contribute to addressing climate change.

Other sustainability principles and reporting frameworks are Equator Principles, UN Principles for Responsible Banking, UN Global Compact Principles, IFC Performance Standards, IDFC Common Principles, CDP, Global Reporting Initiative, Business responsibility and sustainability reporting, Taskforce on climate related financial disclosures.¹⁸

2.4 Some examples of financial institutions that have facilitated green finance

a National Bank for Agriculture and Rural Development (NABARD)

The NABARD Climate Change Fund was established in 2016-2017. The fund was initially capitalized with US\$ 571,900 and is replenished annually out of NABARD's profit margins. The corpus stands at approximately US\$14.9 billion (₹20 crores) in 2022 (estimated using average exchange rate of ₹74.5/US\$).¹⁹ In 2019 and 2020, NABARD disbursed US\$159,600 and US\$129,010, respectively, to conduct vulnerability assessments and build climate resilience in rural regions of the country (NABARD, 2021). The size of the fund is very small in comparison to the required finance for India to achieve its NDCs under the Paris Agreement. It is estimated that the country needs approximately ₹11 lakh crore (US\$170 billion) per year.²⁰

NABARD's adoption of high fiduciary, legal, environmental, and social standards across its portfolio is perhaps more significant than any one programme or fund. This enabled NABARD to secure approval to act as the **National Implementing Entity for India with the Adaptation Fund** since 2012 under the United Nations Framework Conventions on Climate Change (UNFCCC) and to secure accreditation as a **direct access entity with the Green Climate Fund** in 2015 (UNFCCC, 2012; GCF, 2019).^{21 22} Both the multilateral climate funds have stringent criteria and due diligence processes, although they also have a reciprocal process to fast-track institutions approved by the other fund. NABARD is the National Implementing Entity for National Adaptation Fund for Climate Change (NAFCC), Government of India.

¹⁶Prashant Vaze, Neha Kumar, Sarah Colenbrander, Lily Burge and Nandini Sharma (2022) Identifying, managing and disclosing climate-related financial risks in India: Options for the RBI of India. ODI Report. London: ODI (<u>https://odi.org/en/about/our-work/strengthening-climaterisk-assessment-in-indias-financial-sector</u>) Source:<u>https://cdn.odi.org/media/documents/Policy options for the Reserve Bank of India -</u> CBI ODI and auctusESG91.pdf

¹⁷ <u>'Emerging Market Green Bonds Report 2021'</u>, 2022, Source: <u>https://research-center.amundi.com/files/nuxeo/dl/4378c421-b695-47ee-9e3c-a60ed38a6896</u>

¹⁸ Equator Principles, 2020.

Source: <u>https://equator-principles.com/app/uploads/The-Equator-Principles_EP4_July2020.pdf</u> ¹⁹ <u>https://www.nabard.org/pdf/annual-report-2021-22-full-report.pdf</u>

²⁰https://www.climatepolicyinitiative.org/publication/landscape-of-green-finance-in-india-

^{2022/#:~:}text=Green%20finance%20flows%20must%20increase,Net%2DZero%20emissions%20by%202070. ²¹Source:

https://www.nabard.org/content1.aspx?id=583&catid=8&mid=8#:~:text=NABARD%20has%20been%20accredi ted%20as,the%20only%20NIE%20for%20India.

²² <u>https://www.nabard.org/content1.aspx?id=584&catid=8&mid=8</u>



Accreditation with the Adaptation Fund and Green Climate Fund has allowed NABARD to access highly concessional international resources to experiment with financing models for climate action. To date, NABARD has received US\$8.1 million from the Adaptation Fund across eight projects for forestry, agriculture and food security, and coastal and water management (NABARD, 2021). NABARD's accreditation with the Green Climate Fund has enabled it to access US\$120.7 million of concessional finance

that it is on-lending for solar rooftop installations, groundwater recharge, and solar micro-irrigation (NABARD, 2021).

The cumulative value of NABARD-mediated or initiated funding of 40 climate change projects amounts to **US\$1,379 billion (₹1,852 crore).**²³ Under Adaptation Fund, the cumulative sanction for six projects and two Readiness Grants stood at US\$9.94 million (₹60.95 crore) in 2022. NABARD has facilitated sanctioning of two projects with total outlay at US\$134.35 million (₹944.20 crore) under Green Climate Fund.²⁴ It cumulatively sanctioned 30 projects under NAFCC amounting to US\$631.3 billion (₹847.47 crore) at the end of FY 2021-22.

NABARD's own funds consisting of capital, reserves and surplus, and National Rural Credit (NRC) funds were **US\$57,452 billion (₹77,117 crore)** (or 10.2% of the balance sheet) as on 31 March 2022 (estimated using average exchange rate of ₹74.5/US\$).²⁵ Its **profit after tax for the year was US\$3,786 billion** (₹5,082 crore). Thus, NABARD's sanctions and commitments above are a minuscule proportion of the bank's resources and do not represent a major contribution to Climate Finance so far.

b Small Industries Development Bank of India (SIDBI)

SIDBI has been strategically focusing on supporting responsible business practices in MSMEs, including energy efficiency and cleaner production, through both financial and non-financial support. Its policies and programmes enabled SIDBI to join the International Development Finance Club (IDFC, 2021) and secure accreditation as a direct access entity with the Green Climate Fund (GCF, 2019), thus gaining access to concessional funds to support ESG initiatives.



SIDBI has experimented with a range of innovative financing instruments that use public finance to crowd in private finance for environmentally and socially positive purposes. Its Sustainable Finance Scheme – also known as the End-to-End Energy Efficiency Investments in MSMEs (4E Financing Scheme) – is intended to help MSMEs invest in cleaner production, providing finance for any measures and technologies listed under the Bureau of Energy Efficiency's (BEE) star rating.²⁶ The

scheme offers loans worth up to 90% of the project cost with a minimum loan amount of US\$ 13,300 and maximum loan amount of US\$ 199,500 per eligible borrower. The interest rate is in the range of 8.1-9.9% a year with a repayment period of 36 months for loans up to US\$133,000 and 60 months for loans up to US\$ 199,500 (Verma, 2016). This is a very attractive rate for business loans in India (current lending rates are typically 20–24% per annum (World Bank, 2019)), enabled through bilateral lines of concessional credit from international agencies such as Japan International Corporation Agency (JICA), French Development Agency (AFD) and German Development Bank (KfW) (SIDBI, 2019a).

To obtain the loan, MSMEs follow a stringent procedure involving a detailed energy audit report and detailed project report vetted by an energy efficiency consultant, along with compliance with the

²³ https://www.nabard.org/pdf/investing-in-a-sustainable-tomorrow-eng.pdf

²⁴ <u>https://www.nabard.org/contentsearch.aspx?AID=1399&Key=climate%25252bchange%25252bfund</u>

²⁵ https://www.nabard.org/pdf/annual-report-2021-22-full-report.pdf

²⁶ <u>https://sidbi.in/files/product/3.%20Financing%20Schemes%20for%20Sustainable%20Development.pdf</u>



Environment & Social Management Framework (SIDBI, 2019a). As of 2019, concessional funding of US\$ 15.4 million has been provided to 105 MSMEs and technical assistance to 230 MSMEs. Together, the 4E Financing Scheme is estimated to have reduced CO_2 emissions by 0.8 million tonnes (SIDBI, 2019).

The MSME sector generates around 110 million tonnes of CO_2 equivalent, according to a report by the Centre for Study of Science, Technology & Policy (CSTEP) published in 2018.²⁷ The projected energy consumption of the sector by 2030 is expected to be equivalent to above 72 million metric tonnes of CO_2 .²⁸ The MSME sector is notably GHG emission-intensive due to the high use of fuels and its informal nature which is difficult to regulate. MSMEs consume about 25% of the total energy consumed by the industrial sector in India and out of the total energy consumed in MSMEs, 15% is electricity consumption and 85% is thermal energy consumption. As in the case of NABARD, SIDBI has made some positive moves in the right direction but based on the available information, its contribution to energy efficiency and pollution mitigation is minuscule relative to the financial muscle of these large publicly owned institutions.

c RBL Bank

RBL Bank has also established dedicated credit lines with attractive rates to finance environmentally sustainable activities. These credit lines were initially made possible through partnerships with multilateral agencies which provided concessional finance for RBL to test and iterate its business models.²⁹ RBL Bank received a loan worth US\$50.3 million in 2019 from the International Finance Corporation, for **on-lending to 'climate smart' projects** including **renewable energy, energy efficiency**



and green buildings (RBL Bank, 2020). RBL Bank has also secured a loan worth US\$20.1 million from the Global Climate Partnership Fund specifically for on-lending for sustainable agriculture projects such as drip/micro-irrigation technology, installation of solar pump-sets and installation of solar home systems (RBL Bank, 2020). These experiences build on RBL Bank's early experiments with climate-relevant projects: for example, it was one of the only Indian banks providing funding for early-scale small and medium-sized enterprises in solar energy in 2015 (Sanyal and Eisinger, 2016).³⁰

Other Indian banks and subsidiaries that have been accredited with the Green Climate Fund include IDFC First Bank and Yes Bank.

²⁷https://www.downtoearth.org.in/blog/energy/india-s-msmes-must-pare-emissions-and-climate-financemay-be-the-nudge-they-need-83359

²⁸'Financing Low Carbon Transition in India's MSME Sector', 2022 <u>https://www.teriin.org/sites/default/files/2022-</u>

^{10/}Financing Low Carbon Tranistion for India MSME Sector.pdf

²⁹ https://ir.rblbank.com/pdfs/financial-highlights/sustainability-report-2019-20.pdf

³⁰ http://www.switch-asia.eu/site/assets/files/1225/green finance study - 2016 - india.pdf

3 Public policy towards Green Finance (India), UN, World Bank initiatives in Green Finance

3.1 Key policy milestones in India's sustainable finance journey



Source: Identifying, managing and disclosing climate-related financial risks: options for the Reserve Bank of India. ODI Report

Figure 3.1 illustrates RBI's efforts to address environmental concerns to date, as well as the role it is playing in India's emerging sustainable finance strategy.³¹ In the Indian context, preliminary estimates conducted for the Paris Agreement suggest that India requires ₹162.5 lakh crore (US\$2.5 trillion) till 2030 for NDCs, and ₹716 lakh crores (US\$10.1 trillion) to achieve Net-Zero emissions by 2070.^{32 33}





Source: Landscape of Green Finance in India 2022. Climate Policy Initiative.

³¹<u>https://cdn.odi.org/media/documents/Policy options for the Reserve Bank of India -</u> <u>CBI ODI and auctusESG91.pdf</u>

³²<u>https://www.climatepolicyinitiative.org/publication/landscape-of-green-finance-in-india-</u>

^{2022/#:~:}text=Green%20finance%20flows%20must%20increase,Net%2DZero%20emissions%20by%202070.

³³ <u>https://rbi.org.in/Scripts/PublicationsView.aspx?id=19363</u>

Figure 3.2 and 3.3³⁴ depict the extent to which India has lagged in investing green finance vis-à-vis the finance required to meet its Nationally Determined Contributions.

In 2021, India put forth enhanced ambitions on climate action and announced the Panchamrit targets, which include adding 500 GW of non-fossil fuel-based energy capacity and meeting 50% of its energy requirements through non-renewable sources. Such enhanced ambition requires mobilization of green finance at a much faster pace.

In 2015, the Reserve Bank included lending to social infrastructure and small renewable energy projects within priority sector



Figure 3.3: Actual green finance investment in

Estimated finance required by India to meet current NDCs is ₹1,100,000 crore.

Source: Landscape of Green Finance in India 2022. Climate Policy Initiative.

lending targets, thereby giving a further fillip to green financing.

India figures prominently vis-à-vis its EME peers in green bond issuances. In line with global trends, the issuance of sustainable debt has risen sharply in India during Calendar Year 2021 taking it to the second place among emerging economies in cumulative Green Bond Issuances with a record US\$5.9 billion (**Figure 3.4**), accounting for one-third of total issuance since the country began issuing green bonds in 2015 (Emerging Market Green Bonds Report 2021, 2022).³⁵ Most of the proceeds from these bonds were allocated to **renewable energy, airport infrastructure, and a municipality.** Although non-financial corporates in the renewable energy sector accounted for most of the recent issuance, banks could start increasing their issuance to finance sustainable lending projects. Again, there are a few "green shoots" of action in financing a green economy and a green future, but major actions are yet to take hold.



Source: Emerging Market Green Bonds Report 2021

India is making progress towards instituting a system of green financial regulations. The country increasingly recognises climate risk as a priority in the financial system, as established in the Reserve Bank of India (RBI) Financial Stability Report of July 2021. The RBI also released a discussion paper on climate risk and mitigation opportunities for the financial institutions.³⁶

Development banks and financial institutions play a crucial role in

³⁴<u>https://www.climatepolicyinitiative.org/publication/landscape-of-green-finance-in-india-</u>

^{2022/#:~:}text=Green%20finance%20flows%20must%20increase,Net%2DZero%20emissions%20by%202070 ³⁵https://www.ifc.org/wps/wcm/connect/f68a35be-6b49-4a86-9d65-c02e411de48b/2022.06+-

⁺Emerging+Market+Green+Bonds+Report+2021 VF+%282%29.pdf?MOD=AJPERES&CVID=o5EzvO0

³⁶ Ghosh, S. et al. (2022). Green Transition Risks to Indian Banks

https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/03AR 17032022266D3EFB505B744DB9B32A37C162E0680.PDF

green finance by mobilizing capital, offering risk sharing mechanisms, and diverting finance flows to low-carbon activities. The announcement of Development Finance Institution (DFI) in Budget 2020-2021 is a welcome step in this direction. Similarly, creation of a dedicated Green Bank may also help in increasing green finance flows. These institutions need to be nudged to play an active role in designing credit products for managing climate change.³⁷

In January 2021, a coalition of the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), the Pension Fund Regulatory and Development Authority (PFRDA) and the Insurance Regulatory and Development Authority of India (IRDAI) set up the Task Force on Sustainable Finance. This aims to define a framework and roadmap for sustainable finance in India, to suggest a draft **taxonomy of sustainable activities** and a framework of risk assessment. SEBI has introduced new requirements for sustainability reporting for listed companies — the **Business Responsibility and Sustainability Report (BRSR).** Currently, India does not have a green taxonomy. Taxonomy can help scale up green finance by proposing a clear definition of 'green', thereby reducing uncertainty in the sector. This can help with building investor confidence and minimizing greenwashing.

"To support this acceleration (green lending), a number of structural changes may be needed in the traditional lending approach, including evaluation and certification of the green credentials of projects. In order to give focused attention to scaling up green finance, banks and financial institutions would have to invest in human resources and capacity building efforts as well as integrate environmental and social risk considerations into their corporate credit appraisal mechanisms."

-Shri M. Rajeshwar Rao, Deputy Governor, Reserve Bank of India, December 2022

In May 2021, the RBI set up a Sustainable Finance Group to take the lead on regulatory initiatives for climate risk and sustainable finance. RBI had already released a Discussion Paper on Climate Risk and Sustainable Finance in July 2022 covering a gamut of issues on the RBI's website for comments of stakeholders.³⁸

The Government, in the Union Budget for 2022-23 announced that climate action would be a key priority and proposed that as a part of its overall market borrowings in 2022-23, **Sovereign Green Bonds (SGBs) will be issued for mobilizing resources for green infrastructure**.³⁹ The proceeds will be deployed in public sector projects which will help in reducing the carbon intensity of the economy. While this is a positive step, it is also a confusing one since India does not yet have a green finance taxonomy. This was reiterated by Shri M. Rajeshwar Rao, Deputy Governor, Reserve Bank of India.⁴⁰ While a task force was set up in 2020 by Government of India to design the Sustainable Finance Roadmap of India, which also included a taxonomy, the roadmap and taxonomy were focused on defining what would constitute 'sustainable activities', instead of defining a green finance taxonomy. It is very important for green finance taxonomy to be developed if the country is to ensure that money flows towards climate-friendly activities. The following supporting actions indicate further thinking in the direction of green finance

³⁸Discussion Paper on Climate Risk and Sustainable Finance

https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21071

³⁹Sitharaman, N. (2022). Budget Speech 2022-2023

³⁷<u>https://www.linkedin.com/posts/narasimhan-srinivasan-60281517_pvssuryakumar-agriculture-</u>

climatechange-activity-7036155156773646337-pqHR/?utm_source=share&utm_medium=member_desktop

https://www.indiabudget.gov.in/doc/bspeech/bs202223.pdf

⁴⁰ <u>https://www.rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=1344#F13</u>

- In a March 2022 bulletin, the RBI issued its first public statement about green transition risks to Indian banks, suggesting that these should be closely monitored.⁴¹
- Studies suggest that developing universally accepted standards and definitions will improve green bond pricing and foster green bond market development (World Bank, 2018).⁴² Policy action is needed to establish an enabling framework that promotes the green finance ecosystem in India by fostering awareness through coordinated efforts. Deepening of corporate bond market, standardization of green investment terminology, consistent corporate reporting, and removing information asymmetry between investors and recipients can make a significant contribution in addressing some of the shortcomings of the green finance market.
- Central banks can use several policy tools for climate change mitigation including disclosure requirements relating to all climate-related financial risks, green macro-prudential regulation such as higher risk-weights for carbon-intensive sectors; differentiated capital and reserve requirements for banks with higher green lending; and green credit policy instruments in the form of subsidized loan rates for priority sectors (UN Environment, 2017)
- There is a need for a coordinated strategy between the government, the RBI and the financial sector to manage green lending to commercial and marginalized sectors alike.⁴³

3.2 International Initiatives

Clean Development Mechanism (CDM)⁴⁴: CDM allows a country with an emissionreduction or emission-limitation commitment under the Kyoto Protocol (Annex B Party) to implement an emission-reduction project in developing countries. Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO2, which can be counted towards meeting Kyoto



targets. A CDM project activity might involve, for example, a rural electrification project using solar panels or the installation of more energy-efficient boilers.

Green Climate Fund (GCF): The Green Climate Fund has been designated as an operating entity of the financial mechanism of the UNFCCC. The decision to set up the Green Climate fund (GCF) was taken at COP 16 in Cancun on December 2010 and the GCF was operationalized in COP 17 in Durban in 2011. The GCF is head quartered in Songdo, Incheon City, Republic of Korea.^{45 46}

In the context of sustainable development, the Fund aims to promote a paradigm shift towards lowemission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, considering the needs of those developing countries particularly vulnerable to the adverse effects of climate change. The Fund will play a key role in channelizing new, additional, adequate and predictable financial resources to developing countries and will catalyse climate finance, both public and private at the international and national levels. The finance is expected to meet the agreed full and

- ⁴³<u>https://www.linkedin.com/posts/narasimhan-srinivasan-60281517</u> pvssuryakumar-agriculture-
- climatechange-activity-7036155156773646337-pqHR/?utm_source=share&utm_medium=member_desktop 44https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-

protocol/the-clean-development-mechanism

⁴⁵<u>https://unfccc.int/process/bodies/funds-and-financial-entities/green-climate-</u>

⁴¹

https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/03AR 17032022266D3EFB505B744DB9B32A37C162E0680.PDF ⁴² https://rbi.org.in/Scripts/PublicationsView.aspx?id=19363

fund?gclid=CjwKCAiAr4GgBhBFEiwAgwORrTyl3r8liCKzUfZ1zlPveRHBUSuvEA4yzpzs0l8MZ9gl5NU43uv QGhoCse4QAvD_BwE

⁴⁶ <u>https://www.greenclimate.fund/countries/india</u>

incremental costs for activities to enable and support enhanced action on adaptation, mitigation (including REDD-plus), technology development and transfer (including carbon capture and storage), capacity-building and the preparation of national reports by developing countries.

The GCF is supporting project development credit facilities to commercial banks to help them pilot new green investments and financial products and gradually decarbonize their operations. For example, the GCF is supporting the Development Bank of Southern Africa to create the Climate Finance Facility, a dedicated green finance operating unit. This Facility is a first-of-its-kind application based on the green bank model, adapted from emerging market conditions.⁴⁷

As an operating entity of the financial mechanism of the UNFCCC, GCF has become a vital part of the global climate finance architecture investing in transformational climate projects worth over US\$ 40 billion (including co-financing) in more than 100 countries.

As of 31 July 2020, the GCF had raised US\$ 10.3 billion equivalent in pledges from 49 countries/regions/cities. As of 19 August 2022, 34 contributors have pledged US\$ 10 billion for GCF-1 (first replenishment). Over 70% of contributors have increased their pledges in national currency compared to the Initial Resource Mobilization period, and half of the contributors have doubled their pledges or more. All 34 contributors have confirmed 100% of their pledges and signed contribution agreements/arrangements, amounting to US\$ 9.87 billion equivalent in nominal terms.⁴⁸ The second replenishment of the fund officially launched in July 2022 is set to culminate in a pledging conference in 2023.

Sustainable Banking and Finance Network (SBFN): SFBN is a voluntary community of financial sector regulators, central banks, industry associations, and environmental regulators from emerging markets committed to advancing sustainable finance for national development priorities, financial market deepening, and stability. Their approaches draw on international good practices, reflecting national contexts and priorities. IFC, the private sector arm of the World Bank Group, acts as the Secretariat to SBFN, playing the role of strategic and technical advisor, as well as global convener to SBFN and its members.⁴⁹

Network for Greening the Financial System (NGFS): A network of Central Banks and Supervisors launched at the Paris "One Planet Summit" in December 2017. The group, started by eight central banks and supervisors, has grown to 121 members and 19 observers willing on a voluntary basis to share best practices and contribute to the development of environment and climate risk management in the financial sector and to mobilise mainstream finance to support transition toward a sustainable economy.

In the last four years, the Network has provided valuable guidance on integrating climate and environmental risks into the work of supervisors and central banks.

In April 2019, the NGFS published its first comprehensive report, 'A call for action', and issued six recommendations for central banks, supervisors, policymakers, and financial institutions to enhance their role in the greening of the financial system and the management of climate and environment-related risks.

⁴⁷<u>https://iihs.co.in/knowledge-gateway/wp-content/uploads/2020/10/Tipping-or-turning-point-</u> scaling-climate-finance-era-covid-19.pdf

 ⁴⁸ <u>https://www.greenclimate.fund/about/resource-mobilisation/irm</u>
⁴⁹<u>https://www.ifc.org/wps/wcm/connect/2ee15bc1-66fa-4e3d-aa34-</u>
7f51767d6ba0/SBFN Overview 01Oct2021.pdf?MOD=AJPERES&CVID=nMY9x11

- Publication of several deliverables, including (i) various reports on supervisory practices (May 2020, October 2021) and the use of climate scenarios (June 2020, October 2021); and (ii) the NGFS climate scenarios
- Publication of two reports: 'A sustainable and responsible investment guide for central banks' portfolio management' (October 2019) and a 'Progress report on the implementation of sustainable and responsible investment practices in central banks' portfolio management' (December 2020).
- 3. Publication of (i) a Dashboard on scaling up green finance (March 2021) and (ii) a Progress report on bridging data gaps (May 2021)
- 4. The NGFS is one of the four founding partners of the Climate Training Alliance (CTA), launched in July 2021. Also, the NGFS Secretariat frequently organizes internal workshops and outreach sessions with its members.
- 5. Several NGFS workstreams are working on achieving robust and internationally consistent. climate and environment-related disclosure. The NGFS published a 'Guide on climate-related disclosure for central banks' (December 2021)
- 6. The NGFS is an observer of the International Platform on Sustainable Finance (IPSF) and of the Platform on Sustainable Finance (PSF).

At the Green Swan Conference 2022, Chair of NGFS, Mr. Ravi Menon, elaborated on its work programme going ahead:

- enhancing supervisory practices with respect to managing climate risks.
- designing actionable climate scenarios.
- assessing the implications of climate change for monetary policy.
- providing guidance for central banks on their own net-zero transition.
- analyzing nature-related financial risks; and
- building capacity among its membership⁵⁰

⁵⁰ https://www.bis.org/review/r220602e.htm

4 Conclusions

Green finance flows fall far short of the world's needs to meet the internationally agreed climate objectives. Despite a steady increase in green finance flows, total adaptation finance remains far below the scale necessary to respond to the needs of existing and future climate change, and hence must increase dramatically.

The public sector globally provides most of the adaptation finance but represents a low 14% of total public finance.⁵¹ Development Finance Institutions (DFIs) continued to deliver most of the public finance followed by state-owned financial institutions and direct finance flows (domestic and international) from governments, delivered primarily through grants. Data on adaptation finance from the private sector is largely missing. The tracked investments are led by corporations, commercial financial institutions, and household spending on electric vehicles. More than 75% of the tracked climate investments flow domestically highlighting the continued importance of strengthening national policies, public finance systems, and domestic regulatory frameworks to encourage investments and address risk. There is a need for increased coordination across public and private financial actors, domestically and internationally to ensure coherence and impact on resilience, a net-zero transition to a green economy and sustainability, with support from all sectors and aligned with contemporary science.

In India's context, the current tracked green finance represents approximately 25% of the total requirement across sectors just to meet the NDCs (nationally determined contributions to net zero targets).⁵² This accounts for mitigation only. Adaptation flows are even more muted. Private sector green finance accounted for 59% of the total while public flows were evenly distributed amongst Government Budgetary spends (Central and State) and PSUs. To improve this, public finance must increasingly play a role in mobilizing private finance. Coordinated strategy between governments, RBI, and the financial sector can manage the concerns of green lending. DFIs and commercial banks must be nudged to play an active role in designing credit products for managing climate change. A strong policy environment – green taxonomy, an integrated Measurement, Reporting and Verification (MRV) system, and accelerating investment and adoption in priority sectors – is critical to enable green finance at scale. Coordinated efforts across data collection, reporting and access would also facilitate increased green finance flows.

The banking system, left to itself, is unlikely to finance mitigation and adaptation investments as they are of lower commercial appeal compared to other lending opportunities. There is a need for 'blended finance' which has a development payoff but low or no revenue streams. Mainstream funders would require financial and non-financial incentives for financing mitigation and adaptation investments and their investment appraisals must be based on the economic rate of return methodology as opposed to the financial rate of return.⁵³

A huge amount of adaptation of the entire financing framework is needed if the world in general and India, in particular, is to catch up with climate change. All institutions in the government and private sectors need to pull together for this purpose.

⁵² 'Landscape of Green Finance in India 2022', Climate Policy Initiative.

⁵³<u>https://www.linkedin.com/posts/narasimhan-srinivasan-60281517_pvssuryakumar-agriculture-</u> climatechange-activity-7036155156773646337-pqHR/?utm_source=share&utm_medium=member_desktop

⁵¹ Climate Policy Initiative. 2021. '<u>Global Landscape of Climate Finance 2021'</u>