

# Climate based Risk Assessment For Reserve Bank of India's Regulated Entities

A phased pathway to effective climate risk  
identification, assessment and measurement



Prayas (Energy Group)

May 2024

# Climate based Risk Assessment For Reserve Bank of India's Regulated Entities

A phased pathway to effective climate risk identification,  
assessment and measurement

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May, 2024

Discussion Paper



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Prayas (Initiatives in Health, Energy, Learning and Parenthood) is a non-Governmental, non-profit organization based in Pune, India. Members of Prayas are professionals working to protect and promote public interest in general, and interests of the disadvantaged sections of the society, in particular. Prayas (Energy Group) works on theoretical, conceptual, regulatory and policy issues in the energy and electricity sectors. Our activities cover research and engagement in policy and regulatory matters, as well as training, awareness, and support to civil society groups. Prayas (Energy Group) has contributed to policy development in the energy sector as part of several official committees constituted by Ministries, Regulatory Commissions and the Planning Commission / NITI Aayog. Prayas is registered as SIRO (Scientific and Industrial Research Organization) with Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India.

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## Table of Contents

<b>1</b>	<b>Introduction and context</b>	<b>1</b>
1.1	Recent International context	1
1.2	India specific context	2
<b>2</b>	<b>Tools and Process Framework trajectory suitable for a phased orientation towards climate risk understanding</b>	<b>3</b>
<b>3</b>	<b>Tools and Suggested Process Trajectory detailed breakdown</b>	<b>5</b>
3.1	Phase 1: Counterparty level climate risk assessment (1-3 years)	6
3.1.1	Counterparty Climate Risk Assessment Tool (CCRAT)	6
3.1.2	Collateral Climate Risk Assessment Tool (CoCRAT)	7
3.1.3	Counterparty Climate Risk Assessment Questionnaire (CCRAQ)	9
3.2	Phase 2: Standardisation of climate risk scores across counterparties (3 – 5 years)	10
3.2.1	Creation of Climate Risk Sensitivity Inventory (CRSI)	11
3.2.2	Juxtaposition with credit risk ratings	11
3.3	Phase 3: Maturation of climate risk scoring and integration with existing risk management frameworks (post year 5)	12
<b>4</b>	<b>Concluding comments and way forward</b>	<b>13</b>
4.1	Supplementary eco system development initiative for climate risk related assessment for the Indian Financial system	13
<b>5</b>	<b>Annexure – detail tools</b>	<b>15</b>

# 1. Introduction and context

Climate based risk assessment is an important priority for India's financial sector and its regulators. The recently introduced Draft Disclosure framework on Climate-related Financial Risks, 2024 (henceforth referred to as 'RBI's draft climate disclosure framework') is a concrete step taken by the Reserve Bank of India towards climate risk sentience in its Regulated Entities (REs). The staggered timeline for implementation for various classes of REs for types of disclosures is well appreciated.

By its very nature, the risk to financing emanating from climate related events needs financial institutions to disrupt their envisioning of the future as business as usual. It needs a marked departure from the way that traditional risks operated within an understood frame of reference of how the world and its weather patterns worked. Over the last few years, given this area's nascent status and difficulty in envisaging forward looking scenarios, central banks across the world are working with their respective regulated entities for co-creating climate based risk assessment frameworks.

The objective of this paper is to make the process of encouraging climate risk sentient thinking, assessment and measurement, accessible and palatable to Indian REs. For this purpose, we have attempted to provide a medium term process framework trajectory and some easy to use tools. The main focus of this current exercise is encouraging a climate risk sentient culture at all levels of the Indian Banking system in a phased manner.

## 1.1 Recent International context

Bank of England (BoE) set out supervisory guidance for banks and insurers on climate-related risks in the form of Supervisory Statement 3/19 (SS3/19) in April 2019. As per the SS3/19, where appropriate, the PRA (Prudential Regulation Authority) expects firms to consider a range of quantitative and qualitative tools and metrics to monitor their exposure to financial risks from climate change<sup>1</sup>. This was followed by BoE publishing a series of guides on how banks and insurers can build their own climate risk toolkit. A Climate Financial Risk Forum (CFRF) guide from 2020 also included a more detailed guideline on how climate risks can be studied at banks' portfolio level and contained a list of data providers and tools/methodologies for the same<sup>2</sup>. From 2022, BoE expects firms to have an appropriate understanding of climate risk using both qualitative and quantitative measures<sup>3</sup>.

Banco Central Do Brasil (BCB) introduced their 'New regulation on social, environmental, and climate-related risk Disclosures' in 2021 clubbing together disclosure rules for social risk, environmental risk, and climate-related risk management by regulated institutions of the National Financial System<sup>4</sup>. The regulation directed entities regulated by BCB to create, test, and disclose

1. <https://www.bankofengland.co.uk/prudential-regulation/publication/2019/enhancing-banks-and-insurers-approaches-to-managing-the-financial-risks-from-climate-change-ss>
2. <https://www.bankofengland.co.uk/climate-change/climate-financial-risk-forum>
3. <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/letter/2022/october/managing-climate-related-financial-risks.pdf>
4. [https://www.bcb.gov.br/content/about/legislation\\_norms\\_docs/BCB\\_Disclosure-GRSAC-Report.pdf](https://www.bcb.gov.br/content/about/legislation_norms_docs/BCB_Disclosure-GRSAC-Report.pdf)

tools used for the management process of social risk, environmental risk, and climate-related risk. In November 2022, BCB released its Financial Stability Report where it showcased its findings from a top down stress test done for extreme drought risk for Brazilian banks loan portfolios<sup>5</sup>.

The United States Federal Reserve released their first ever 'principles for climate-related financial risk management for large financial institutions' for entities with over a \$100 Billion in total consolidated assets, in October 2023<sup>6</sup>. The document mentions, 'As part of sound risk management, management should develop processes to measure and monitor material climate-related financial risks and to communicate and report the materiality of those risks to internal stakeholders'.

Globally, central banks seem to be adopting a bottom-up approach of climate risk assessment and measurement for financial sector entities, leaving the actual process and selection of tools of climate risk assessment and measurement to individual regulated entities.

## 1.2 India specific context

While there is value in central banks co-creating climate risk assessment frameworks by letting individual regulated entities take the lead, we believe that this approach may not be suitable to the Indian banking system given the physical vastness of the country, diversity of climate as well as the nature of the banking services infrastructure in urban, semi urban, rural and remote areas and trained staff availability. For the Indian context, starting off the process of climate risk assessment for Indian banks using a common set of tools and methodology across REs prescribed by the RBI and collating the outputs to arrive at a common language for translating climate risk assessment for banking portfolios may be effective.

The Financial Stability Board (FSB), an international body that monitors and makes recommendations about the global financial system, created the Taskforce on Climate-Related Financial Disclosures (TCFD) to develop recommendations on the types of information that companies should disclose to support investors, lenders, and insurance underwriters in appropriately assessing and pricing a specific set of risks—risks related to climate change<sup>7</sup>. In October 2023, the TCFD was disbanded and the International Sustainability Standards Board (ISSB) disclosure standards were its replacement and successor<sup>8</sup>. The recent RBI's draft climate disclosure framework seems to be modelled on similar lines as that of the broad contours of the TCFD framework.

Most of the above international frameworks for assessing, measuring and disclosing climate risk for financial institutions serve financial markets which are much more physically and characteristically homogenous with limited scope, with much better climate data availability and also aligned with climate change mitigation pathways which are not in sync with India's unique position in this regard. Hence, India needs to develop climate risk assessment frameworks which are rooted in Indian reality and suitable for the Indian scenario. This paper proposes one such framework.

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5. <https://www.bcb.gov.br/content/publications/financialstabilityreport/202211/fsrFullRep.pdf>

6. <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20231024b.htm>

7. <https://www.fsb-tcfid.org/about/>

8. <https://www.fsb.org/2023/07/fsb-plenary-meets-in-frankfurt/>

## 2. Tools and Process Framework trajectory suitable for a phased orientation towards climate risk understanding

We propose three tools to kickstart Indian banks' foray into understanding, assessing and comparing relative climate related risk emanating from financing activities. REs may start utilising these tools to start getting a sense of what climate risk factors are embedded in their portfolios at the individual counterparty level. We believe that starting this process slowly with the use of subjective tools, followed by supplementing the exercise with better quality data over the next 3-5 years will allow for most climate risk related concepts to percolate well into the Indian financial sector. The simulations or scenario analysis-based stress testing, etc. which are slightly more advanced steps can be thought of over a medium term of 5 years.

- The first tool, Counterparty Climate Risk Assessment Tool, (CCRAT) provides relative climate risk classification of individual counterparties forming part of the RE's portfolio.
- The second tool, Collateral Climate Risk Assessment Tool (CoCRAT) provides relative climate risk classification of facility wise collateral packages for one counterparty.
- The third tool, Counterparty Climate Risk Assessment Questionnaire, (CCRAQ) is free-flowing list of questions which can be useful in guiding targeted discussions with counterparties for REs.

Following is a brief snapshot of the proposed tools:

Tool	Number of indicators	Total parameters under all indicators	Weightages	Remarks
Counterparty Climate Risk Assessment Tool (CCRAT)	4	16	Tenor Risk Indicator: 10% Physical Risk Indicator: 40% Transition Risk Indicator: 40% Litigation Risk Indicator: 10%	The CCRAT is meant to provide relative climate risk classification of counterparties. Users can score parameters on a scale from 0 to 3. A higher score denotes higher risk. Highest possible score is 15 (rounded off to nearest decimal place) denoting highest level of perceived climate risk.  CCRAT may be applied at individual borrower counterparty level. We have not specified scores into buckets of high, medium, low risk profiles at this stage. The same may be done over a period of time once the outcomes are studied across various financial institution users.

Collateral Climate Risk Assessment Tool (CoCRAT)	3	-	Physical Risk Indicator: 33% Transition Risk Indicator: 33% Insurance Coverage for specified business interruption events: 33%	The CoCRAT is meant to provide relative climate risk classification of facility wise collateral packages. Users can score parameters on a scale from 0 to 3. A higher score denotes higher risk. Highest possible score is 9 denoting highest level of perceived climate risk.  CoCRAT may be applied at individual facility level for a borrower counterparty. Similar to CCRAT we have not specified scores into buckets of high, medium, low risk profiles. The same may be done over a period of time once the outcomes are studied across various financial institution users.
Counterparty Climate Risk Assessment Questionnaire (CCRAQ)	-	-	-	This is a free-flowing list of questions which can be useful in guiding targeted discussions with counterparties for financial institutions.

These tools are designed so as to address following India specific considerations,

- Tools need to be easy to use and REs across the country should find these tools to be accessible and not jargon heavy.
- The reality of the limited availability of reliable, comprehensive, public climate data taking into account India's sheer size and variety of sub climates and geographies. Hence, to begin with the tools will have a certain amount of subjectivity and analytical judgemental while scoring on various parameters.
- We are also mindful that this type of specialised climate risk assessment, measurement and disclosure by REs is at a very nascent stage and will require many years of iterations and modifications to account for newly evolving data sources and understanding.
- This exercise being one of the first for REs, we have not assigned climate risk rating categories such as high, medium or low to the output scores. We believe that over the next one or two years of use will yield some substantial data across various REs for similar counterparties which can then pave the way for assigning climate risk rating categories based on bucketed scores.



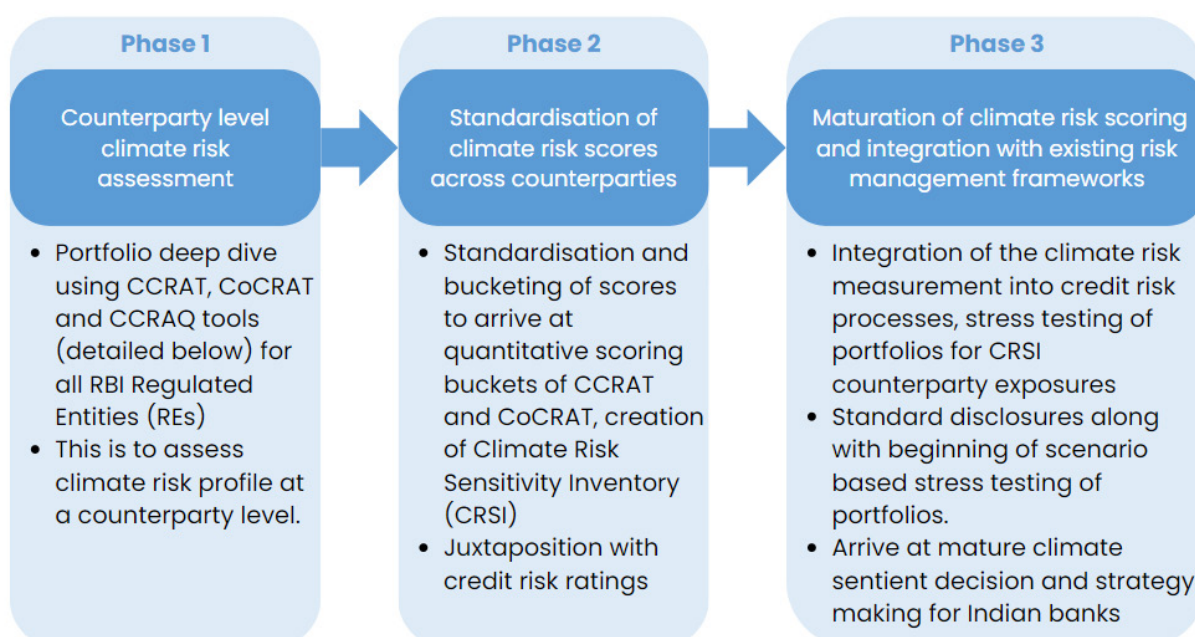
### 3. Tools and Suggested Process Trajectory detailed breakdown

The RBI's draft climate disclosure framework under its Risk Management Thematic Pillar, under Baseline disclosure, mentions that REs are to disclose how the impact of climate-related risk drivers are assessed on credit risk profiles, market risk positions, liquidity risk profiles and operational risk separately<sup>9</sup>.

The tools proposed in this paper offer a complementary approach to RBI's draft climate disclosure framework. In the initial stages (first 3 years or so), aggregating climate related risks to financing into traditional banking industry risk categories carries the risk of turning climate risk related assessment into a tick box exercise as part of the flow of business as usual risk assessment.

By its very nature, the risk to financing emanating from climate related events needs REs to disrupt their envisioning of the future as business as usual. It needs a marked departure from the way that traditional risks operated within an understood frame of reference of how the world and its weather patterns worked. We believe that at the outset, climate risk may be treated as a separate risk classification. This will help in two ways. One, it will help permeate climate risk sentient thinking in Indian bankers and two, high quality capacity building will be an organic side effect. Over a term of 3-5 years we believe that climate risk tool outputs can be integrated into existing models for assessing credit risk for REs. Further, application of core climate risk fundamentals can then also be applied to more mature assessment of market risk, liquidity risk and operational risk.

We recommend that REs set up specialized teams or desks for climate risk assessment as loading this set of tasks onto underwriting or business teams might end up making this a tick box exercise. Following is a forward looking trajectory of a slow, graded climate risk journey for Indian banks over a period of 3 to 5 years which will yield optimal in-spirit adoption of the climate risk mindset in financing decisions.



9. <https://rbidocs.rbi.org.in/rdocs/Content/PDFs/DRAFTDISCLOSURECLIMATERELATEDFINANCIALRISKS20249FBE3A566E7F487EBF9974642E6CCDB1.PDF>

### 3.1 Phase 1: Counterparty level climate risk assessment (1–3 years)

The three tools mentioned above are aimed to kickstart Indian banks' foray into understanding, assessing and comparing relative climate related risk emanating from financing activities. REs may start utilising these tools to start getting a sense of what climate risk factors are embedded in their portfolios at each individual counterparty level.

This section provides an overview of the proposed tools. Actual tools along with explanation of each parameter and scoring guidelines, remarks etc. are provided in the Annex.

#### 3.1.1 Counterparty Climate Risk Assessment Tool (CCRAT)

CCRAT consists of 16 parameters spread across four categories. Each parameter is to be scored 0 to 3 based on provided specific guidance for scoring. The maximum score possible in CCRAT is 15 (rounded off to nearest decimal place) denoting highest perceived levels of risk. Following is a list of scorable parameters in the CCRAT.

Tenor Indicator	Physical Risk Indicator	Transition Risk Indicator	Litigation Risk Indicator
Tenor	Asset heavy operations	Regulatory risk from punitive regulations/ policy actions	Existing litigations basis environmental concerns?
	Significant operations in vulnerable areas prone to flooding, heat waves, seismic activities, drought, etc.	Emissions intensity as compared to peers	Any litigations around environmental concerns amongst comparable peers?
	Significant raw material/ distribution supply chain dependence on vulnerable areas	Technology Risk	Any litigations around environmental concerns in overseas geographies for similar sector participants?
	Is a significant part of company revenue attributed to businesses that are water intensive?	Price taker risk - carbon pricing if export oriented to overseas geographies	
	Energy Mix for business operations	Sensitive sector indicator/ TCFD identified sensitive sector	
	Any increase in underwriting premium from company's insurers two years consecutively?	Regulatory risk from punitive regulations/ policy actions	
		CAPEX Risk	

The CCRAT also has an illustrative scoring guideline for each parameter. A few examples of the same are provided below.

Indicator	Parameter	Scoring Guideline
Tenor Indicator	Tenor	Score 1 for 0-3 years, Score 2 for 3-5 years, Score 3 for more than 5 years
Physical Risk Indicator	Significant operations in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	This point is trying to ascertain whether the business operations are concentrated in areas with regular instances or a growing number of instances of flooding, heatwaves, cyclones, seismic activities, droughts and other environmental disturbances. Apart from such acute climate events, it is important to reflect on the possibility of chronic climate shocks such as glacial melts, desertification, changing ambient temperatures impacting business operations and revenues. If there is an already established trend of a chronic climate shock in motion in a particular geography where the business derives a large part of its revenue from, it should reflect in the scoring of this parameter. Higher the risk, higher the score.
Transition Risk Indicator	Regulatory risk from punitive regulations/ policy actions	Is the business operating in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses, etc? Have comparable sector peers been impacted by any such orders or regulations or punitive litigation outcomes? Have similar sector participants globally been subjected to such regulatory changes? It is important to be mindful of how the sector regulations may move in line with nationally defined environmental priorities. Higher the risk, higher the score.

### 3.1.2 Collateral Climate Risk Assessment Tool (CoCRAT)

While the CCRAT presents an overall snapshot of the entire business climate risk profile, the CoCRAT takes into account that, a collateral package accompanying a particular loan facility presents a very specific climate risk profile finally leading to increased difficulty in liquidating the collateral due to an adverse climate event. Hence, the CoCRAT is intended to be applied for each facility to a specific borrower counterparty. The final CoCRAT score will be a weighted average of each facility score by facility limit weights. The maximum score possible in CoCRAT is 9 denoting highest perceived levels of risk. The CoCRAT has two columns for sanctioned limits and proposed limits. It is expected that REs will use the CoCRAT at every instance of collateral modification for any facility for a borrower counterparty. Following is a list of scorable parameters in the CoCRAT.

**Physical risk vulnerability: Collateral positioned in higher-risk flood prone areas, coastal areas, etc.**

**Transition risk vulnerability: Collateral assets with high probability of getting stranded/ obsolete/too expensive to operate**

**Insurance coverage for specified business interruption events**

The CoCRAT has an illustrative scoring guideline for each parameter for broad types of collateral. A few examples of the same are provided below:

Type of Collateral	Physical Risk	Transition Risk	Insurance Coverage
Land	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess probability of land end use restriction/zoning change due to regulatory policy, leading to economic value destruction	Score based on any material deviation from standard perils comprehensive industrial insurance policy.
Plant & Machinery	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess if asset is in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses,	Depending on the insurance policy coverage events, sum insured, etc.
Gold	Low risk	Low risk	Score based on any material deviation from standard perils comprehensive industrial insurance policy.
Cash/ Fixed Deposits/ Financial instruments	Low risk	Low risk	Score based on any material deviation from standard perils comprehensive industrial insurance policy.
Shares	Assess if business is located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess if the business is in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses,	Low Risk

Type of Collateral	Physical Risk	Transition Risk	Insurance Coverage
Rights under contractual arrangements assigned to Bank (for eg, development rights, toll collection, etc)	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess if asset is in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses,	Depending on the insurance policy coverage events, sum insured, etc.
Real Estate	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess probability of land end use restriction/zoning change due to regulatory policy, leading to economic value destruction	
Physical Current Assets	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Assess if asset is in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses,	
Receivables	Low risk	Assess if asset is in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses,	
Livestock	Assess if located in vulnerable areas prone to flooding, heat waves, cyclones, seismic activities, drought, etc.	Low risk	

### 3.1.3 Counterparty Climate Risk Assessment Questionnaire (CCRAQ)

This is a free-flowing list of questions which can be useful in guiding targeted discussions with counterparties for financial institutions. It is expected that the CCRAQ will be utilised during the annual review of facilities granted by REs to individual counterparties. Further, the CCRAQ may be useful in the event of any adverse climate related event impacting a counterparty's operations. Following is a snapshot of the same:

- Significant operations in vulnerable areas prone to flooding, heat waves, seismic activities, drought, etc.

- Significant raw material/distribution supply chain dependence on vulnerable areas
- Is a significant part of company revenue attributed to businesses that are water intensive?
- Energy Mix for business operations
- Any noteworthy increase in underwriting premiums from company's insurers?
- Is the business operating in a sector where there is high probability of regulations or policy initiatives materially impacting its business as usual mode leading to large amounts of stranded assets, discontinued businesses, etc? Have comparable sector peers been impacted by any such orders or regulations or punitive litigation outcomes? Have similar sector participants globally been subjected to such regulatory changes? It is important to be mindful of how the sector regulations may move in line with nationally defined environmental standards.
- Are Green House Gas (GHG) intensive assets contributing to a large portion of revenues for the business?
- Will the business will need to invest a large amount of resources for technology upgradation in order to remain relevant and competitive (largely driven by investor or consumer demands for technology upgradation for environmentally sound business practices).
- In case a large portion of the business revenue accrues from exports, this point attempts to reflect on the probability and impact of global regulations such as Carbon Border Adjustment Mechanism and other environment based trade barriers on the business. How do the Management see the business responding? Any change in business strategy? How much flexibility does the business have to respond to the trade barriers through price recasts, costs management, etc?
- Has the business faced any litigation around the environmental impact of its operations? Any outcomes with financial or business model implications such as plant closures, etc?
- Have comparable peers of the business faced any litigation around the environmental impact of their operations? Any outcomes with financial or business model implications such as plant closures, etc?
- Have similar sector participants in overseas geographies faced any litigation around the environmental impact of their operations? Any outcomes with financial or business model implications such as plant closures, etc?
- Large assets with no end use? Phase out plans? How does one retire debt? How much debt on such assets?
- Physical risks to collateral?
- Any losses this year due to climate?

### 3.2 Phase 2: Standardisation of climate risk scores across counterparties (3 – 5 years)

Standardisation and bucketing of scores to arrive at quantitative scoring buckets of CCRAT and CoCRAT:

- Beginning with the adoption of these tools by the REs, it would be good to have a common database housed with RBI of portfolio level scores for counterparties and types of collateral packages.
- Such a database could be subscription based and may help cross pollinate ideas and best practice amongst participant entities as well as yielding a rich data source for RBI to refine climate risk policy.
- Over a term of the next three to five years, the portfolio level score across various REs can be used as a basis for assigning climate risk ratings such as high, medium and low with bucketed scores to counterparties.

#### 3.2.1 Creation of Climate Risk Sensitivity Inventory (CRSI)

- The counterparties which consistently have high scores (denoting high level of potential risk) on either CCRAT or CoCRAT across REs, may form part of **Climate Risk Sensitivity Inventory (CRSI)**.
- CRSI counterparties can be then used for **portfolio level stress testing** on specific, appropriate climate risk pain points as part of simulating medium to long term climate risk portfolio profile and strategy to manage the same at individual REs.

#### 3.2.2 Juxtaposition with credit risk ratings

For this climate risk assessment exercise to finally embed itself into the extant credit risk assessment framework of the REs, it is important to juxtapose CCRAT and CoCRAT outputs with those of credit risk ratings (Probability of Default (PD) for CCRAT and Loss Given Default (LGD) for CoCRAT). The following is one possible pathway for achieving the same.

For the below illustration we could use the internal credit ratings denoting Probability of Default (PD) of each borrower counterparty and CCRAT scores.

Divide the portfolio basis following parameters. The high and low CCRAT scores could be decided by each RE at a later date once two years worth of portfolio CCRAT scores are available.

Particulars	Credit Ratings AAA to BBB+	Credit Ratings BBB to D
High CCRAT Scores	Quadrant 1	Quadrant 3
Low CCRAT Scores	Quadrant 2	Quadrant 4

Each quadrant will denote a specific profile of credit risk and climate risk. Once the entire portfolio is thus demarcated across REs, borrower counterparties forming part of Quadrant 1 and 3 especially may be assigned a credit PD rating, a notch or two lower than what the standalone PD credit rating model output shows, in essence, a CCRAT adjusted PD rating. A similar demarcation can be made at a portfolio level for LGD scores for a borrower counterparty and an CoCRAT adjusted LGD score may be assigned.

This approach will evolve with time as CCRAT and CoCRAT scores become more standardised across the spectrum of REs.

### **3.3 Phase 3: Maturation of climate risk scoring and integration with existing risk management frameworks (post year 5)**

- Over a 5 year period by following above steps, we believe that integration of the climate risk measurement into extant credit risk processes and stress testing of portfolios for CRSI counterparty exposures should be fairly accessible to most REs.
- We hope that this medium term objective will help REs reach mature climate sentient decision making and strategy formulating.
- As the credit risk measurement process further stabilises across REs, the disclosures can get more specific around types of risks, stress testing of various climate hazard scenarios for various sectors, pathways for REs to minimize or ration their lending to high climate risk sectors, etc. The same is about 5 years away at the minimum for REs.



## 4. Concluding comments and way forward

It is obvious and unavoidable that given the current level of availability of high quality, publicly available climate data pertaining to both acute and chronic climate events, the scoring on various parameters in CCRAT and CoCRAT will be subjective and judgement based.

- However, in order to bring in some data backed rationality to the same, it is imperative that agencies tracking climate change, climate events, work together to create a substantive and data backed climate data portal which can be used by financial sector participants for their climate risk assessment exercise and strategy formulation.
- We found the following data sources with the potential to build a climate data portal for financial sector participants:
  - National Disaster Management Authority (NDMA) (<https://ndma.gov.in/Natural-Hazards/Floods>)
  - Climate Hazards and Vulnerability Atlas of India, Office of Climate Research and Services, Indian Meteorological Department, Pune under Ministry of Earth Sciences (<https://imdpune.gov.in/hazardatlas/index.html>)

### 4.1 Supplementary eco system development initiative for climate risk related assessment for the Indian Financial system

The approach of letting financial sector participants (REs) use the tools discussed above entirely using their own judgement may have certain pitfalls such as widely varying assessment of similar risk events based on incomplete information, analyst biases etc.

In order to put some regulatory guardrails to this exercise, an alternative approach could be the centralizing of risk scores or grades for various counterparty sectors (such as mining, power, services, aviation, textiles, power and so on) pertaining to the common sectoral nuances such as transition risk parameters, or even broad physical risk parameters.

These scores, developed by a joint steering committee with members from the RBI, Securities and Exchange Board of India (SEBI), The Insurance Regulatory and Development Authority (IRDA) under the Aegis of Ministry of Finance (MoF), industry apex bodies, Ministry of Environment, Forest and Climate Change (MoEFCC) and Governmental agencies working on climate data, could act as caps for scores that can be assigned by individual finance sector participants. The score assigned by individual REs to their counterparties, could then be limited to their specific business level activities, geographic spread of assets, measures taken to mitigate said risks, etc.

Following is an indicative list of parameters that could work on the aforementioned centralized risk scoring model:

- Regulatory risk from punitive regulations/policy actions
- Emissions intensity as compared to peers
- Technology Risk
- CAPEX Risk
- Price taker risk - carbon pricing if export oriented to overseas geographies

- Asset heavy operations
- Significant raw material/distribution supply chain dependence on vulnerable areas

We hope that the above suggested tools and approach will contribute to building a solid foundation for more sophisticated assessment, measurement and disclosure of climate risks for Indian REs in the medium term.

## 5. Annexure – detail tools

Counterparty Climate Risk Assessment Tool (CCRAT)

: [bit.ly/ClimateRisk-CCRAT](https://bit.ly/ClimateRisk-CCRAT)



Collateral Climate Risk Assessment Tool (CoCRAT)

: [bit.ly/ClimateRisk-CoCRAT](https://bit.ly/ClimateRisk-CoCRAT)



Counterparty Climate Risk Assessment Questionnaire (CCRAQ)

: [bit.ly/ClimateRisk-CCRAQ](https://bit.ly/ClimateRisk-CCRAQ)



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4. Clean Cooking Mission: A way to transition to completely smoke-free kitchens Roundtable discussion organized by Prayas and the Collaborative Clean Air Policy Centre (CCAPC) (2018)  
<http://www.prayaspune.org/peg/past-events/145-roundtable-clean-cooking-mission-a-way-to-transition-to-completely-smoke-free-kitchens.html>
5. THE OBSTINATE BULB - Moving beyond price-focused interventions to tackle India's persistent incandescent bulbs problem (2018)  
<http://www.prayaspune.org/peg/publications/item/380>
6. Comments and Suggestions for the Draft Amendment in the provisions relating to Captive Generating Plant in Electricity Rules, 2005 (2018)  
<http://www.prayaspune.org/peg/publications/item/379>
7. The journey towards energy savings begins from home (2018)  
<http://www.prayaspune.org/peg/publications/item/378>
8. Electricity Distribution Companies in India: Preparing for an uncertain future (2018)  
<http://www.prayaspune.org/peg/publications/item/377>
9. Fuelling the Transition: Costs and Benefits of using Modern Cooking Fuels as a Health Intervention in India (2018)  
<http://www.prayaspune.org/peg/publications/item/376>
10. Pradhan Mantri Ujjwala Yojana: What we need to know (2018)  
<http://www.prayaspune.org/peg/publications/item/375>
11. Evaluating energy efficiency programmes in India (2018)  
<http://www.prayaspune.org/peg/publications/item/374>

Climate based risk assessment is an important priority for India's financial sector and its regulators. The recently introduced Draft Disclosure framework on Climate-related Financial Risks, 2024 is a concrete step taken by the Reserve Bank of India towards climate risk sentience in its Regulated Entities (REs). The staggered timeline for implementation for various classes of REs for types of disclosures is well appreciated.

By its very nature, the risk to financing emanating from climate related events needs financial institutions to disrupt their envisioning of the future as business as usual. It needs a marked departure from the way that traditional risks operated within an understood frame of reference of how the world and its weather patterns worked.

The objective of this paper is to make the process of encouraging climate risk sentient thinking, assessment and measurement, accessible and palatable to Indian REs. For this purpose, we have attempted to provide a medium term process framework trajectory and some easy to use tools. The main focus of this current exercise is encouraging a climate risk sentient culture at all levels of the Indian Banking system in a phased manner.



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