Workshop on
Capacity Building on Physical Risks and Low-Carbon Transition for Indian Banking Sector

Organized by TERI

Background Note

India has set a target of becoming a net-zero emission economy by 2070. Alongside, the government has also set an ambitious target of adorning the tag of a developed economy by 2047 under its '*Viksit Bharat*' agenda for which it would need to simultaneously enhance its industrial production and consumer demand many folds. The industry sector comprises of various activities dominated by manufacturing, some of which are either energy intensive or emission intensive or both such as steel, cement, aluminium, fertilizers, paper & pulp and chemicals that are often referred to as 'hard to abate' sectors. While businesses will align their investments in capacity building in response to the growing demand, it is important that such investments are environmentally sustainable in the long run. Most of these industrial products have become an integral part of modern living supporting wide-spread economic activity with deep-rooted linkages cutting across economic activity and output, employment and government tax revenues. Upholding the principle of equity and CBDR&RC, India has consistently advocated that international financial support, in a mix of aids, grants and concessional finance is necessary for it to meaningfully contribute to addressing climate change while pursuing its developmental aspirations. This insistence is borne out of the fact that the either the upfront cost of most novel low-carbon transition technologies or the recurring operational expense is usually prohibitively high, putting pressure on the limited public finance available and still evolving financial markets in developing countries. Furthermore, the cost of capital in developing countries is considerably higher than in developed nations, making it challenging for businesses to incorporate environmental and climate change resilience into their capital expansion investment plans from the outset.

While India has made noticeable progress in meeting its climate commitments, there is a long way to go. India has already achieved its initial Nationally Determined Contribution (NDC) target of reducing emissions intensity of GDP by 35% in 2030 from 2005 levels. Till recent times, India has relied on domestic finance (~85%) to meet its climate targets under the NDCs.

In order to become a net-zero economy much bigger efforts are needed. In a collective effort, the individual businesses have to strive to become net-zero much of which will be achieved using technology intervention which are at different stages of TRL and maturity level for commercial roll out in aforesaid hard to abate sectors. Moreover, the financial outlay associated with these technological interventions are steep and adorned with uncertainties and a long payback period, making investment decisions difficult. Although at a slower than desired pace, but businesses have started to make investments into future proofing of their business from climate related transition risks. Relying solely on internal accruals and balance

sheets to fund these investments would place an unreasonable burden on businesses, particularly as availability of low-cost equity is typically constrained and is needed more for greenfield and brownfield capital expansion projects, alongside addressing existing and emerging climate-related risks. To bridge this financing gap, businesses will require additional funding, with access to reasonably priced commercial finance from banks and financial institutions being crucial to maintaining the stability and continuity of the business ecosystem.

Various studies have estimated that India would need USD 160-200 billion worth of investment per year in decarbonization. In contrast, only USD 44 billion were invested in 2022. There exists a significant financing gap in India's pursuit of low-carbon development. Essentially, India needs an ecosystem where the needs of industry and concerns of financial sector are reasonably aligned. It has been observed that investments in low-carbon technologies are hindered by a high-risk perception about low-carbon technologies both among industry as well as financial actors. Limited availability to information about the efficacy of low-carbon technologies and their commercial potential is a major driver of such high-risk perception. This is typically more pronounced among the financial actors, as they are not mandated to be technology experts. Moreover, there is a lack of publicly available information on performance or proven track record of such novel technology interventions which can be used by credit and risk functions of lenders in their assessments. The situation gets further complicated with the apprehension of the borrowers (industry actors) who are also not completely convinced of undertaking large investment bets on evolving technologies. This hesitancy amongst potential lenders and borrowers manifests in a situation which is often alleged of creating a spiral of scepticism to invest in climate change.

The long-term project loans are among the most high-risk proposals, particularly when they involve transitioning from traditional, well-established technologies to newer ones. These large-scale transition projects are generally costly, often necessitating substantial upfront capital investments (capex) or elevated operating expenses (opex), making them more vulnerable to economic and operational uncertainties. While the creditworthiness of the borrower does have a bearing on the lending decisions of banks, but more importantly, the project needs to fulfil the techno-economic feasibility on a standalone basis. The core expertise for banks lies in undertaking financial risk evaluation and credit analysis for a sector or industry but they cannot be expected to evaluate ongoing technology advancements and innovation. Moreover, banks need to take a measured approach towards balancing various risks that guarantees not just the risk adjusted "return on capital" but more importantly the "return of capital".

Moreover, if businesses fail to actively address climate-related risks in their operations and assets, the increasing physical and transitional impacts of climate change could jeopardize the quality of lenders' outstanding assets. The resulting decline in asset quality due to these risks may adversely affect both the long-term and short-term banking exposure to such businesses. When these risks are factored into broader industries or sectors, the implications could ripple through the financial sector, potentially escalating into systemic risks.

Workshop Details

Venue	The Energy and Resources Institute (TERI), Core 6C, India Habitat Centre, Lodhi Road, New Delhi - 110003
Date	Friday 12th September 2025
Time	1400 hrs to 1915 hrs*

*The workshop will be followed by dinner

Workshop Design

The Energy and Resources Institute (TERI) has been at the forefront of preparing technological roadmaps for industrial decarbonization as well as assessing physical risks for various industrial units and economic sectors. This workshop aims to impart knowledge on physical and transition risks and technological landscape towards climate resilient low-carbon development in India, coupled with the banking sector practices within which financing climate action must be embedded. The objective is to build mutual capacities for an ecosystem where increased financial flows towards low-carbon technology deployment as well as climate induced risks are better understood from the perspective of commercial finance.

On the aforesaid lines, TERI is organizing a half-day workshop split across two sessions (of 2 hours each) involving officials from relationship, risk, and credit functions of commercial banks. A focused stakeholder engagement is ideally suited for this quasi-exploratory workshop to come out with useful insights on missing links and barriers in the development of a sustainable commercial financing framework in India.

Participants for the workshop

- Senior level officials from risk and/or credit functions of banks
- Subject experts on commercial finance (including climate finance)
- Technical experts on technology transition and physical risk assessment from TERI
- Representatives from the Industry (Iron and Steel & Cement Sectors)

Workshop Agenda

Date: Friday, 12th September 2025
Venue: TERI, Core 6C, India Habitat Centre, Lodhi Road, New Delhi - 110003

Time Slot	**Agenda**	Presenter
2:00 pm - 2:15 pm	Registration	
2:15 pm - 2:30 pm	Welcome Address and Introduction to Workshop	Girish Sethi
2:30 pm - 3:30 pm	**Session 1**: Understanding Climate Change Induced Hazards and Physical Risks	Prasoon Singh
3:30 pm - 4:00 pm	**Session 2**: Demo of AI enabled TERI Climate Tool	Vibhu Batheja
4:00 pm - 5:00 pm	**Session 3**: Technology Landscape for Industrial Decarbonization in India (Steel and Cement Sector)	Mayank Agarwal
5:00 pm - 5:15 pm	Tea Break	
5:15 pm - 5:45 pm	**Session 4**: Deep Dive on Financing Green Steel Plants in India	Will Hall (Virtual)
5:45 pm - 7:00 pm	**Session 5**: Roundtable Discussion on 'Bankability' of Lending Proposals from standpoint of (i) Climate Transition Risks and (ii) Climate Physical Risks	Manish Shrivastava / Sidharth Sinha
7:00 pm - 7:15 pm	Summary and Concluding Remarks	
7:15 pm onwards	Networking Dinner at Maple Hall, India Habitat Centre, Lodhi Road	

****