SHAKTI
SUSTAINABLE ENERGY
FOUNDATION

Guidance on Adoption of TCFD Recommendations

Shakti Sustainable Energy Foundation

October 2020

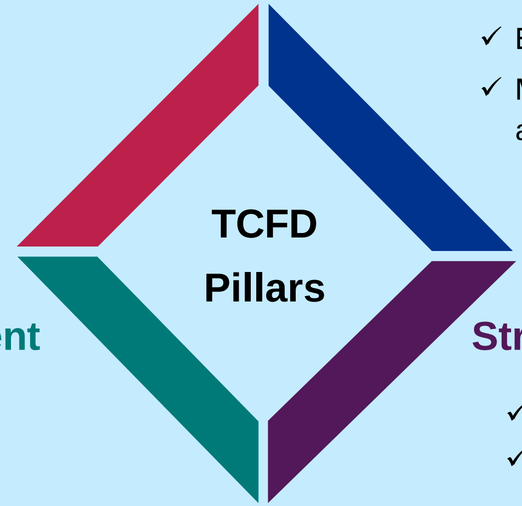
Content

About TCFD

About TCFD

- The Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD) on December 4, 2015 to develop recommendations for more efficient and effective climate-related disclosures that will:
  - **Promote more informed investment, credit, and insurance underwriting decisions**
  - **Enable stakeholders to understand better the concentrations of carbon-related assets and exposures to climate-related risks**
- It is the first international framework to examine climate change in context of financial stability.
- TCFD has developed a set of recommendations for companies on how they should disclose climate-related risks in their annual financial filings.

TCFD Recommendations



Metrics & Targets

- ✓ Metrics used by the organization to assess climate-related risks and opportunities
- ✓ Scope 1, 2, and 3 GHG emissions and related risks
- ✓ Targets used by the organization to manage climate- related risks and opportunities and performance against targets

Governance

- ✓ Board's oversight of climate- related risks and opportunities
- ✓ Management's role in assessing and managing climate- related risks and opportunities

Risk Management

- ✓ Processes for identifying and assessing climate- related risks
- ✓ Processes for managing climate- related risks
- ✓ Integration of processes into the organization's overall risk management

Strategy

- ✓ Climate-related risks and opportunities over short, medium, and long term
- ✓ Impact of climate related risks and opportunities on businesses, strategy, and financial planning.
- ✓ Resilience of the organization's strategy, taking into consideration different climate related scenarios, including a 2°C or lower scenario

Climate Change Risks and Opportunities

Climate-related Risks

Transitional Risks

Technological Risks

Technological improvements or innovations that support the transition to a lower-carbon, energy efficient economic system can have a significant impact on organizations.

Policy and Legal Risks

Climate change and sustainability Regulatory environment in the operating region and its impact on the organization

Reputational Risks

Risks posed due to changing customer or community perceptions of an organization's contribution to or detraction from the transition to a lower-carbon economy.

Market Risk

Risks to operations due to shifts in supply and demand for certain commodities, products and services

Physical Risks

Acute Risks

Risks to operations due to sudden/ unexpected weather events and natural calamities

Chronic Risks

Risks to operations due gradual rise in temperature, rainfall patterns and climate patterns

Impacts

- Technological Risks: Renewable energy adoption rather than RE purchase
- Policy and Legal Risks: Renewable energy obligations; Carbon tax/ Emissions trading regulations
- Reputational Risks: Public outcry due to operation practices; Loss of investors
- Market Risk: Hike in price of fuel and electricity
- Acute Risks: Loss of man days due to flooding in a region
- Chronic Risks: Need for infrastructural upgradation (e.g. data centres) due to rise in mean temperatures

Climate-related Opportunities

TCFD recommendations identify several areas of climate-related opportunities:

- **Resource efficiency:** reduction in operating costs due to improving efficiency in processes such as energy efficiency, water use efficiency, and waste management.
- **Energy source:** reduction in annual energy costs by shifting towards low emission energy sources
- **Products and services:** competitive advantage by developing new low-emission products and services
- **Markets:** opportunities to innovate and participate in new markets
- **Resilience:** increase adaptive capacity to respond to climate change risks, e.g. divestments from emission intensive assets or supply chain network.

Benefits of Adopting TCFD Recommendations

- Increases shareholders and investors confidence by appropriately assessing and managing climate related risks
- Increased awareness around climate change risks and opportunities results in more informed strategic business planning
- Meeting existing disclosure requirements to report material information in annual filings
- Increases market reputation tied to changing customer's preference for low carbon products
- Reduces risk of liability (by failing to manage climate risks) for directors or companies, especially in the carbon intensive sectors
- Access to additional sources of finance from investors interested in opportunities for transition to low carbon products

TCFD Adoption in India

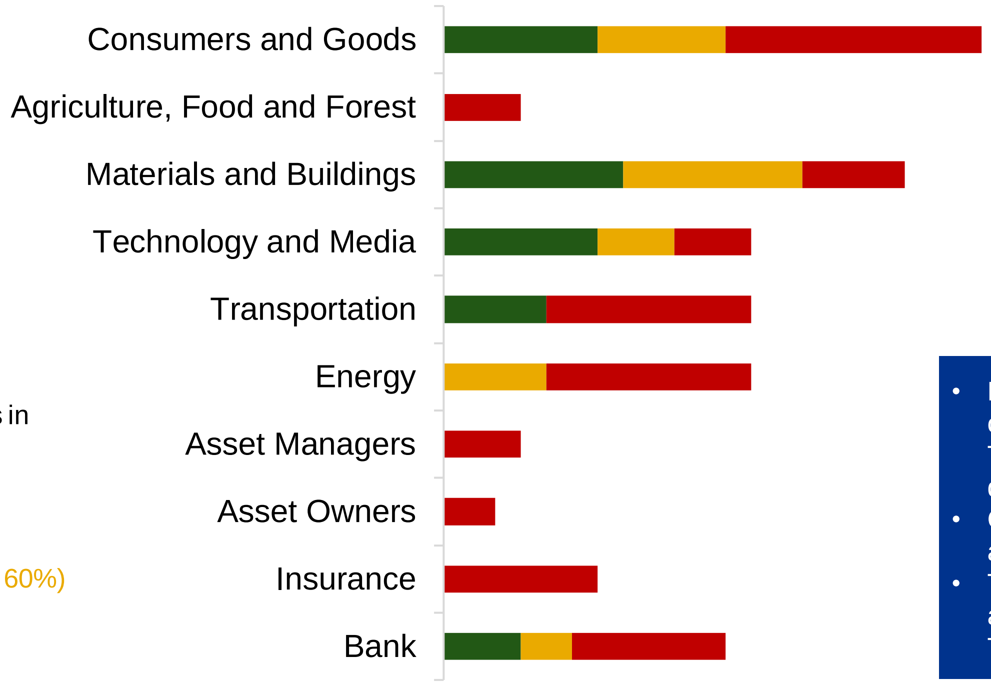
TCFD Adoption in India

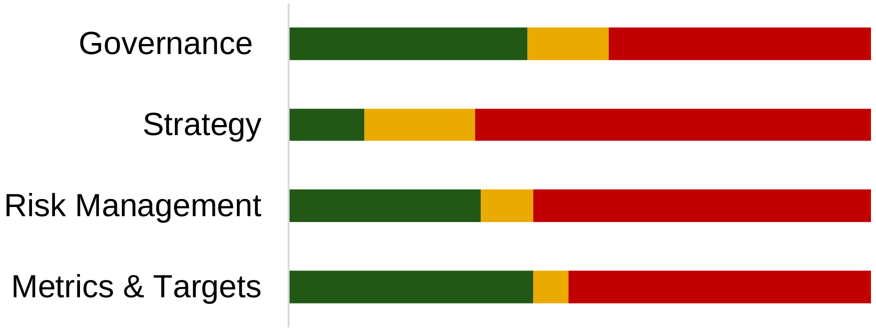
An assessment of BSE100 companies showcases that most of the Indian companies are lagging in the climate change disclosure space.

Overall Status

26%	20%	54%
LEADER	**MEDIOCRE**	**LAGGARD**

Sector Status





Legend

Coverage of TCFD recommendations in climate change disclosures

Laggard (<=30%)

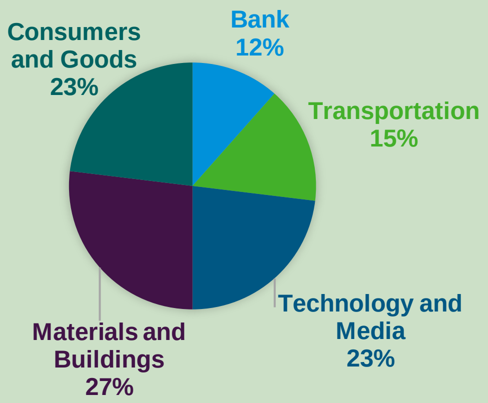
Mediocre (31% to <= 60%)

Leader (>=61%)

- Majority of the Indian companies (54%) are lagging with regards to climate change related disclosures. Most companies do not have sustainability reports. There is a lot of ground for Indian companies to cover when it comes to disclosing information in line with TCFD recommendations.
- Companies in the financial sector are underperforming across all TCFD pillars as compared to companies in non-financial sector.
- The Materials and Buildings sector is the most mature when it comes to alignment with TCFD's requirements followed by Consumers and Goods, and Technology and Media sectors.

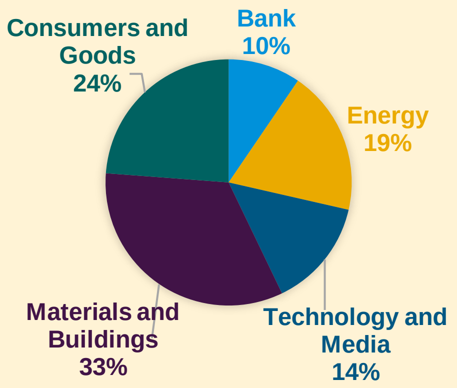
Assessment Findings

LEADER



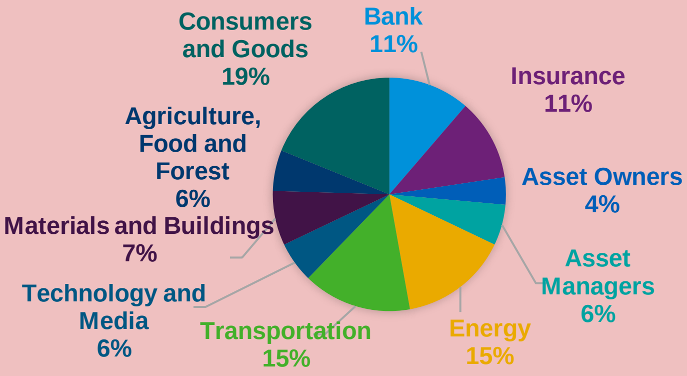
- Leaders disclose majority of climate change related information in their sustainability reports and/or CDP responses.
- On comparing the performance of companies across TCFD pillars, it has been observed that leaders disclose their Governance, Risk Management and Metrics and Targets related information to a greater degree as compared to Strategy. The element of scenario analysis is lacking.

MEDIOCRE



- Mediocre companies provide limited information on climate related matters in their sustainability reports or CDP responses
- On comparing the performance across TCFD pillars, it has been observed that mediocres disclose their Governance, and Metrics and Targets related information to a greater degree as compared to Strategy and Risk Management.

LAGGARD



- Laggards include companies which have not started disclosing or provide very limited climate change related information. Majority of laggards do not have sustainability or ESG reports.
- Majority of the companies in the financial sector are laggards. Apart from some in the banking sector, none of the remaining financial sectors have taken a proactive view of climate change and its risks.

Drivers of Climate Change Disclosures

Investor requirements: Many large investors and shareholders are supporting the resolutions targeted at improving sustainability and climate change disclosures. Investors lists climate risks disclosures as one of their engagement priorities to make more informed investment decisions.

Societal expectations: Climate change has been identified as a potential source of reputational risk tied to changing community perceptions of an organization's contribution to or detraction from the transition to a lower-carbon economy.

Consumer expectations: Consumers are becoming increasingly aware of the climate change issues and demand for low-carbon products is rising. This provides business opportunities to companies and drives momentum for climate change disclosures.

Industry/peer pressure: Public disclosure of climate change by industry peers increases economic competitiveness and influences companies to assess and disclose climate change impacts on their businesses

Risk management against potential upcoming regulations: Regulators across the world are implementing policies to drive action towards low carbon economies. The evolution of climate change policies is driving momentum towards transparent climate related disclosures.

Insurer requirements: Increased frequency and severity of extreme weather events could involve huge cost of repair which has to be covered by insurance companies. Thus, insurance companies require more forward looking analysis of climate risks.

Drivers of climate change disclosures amongst Indian companies

Challenges in Climate Change Disclosure

Organizations face a number of challenges and potential roadblocks in assessing financial impacts of material climate change risks and integrating them into overall risk management. Few of the challenges faced by Indian companies in disclosing climate-related information are:

Lack of access to relevant expertise
Absence of internal expertise within the organization to asses, monitor and report on climate issues is a setback faced by a number of Indian companies.

Limited subject knowledge
Lack of awareness around climate change risks and its impact on business

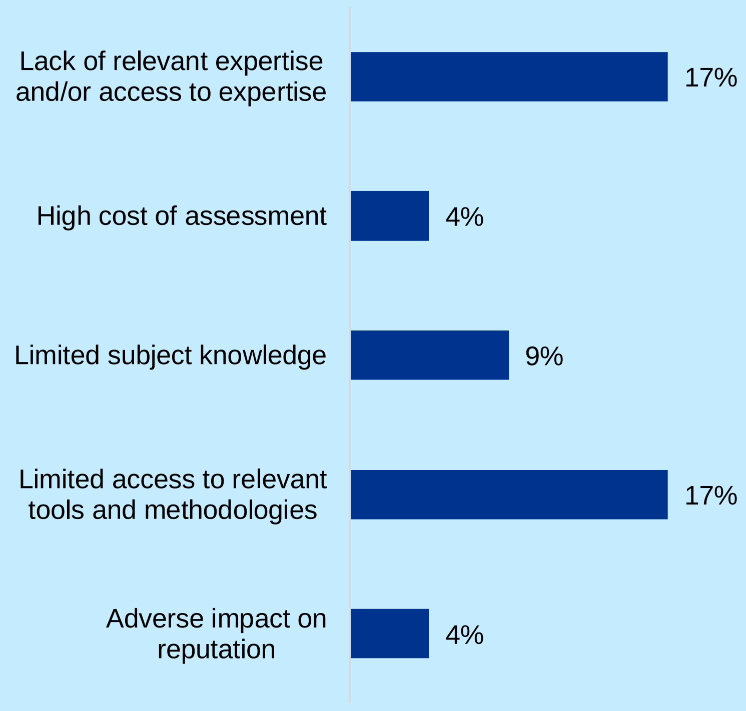
Limited access to relevant tools and methodologies
There are limited tools and methodologies which are publicly, freely available for implementation of climate related disclosures. Thus, access to suitable resources is a challenge faced organizations transitioning towards improved climate disclosures.

Lack of government regulations
Lack of government regulations or guidance with respect to climate-related disclosures due to which there is a significant 'wait and watch' approach adopted by companies.

Adverse impact on reputation
Few companies limit the amount of climate related information disclosed to reduce the risk of misrepresentation, which they believe might have an adverse impact on company's reputation.

High costs of assessment
Certain elements of climate related disclosures (such as scenario analysis) are costly due to the high level of expertise required which poses a challenge, especially for smaller companies.

Challenges faced by Indian companies in disclosing climate change information



What should the Corporates do?

Understand Where You Are Now

- This guidance has been developed for companies (financial and non-financial) who wish to disclose climate-related information in line with TCFD requirements.
- The guidance can be utilized by companies who are at any stage of disclosing, i.e. either aspiring to disclose or have already started disclosing their sustainability and climate change information.
- The guidance provides a step-by-step approach for companies as follows:

ASPIRANT

- Companies that have very little to no disclosures in the sustainability and climate change space qualify as aspirants.
- The guidance for aspirants will help companies initiate minimum disclosures putting them on a path towards achieving atleast ‘intermediate’ status.

INTERMEDIATE

- Companies that have initiated disclosing their climate change related information through sustainability reports and/or CDP responses but provide limited information in line with TCFD recommendations.
- The guidance for intermediates will help companies enhance their disclosure quality putting them on a path towards achieving ‘leader’ status.

LEADER

- Companies publicly disclosing majority of the climate change related information in line with TCFD recommendations
- The guidance for leaders will help companies further improve the quality of their disclosures and become completely compliant with TCFD requirements.

- The guidance has been developed in line with TCFD requirements considering the challenges faced by Indian companies with regards to climate-related disclosures.
- The companies should begin by conducting a self-assessment exercise (given on the next page) to understand their current status.
- When companies achieve the climate-related disclosure requirements specified in the aspirant or intermediate guidance, they should strive to move to the next level which is intermediate or leader respectively.
- Companies leading this space should continue to maintain their current status while focusing on further improvements and collaborating with various stakeholders to develop guidelines and standards for their industry/sector.

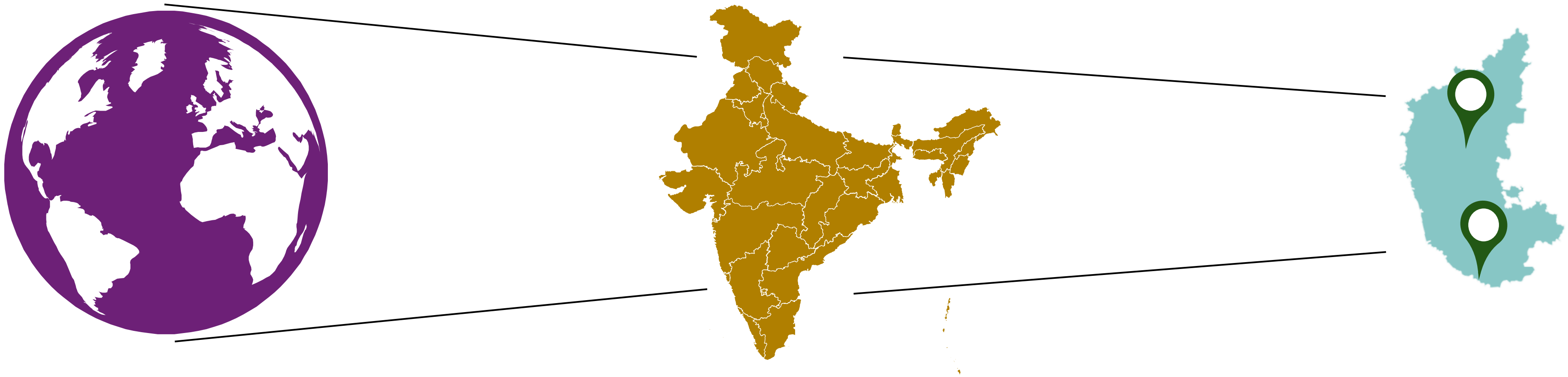
Self Assessment Checklist

Element	Description	Aspirant	Intermediate	Leader
Current Disclosures	Annual Report	✓	✓	✓
	Business Responsibility Report	✓	✓	✓
	Sustainability Report/ Integrated Report	X	✓	✓
	CDP response	X	✓	✓
Governance	Inclusion of board in sustainability and climate change related matters	✓	✓	✓
	Separate sustainability and climate change team	✓	✓	✓
Strategy	Recognize climate change as material risk	X	✓	✓
	Define time horizon over which climate risks are assessed	X	✓	✓
	Identify company’s current climate related risks and opportunities	X	X	✓
	Perform scenario analysis	X	X	✓
	Use results of scenario analysis to assess resilience of business strategies	X	X	✓
Risk Management	Develop strategies and processes for managing climate related risks	X	✓	✓
	Integrate climate risks into overall risk management	X	X	✓
Metrics & Targets	Develop metrics (key performance indicators) to assess climate change impacts	X	✓	✓
	Measure scope 1, scope 2 and scope 3 emissions	X	✓	✓
	Set targets to manage climate risks	X	✓	✓
	Establish incentive structure	X	X	✓

Legend ✓ **Should Have** ✓ **Good to Have** X **Does Not Have**

Climate Change Risk Assessment Roadmap

Companies assessing their climate-related risks should follow a top-down approach where they can start with a broad company-wide assessment which can then be refined down to a regional or asset level assessment as and when required (when moving to the next levels).



ASPIRANT

- Aspirants should begin with assessing and disclosing broad organizational level climate change risks and opportunities that could affect the company's business and operations.
- For example, companies could assess the top 3 physical and transitional risks in each country where they have their major operations.

INTERMEDIATE

- Intermediates should assess detailed region specific climate risks and their associated impacts that could affect their operations.
- Intermediates should use scenarios for assessing their risks and impacts.
- They should develop and disclose broad company-wide risk mitigation strategies.

LEADER

- Leaders should utilize the regional level risk assessment to determine high risk assets and perform detailed asset level risk assessments.
- Leaders should further identify impacts for each asset type in a region and develop asset level mitigation strategies.
- Leaders should also quantify financial impacts of climate change risks and strategies and disclose them in their financial fillings.

Guidelines for Aspirants

Pathway for Aspirants

Beginning with Climate Change Disclosures

Preparatory Activities

Getting started

- To get started with effective climate disclosures, companies should focus on understanding the objective for disclosing climate-related information and prepare themselves for associated activities.
- Companies should declare support for TCFD

Get internal buy-in

- The first step towards this would be to engage with and secure support of internal stakeholders, i.e. board of directors and the company leadership.
- It is also crucial to set-up a climate change team (if not present already) to carry-out these disclosure-related activities.

Collaborate with external stakeholders

- Collaborate with peers from the sector to gain knowledge and exchange experiences to develop approaches for consistent climate-disclosures.
- Discuss with investors/ other stakeholders to understand their requirements.

Climate Change Risk Assessment

Recognize climate change as material risk

- Include climate change as a material risk in Company's current disclosures such as Annual Report and Sustainability Report.
- Companies without a Sustainability Report can aim towards developing one with minimum climate-related metrics.

Assess climate-related metrics

- Begin regular monitoring and reporting of bare minimum climate related metrics in current disclosures such as GHG emissions, energy use and water use.

Assess climate change risks & opportunities

- Assess and disclose broad organizational level climate change risks and opportunities that could affect the company's business and operations.

Getting Started

Understand the reasons for disclosing climate-related information

- Companies should start with identifying the reasons for disclosing climate related information.
- Start by analyzing the following questions:
  - Is there an existing requirement or potential of future requirement from investors for disclosure of climate change and sustainability related information?
  - Is there an increasing demand from customers for low-carbon products and disclosure of information on climate change issues?
  - Is climate change identified as a potential source of reputational risk tied to changing community perceptions towards the operations within the sector?
  - Does public disclosure of climate change information by sector peers increase pressure for climate reporting while increasing sector competitiveness?
  - Is the evolution of regulatory climate change policies likely to drive momentum towards increased transparent climate related disclosures?

If answer to any of the above questions is yes, it provides a business case to companies to adopt climate disclosures as a strategic tool to engage stakeholders and inform business strategies.

Assess your national disclosure requirements

- Annual Report and Business Responsibility Report (BRR) (mandatory for top 1000 listed companies as per Securities and Exchange Board of India (SEBI) requirements) are most widely used reporting frameworks in India. However, these disclosures on their own do not completely meet TCFD's requirements.
- While there are no current regulations for the disclosure of climate change information in India, there is increasing possibility that the government could introduce mandatory policies for disclosure of climate related information to drive momentum towards a low carbon economy.

Select where to disclose

- Climate change information should be disclosed in reports that are widely distributed, easily accessible by investors and issued at least annually.
- Since TCFD mainstreams climate risks by building on other internationally accepted guidelines, climate related information can be disclosed through various reports such as Annual Report, Sustainability Report, Integrated Report, CDP, DJSI and/or a separate TCFD Report.
- Companies could begin by disclosing climate-related information in their annual reports and sustainability reports.
- If a company does not have a sustainability report, they can begin by developing a sustainability report ensuring inclusion of minimum climate change-related information.
- Once companies are comfortable with Sustainability Reports, they can advance towards platforms such as DJSI and CDP with greater climate change disclosure requirements.

Select when to disclose

- TCFD recommendations or climate related information should be disclosed through reports that are issued at least once in a year.
- It is recommended to align reporting frequency with the mainstream financial filing. Thus, the reporting period should be same as that of Annual Report.

Get Internal Buy-in and Set up a Team

Secure the support of board and senior management

- The first step should be to engage and secure the support of the board of directors and executive team in climate related matters. It is crucial to have the support of the leadership team to obtain the requisite resources to effectively disclose climate-related information.
- This can be done by identifying and securing support through discussion of defined objectives with the CEO, or senior executives/ board members responsible for sustainability related policies and strategies within the company.
- After securing internal buy in, integrate climate change into the agenda for board meetings and strategy sessions to ensure regular discussions with the board.

Establish a process for direct board's oversight and active engagement on climate related issues

- Define a process of board's oversight and monitoring of climate change and sustainability related issues. Have regular communications and/or meetings (preferably quarterly) with the leadership team.
- Collaborate with risk committee and audit committee to ensure effective management of climate risks and board's oversight. It is important to engage the risk committee within the organization, as the committee is responsible for assessing the financial impacts of any external risks. At the same time, the audit committee will review the company's approach to climate change risk and opportunities in the financial context.
- Ensure that the board and executive team have all the necessary, bare minimum requisite information and knowledge to assess the impact of climate change.

Establish a climate change and sustainability team to look into climate change related matters

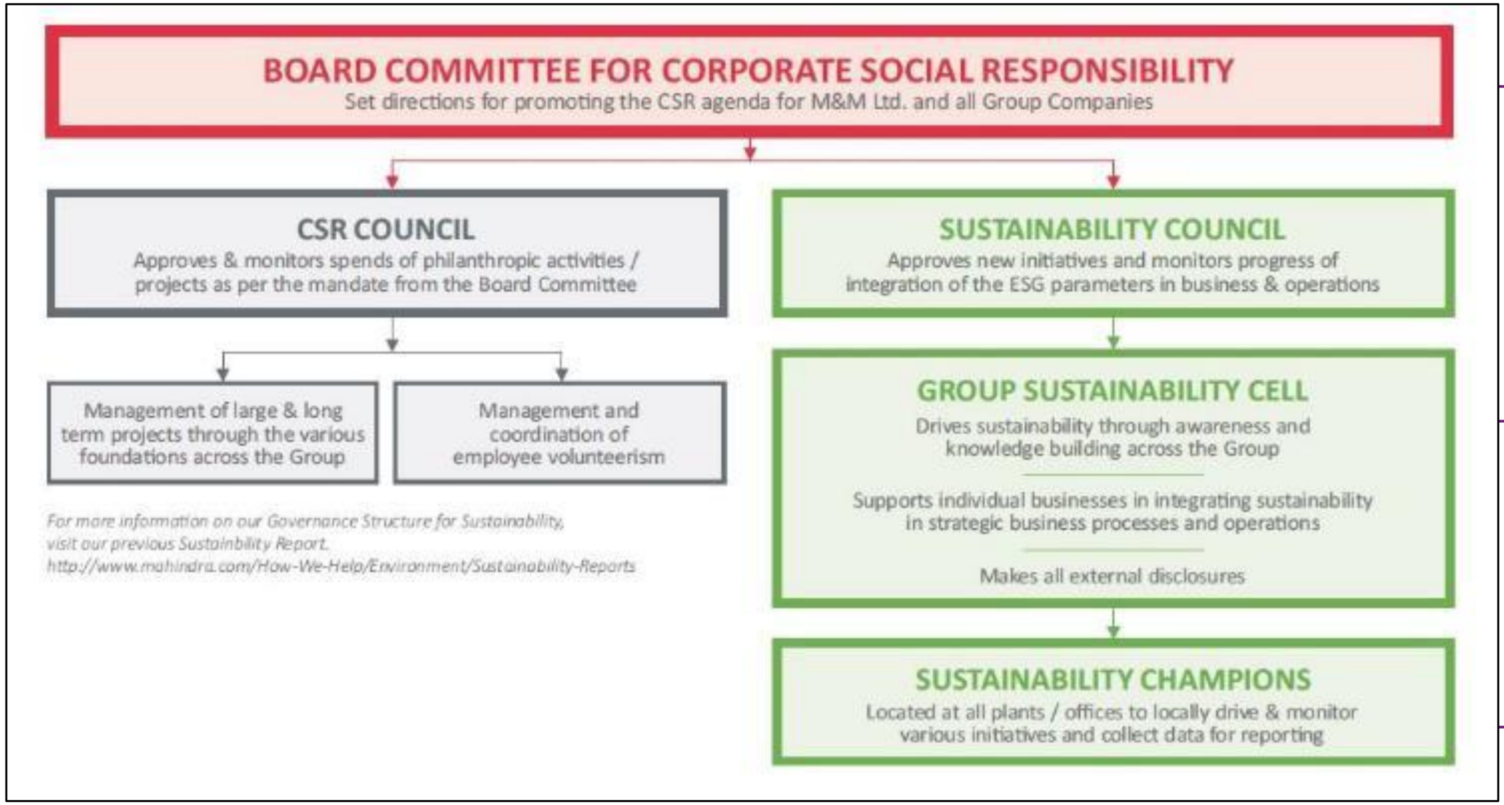
- It is recommended to have a dedicated sustainability/climate change team to look into company-wide climate change and sustainability related matters, programs and activities. It is important that the team is representative of the company as a whole allowing them to influence strategic decision making.
- The established sustainability/climate change team will be responsible for supporting the board of directors in integrating climate risk into financial decision making processes. The team will be responsible for performing activities such as identification of climate change risks, impact assessments, GHG emission estimation and other reporting activities with respect to climate related issues.
- Define a structure and role for the established sustainability/ climate change team. The team should comprise of individuals reporting directly to executives from the leadership team which should also include a Chief Sustainability Officer (CSO) or any equivalent position.

Trainings and awareness regarding climate-related disclosures

- Increase the awareness of the board, management team and other employees by providing trainings on the importance of assessing climate risks.
- Initially, the trainings can be conducted only for the board and senior management to ensure that it has the understanding required to effectively perform its oversight function of climate-related risks and opportunities.
- Gradually compulsory trainings can be introduced for employees to increase their awareness of climate change and its impacts.

Example of Organizational Structure for Climate Issues

Mahindra & Mahindra Ltd (2018-19 Sustainability Report)



Mahindra & Mahindra, in its sustainability report uses an interactive flowchart to describe the organizational structure for monitoring sustainability matters in the company.

Sustainability related roles and responsibilities are assigned to different committees. It also describes the role of the board level committee and management committee in monitoring progress of sustainability related initiatives.

Mahindra & Mahindra has selected individuals as sustainability champions in all its locations to monitor and drive grass root level initiatives.

Collaborate with Stakeholders

Work with peers to exchange experiences

- Look for strategic opportunities to collaborate with peers within the sector to gain knowledge and exchange experiences progressing towards developing sectoral objectives and initiatives for sustainable business development.
- Build capacities by learning from the experiences of companies who have already begun their TCFD implementation journey to enhance the quality and completeness of disclosures.
- Share national/international case studies to demonstrate good practices, highlight challenges and discuss potential solutions to overcoming those challenges.
- Working with peers will help companies understand what the wider sector is reporting enabling consistent disclosure of information. Furthermore, in the event that the sector as whole lags behind in climate-related disclosures, it gives companies opportunities to establish themselves as a trend-setter.

Solicit feedback from investors and customers

- Companies should engage investors and customers to understand their requirements for these disclosures and the information that they desire to see on climate change.
- Engaging with both the stakeholders will go a long way in making the disclosures precise and more useful.

Incorporate good practices when reporting climate change information

- While developing climate change related disclosures, consider adopting features of effective reporting i.e. making the reports:

Concise	Consistent	Complete	Comparable
Should be specific and understandable with relevant information and should not be overloaded with information.	Should be consistent with previous disclosures and/or sector practices to enable users understand the evolution of impact of climate-relate risks.	Should include all associated information, methodology, assumptions and other factors to enable better understanding the risks and impacts.	Should allow for meaningful comparisons of strategy, business activities, risks and performance amongst sector peers.

- Companies can refer the following documents (amongst others) for good practices that will help them understand what decision-useful, climate-related disclosures should look like.
  - ➢ TCFD Good Practice Handbook
  - ➢ TCFD Implementation Guide

Assess Climate Change Risks and Impacts

Recognize Climate Change as a Material Topic

- A company has a wide range of economic, environmental and social issues that can be disclosed. However, issues that should be considered for disclosure are decided based on the principle of materiality. ‘Materiality’ is the threshold at which aspects become sufficiently important that they should be reported.
- Material issues are often dependent on a number of factors such as extent of economic, environmental and social impact, interests and expectations of stakeholders (external and internal), peer performance, internal company values and strategic decisions.
- Companies should engage internal and external stakeholders to assess the significance of climate change as a risk for their operations and integrate it within the overall risk materiality framework.
- Prior to engaging with stakeholders, companies need to increase their stakeholders’ awareness and understanding of climate change and its inherent risks for the sector.

Illustrative Example: Ultratech Cements Materiality Matrix

Ultratech Cements, in its sustainability report provides a materiality matrix highlighting the key sustainability topics which are relevant to the company. Materiality assessments are made by interacting with a wide range of internal and external stakeholders.

The matrix provides twenty two (22) topics, of which nine (9) topics are highly material to the company.

UltraTech Cements discloses that climate change, energy and GHG emissions are highly material to the company.

Ultratech also discloses the risk management approach followed in the organization to address issues along with action plans to mitigate potential climate risks.

Assess Climate Change Risks and Impacts

Define and Monitor Climate Related Metrics

- Climate-related metrics are any external or internal datasets that are required by a company to measure and monitor its climate-related risks and opportunities.
- Companies should define the climate-related metrics that will be required to assess the climate-related risks and opportunities. This will have to be done through existing studies and/or peer review. For this companies will have to understand the prevalent climate change risks to companies in the sector and identify the data that will be required to assess the likelihood of these risks for them.
- Companies should start with collecting organizational level datasets while continually improving the quality and quantity of their climate-related metrics database.
  - If a company has been monitoring metrics on a few key indicators such as GHG emissions, water and energy, they should add more parameters such as metrics on solid waste, wastewater, raw material use, land use and other such metrics that can be easily monitored internally.
  - If a company has been monitoring metrics only for scope 1 and 2 GHG emissions, it can move on to monitoring possible sources of scope 3 emissions.
- Metrics will have to be collected from all relevant stakeholders which will require a cross-disciplinary approach that may require setting up a central database system to effectively collect sustainability/climate related data.

Assess Climate Change Risks and Opportunities

- Assess climate-related risks at a broad company-wide level which can be further refined to a regional or asset level as and when required (when moving to the next levels). This includes
  - Understanding the climate change projections for a selected timeframe. For e.g. understanding the likely change in the temperature till 2030-50 in the region. This can be done through secondary research using already available public documents such as SAPCC, NAPCC, WRI Water Tool, etc.
  - Understanding how these climatic changes are likely to lead to climate-related risks for the organisation in the future. For e.g. an increase in temperature may increase the occurrence of extreme hot day/heatwaves and lead to events such as droughts.
  - Understanding the types of risks, i.e. physical (risks associated with physical impacts from climate change that could affect carbon assets and operating companies) and transitional risks (risks related to the policy, regulatory, technology and market (consumer preferences) changes that may occur while transitioning to a lower-carbon economy) as defined by TCFD.
  - Understanding the possible impacts of such risks on the company. For example, increase in hot days can lead to an increase in energy consumption and water consumption as well as impact employee productivity.
  - Understanding how vulnerable your company is to the risks arising from such changes. For example, utilizing metrics to understand the operations/assets located in water stress regions which can be impacted due to a decrease in rainfall.
  - Understanding the opportunities that may arise due to such climatic changes. For example, reduction in operating costs by increasing resource efficiency and/or innovating and participating in new markets.

Disclose Climate Change Related Information

Companies should begin disclosing climate-related information in their annual and sustainability reports. If a company does not have a sustainability report, they can begin developing a sustainability report and ensure inclusion of minimum climate change-related information.

Climate Change Governance

- ✓ Provide details about climate change related governance structure. This will include:
  - ✓ A description of roles and responsibilities of the personnel and/or committees involved in climate change related activities. Incase climate change related activities have been allocated to any other existing operations team then that should also be clearly highlighted.
  - ✓ A description of who monitors and overseas the various teams and committees.
- ✓ Provide details about the extent of involvement of the board and senior management in climate-related activities.
- ✓ Provide details about the process by which the board and management is informed about climate-related information.

Climate Change Metrics

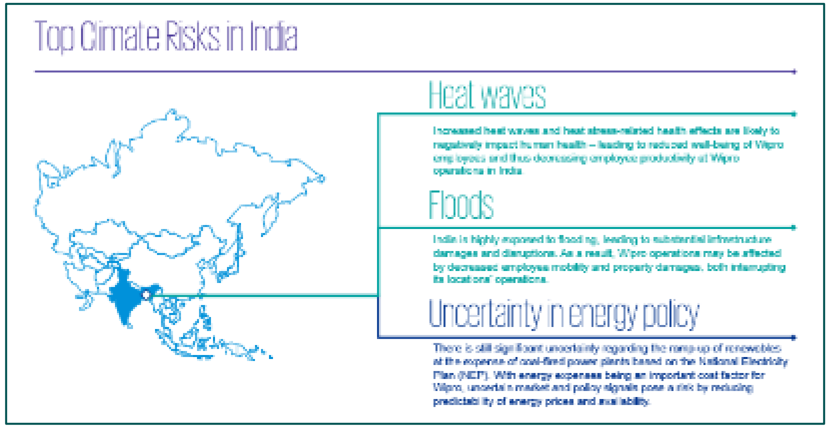
- ✓ Disclose the performance metrics defined for assessment of material climate-related risks and opportunities reported.
- ✓ Companies should start by disclosing key metrics such as GHG emissions, energy use, and water use.
- ✓ With regards to GHG emissions, companies that haven't yet started estimating their GHG emissions should begin by estimating and disclosing atleast scope 1 and 2 emissions. The WRI GHG Protocol: A Corporate Accounting and Reporting Standard can be referred for estimating GHG emissions.
- ✓ Non-financial companies should discuss and identify climate-related metrics with investors and other key stakeholders to ensure disclosure of decision-useful metrics.
- ✓ Companies should perform a peer review to understand what other companies are reporting in terms of data (absolute or intensity) and units, to ensure consistency and comparability of the disclosed information.
- ✓ The metrics disclosed by companies in the first year become their baseline and should also be reported the following year for the purpose of performance tracking. After multiple cycles of reporting, companies should also provide information on the overall trends that each metric presents over the time period.
- ✓ Companies should disclose the assumptions, methodology and/or any other factors such as data sources utilized for estimation of each metric, as applicable.

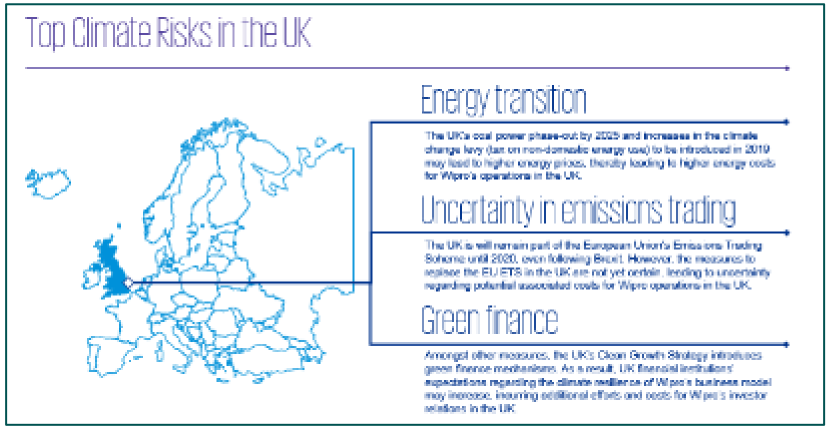
Disclose Climate Change Related Information

Climate Change Risk and Impacts

- ✓ Companies can start by disclosing broader company-wide climate change physical and transitional risks that are likely to impact them in the future.
- ✓ Broader climate related risks can be based on qualitative information which can be identified through secondary research and/or peer analysis to understand the risks prevalent in the sector.
  - ✓ Examples of disclosures under Physical Risks:
    - Number of assets located in coastal zone/flood prone zone that can be impacted due to climate hazards such as cyclones or floods
    - Number of assets in water stress regions that can be impacted due to climate related hazards such as water shortage and deteriorating water quality
  - ✓ Examples of disclosures under Transitional Risks:
    - Emission intensive and/or resource intensive (energy or water) assets that can be impacted due to future regulations
    - Shift in consumer demand for low carbon products and services
    - Reputational risks due to investments in carbon intensive assets
- ✓ Companies should provide a brief description of the risks identified and how they are likely to impact the company in the present and future.
- ✓ Companies should wherever possible support these risks with quantitative information such as providing the number and type of assets in coastal areas.
- ✓ Companies should define the process followed for assessing these climate-related risks and impacts along with details on assumptions and factors utilized (if any).
- ✓ Companies should also specify the time horizon over which risks are assessed (if possible). If a company provides its short, medium and long term risks then the specific time period for each term should also be provided. For example, short term, medium term and long term could be defined as 2021-2030, 2031-2050, and 2050-2100 respectively.
- ✓ Companies should also disclose relevant opportunities arising due to climate change and describe how they plan to make use of these opportunities over time.

Illustrative Example of Risks to a Company





Essential Read for Aspirants

- **Final Recommendations of the Taskforce on Climate-related Financial Disclosures:** The document helps corporates in identifying information needed by investors and recommends disclosure of information around four thematic areas. The guidance assists companies by providing context and recommendations for implementing the disclosures.[1]
- **Implementing the Recommendations of the Taskforce on Climate-related Financial Disclosures:** The document provides detailed guidance to companies on how to implement TCFD recommendations. It also provides supplemental sector-wise guidance to companies for implementation of TCFD recommendations.[2]
- **Global Reporting Initiatives Standards:** GRI standards showcase global best practices for development of sustainability reports by providing guidance on disclosure of information on the economic, social and environmental front.[3]
- **CDSB/SASB TCFD Implementation Guide:** The document provides guidance to companies on how to implement TCFD recommendations. It aims to help companies enhance the robustness, consistency and comparability of TCFD implementation and reporting.[4]
- **CDSB/SASB TCFD Good Practice Handbook:** This handbook provides additional resources to TCFD adopters by chalking out good practices from existing climate-related financial disclosures across G20 countries. For better understanding, it should be read along with the CDSB/SASB TCFD Implementation Guide.[5]
- **A Corporate Accounting and Reporting Standard:** The GHG Protocol Corporate Accounting and Reporting Standard provides requirements and guidance for companies in preparing corporate-level GHG emissions inventories. This guidance allows a company to credibly measure and report GHG emissions.[6]

1. https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf
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Guidelines for Intermediates

Pathway for Intermediates

Moving Towards Enhanced Climate Change Disclosures

Monitor and assess climate-related metrics

- Companies should monitor and disclose increased climate-related metrics that support climate-related risk assessment.
- Companies should disclose targets undertaken as part of their climate risk mitigation strategy.

Applying scenario analysis

- Companies should enhance their climate change risk management process by adopting scenario analysis.
- Companies should disclose details of the scenarios utilized clearly highlighting the impact they have on subsequent business strategies.

Climate risk and opportunity assessment

- Companies should carry out a detailed region specific climate risk assessment.
- Companies should integrate their climate change risk management framework within their existing enterprise risk management framework.

Building climate resilient strategies

- Companies should also assess and disclose company wide strategies that have been undertaken and/or planned to mitigate/build resilience towards the impacts of climate change.

Improved disclosures

- Companies should move towards disclosing climate-related information on advanced platforms that have enhanced climate-related requirements such as DJSI and CDP.

Managing Climate Change Risk & Opportunities

Monitor and Assess Climate-related Metrics and Targets

- Companies should aim to move from a broad company level approach (where the metrics monitored are aggregated at an overall company level) to a more regional approach, where datasets for individual locations should be monitored and assessed.
- Companies should continually improve their climate-related metrics database by increasing the number and quality of metrics monitored.
- Metrics enable companies to track their year-on-year progress helping them identify areas of improvement while demonstrating accountability.
- Companies should also start setting climate-related targets with regards to key metrics such as GHG emissions, water usage, energy usage, etc.
- Setting climate-related targets will help a company design and develop climate risk mitigation strategies putting them on a path of increased resilience to climate risks.
- Companies should also start exploring opportunities to participate in climate related initiatives such as Science Based Targets, RE100, EV100, etc.
- Participating in such initiatives will help companies kick-start the process of setting targets and at the same time gain visibility amongst relevant stakeholders and peers.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

RE 100 EV 100

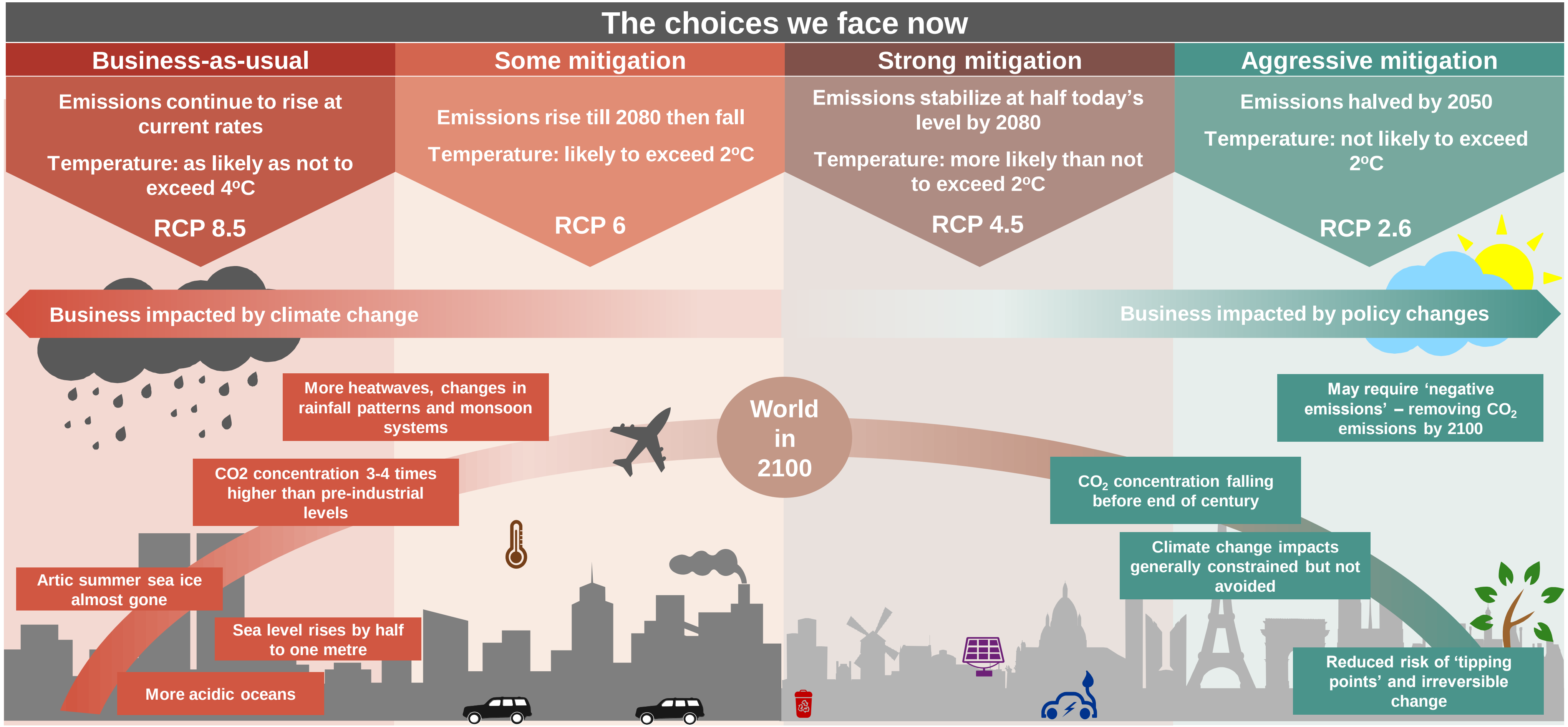
Developing and Applying Scenario Analysis

- Companies aiming to emerge as leaders in the climate change disclosure space should perform scenario analysis at the time of assessing risks and their impacts and also while developing resilience strategies.
- Scenario analysis evaluates a range of hypothetical outcomes (risks and their impacts) by considering a variety of alternative plausible future circumstances under a given set of assumptions and constraints.
- For this, companies may begin with qualitative scenario narratives or storylines to gain an understanding on potential range of climate change implications. Once the company has gained confidence in assessing risks using qualitative information, then the companies can use quantitative information to illustrate the pathways and outcomes.
- Companies can select a set of scenarios which can be external (from existing models developed by third-party agency) or internal (developed based on internal business and operational strategies) depending on the need, resource available and capacity. Some of the commonly used external scenarios, also recommended by TCFD, are as follows:

Physical Risk Scenarios	IPCC Representative Concentration Pathways (RCPs) 2.6, 4.5, 6, and 8.5
Transitional Risk Scenarios	Nationally Determined Contributions (NDCs), International Energy Agency (IEA), Energy Technology Perspectives (ETP), Deep Decarbonization on Pathways Project (DDPP), IRENA Remap, Greenpeace Advanced Energy Revolution

What are Scenarios?

Quantitative Scenario	Qualitative Scenario
Scenarios that numerically quantity the change in climate and its expected impacts on various sectors. For example, the IEA WEO2016 scenario states that by 2040 RE will be responsible for 54% of total energy generation.	Scenarios that qualify the impacts of climate change on a sector or business. For example, a scenario that states that the contribution of renewable energy in electricity generation will keep increasing till 2050.



Adapted from IPCC, Fifth Assessment Report (AR5), Climate Change: Action, Trends, and Implications for Business, Cambridge University Press, 2013

Managing Climate Change Risk & Opportunities

Climate Change Risk and Opportunity Assessment

- Companies should perform a detailed climate change risk and opportunity assessment using scenarios as explained earlier. Companies should select scenarios based on the nature of its business, data requirements, and geographical coverage.
- Companies should apply a regional approach, where risks and impacts for individual locations should be monitored and assessed. For this companies should:
    - Understand climate change projections for each location where the company has its assets or investments under the selected scenarios.
    - Understand the physical and transitional risks that are likely to impact the company in the defined time periods under each scenario for every region/location.
    - Understand the company’s exposure (vulnerability) to these risks and assess possible impacts. For examples, operations under water-stressed regions could be further assessed to understand their water use intensity and dependence on external water sources. Based on this, company can assess the extent of impact due to water shortages and/or water conservation regulations in the future.
    - Based on the above assessments, likelihood of occurrence of risk, company’s exposure to these risks and extent of impacts, categorise these risks into various risk levels such as high, medium and low. Each of these categories should be clearly defined.
    - Determine the opportunities that may arise due to the impacts from each scenario.

Building Climate Resilient Strategies

- Based on the risk-impact assessment, companies should develop risk mitigation strategies that are viable under the selected scenarios. The risk mitigation strategy should be consistent with the company’s overall business strategy. A few examples of risk mitigation strategies are:
    - **Operations:** Incorporating climate change and sustainability measures into everyday management and operations such as advent of company-wide no plastics policy
    - **Asset planning:** Making changes to existing assets or acquisition/expansion of operations using climate friendly technologies such as installing roof-top solar in offices or constructing LEED certified buildings
    - **Financial planning:** Taking into consideration environmental parameters into financial decisions such as divesting from fossil fuel focused investments or issuing green bonds for projects
    - **Supply chain/ value chain:** Incorporating environmental performance into supply chain considerations such as ranking/selecting vendors based on their ESG performance
    - **Products and services:** Providing climate friendly products and services such as green packaging
    - **Research and development:** Investing into research and development of climate friendly products and services such as low carbon cement, virtualization of software services, etc.
- In this regard, companies need to integrate climate risks within their mainstream ERM framework so that any subsequent business strategy is built in a manner that is climate resilient.

Disclose Climate Change Related Information

Disclose on Advanced Platforms

- ✓ Companies should move towards disclosing increased climate-related information in enhanced sustainability disclosure platforms such Integrated Reporting, DJSI and/or move towards climate related disclosure platforms such as CDP and TCFD.
- ✓ If companies are already disclosing information through such enhanced platforms, then they should aim at continuously improving the quality of their disclosures.
- ✓ The table below provides the alignment of TCFD recommendations with other disclosure platforms.

TCFD Pillar	TCFD Elements	Disclosure Alignment				
		BRR	IR	GRI	DJSI	CDP
Governance	Board oversight			✓		✓
	Management’s role			✓		✓
Strategy	Risk and opportunities	✓	✓	✓	✓	✓
	Impact on organization		✓	✓		✓
	Resilience of strategy				✓	✓
Risk Management	Risk identification					✓
	Risk management	✓	✓	✓	✓	✓
	Integration into overall risk management				✓	✓
Metrics and Targets	Climate-related metrics		✓	✓		✓
	Scope 1, 2, and 3 emissions			✓		✓
	Climate-related targets			✓	✓	✓

Disclose Climate Change Related Information

Metrics and Targets

- ✓ Disclosing a company's metrics and targets allows investors and other stakeholders to better understand their exposure to climate risks and subsequently managing these risks.
- ✓ Companies should provide a region-wise break-down of each metric. For example, companies should provide location-wise GHG emission estimates or water consumption data.
- ✓ Companies should start by disclosing metrics for a few locations, gradually moving towards covering every location.
- ✓ Companies should continually improve their disclosures of operational metrics by increasing their coverage and improving the quality of data used for existing metrics.
- ✓ Companies should disclose the assumptions, methodology and/or any other factors utilized, as applicable. With regards to GHG emissions companies should disclose all emissions sources considered under scope 1, 2 and 3.
- ✓ Companies should disclose trends for each indicator (minimum last 3 years) to help stakeholders assess the company's performance.
- ✓ Companies should provide clear descriptions of each metric and detailed reasoning behind the reported trends.
- ✓ Companies should ensure that the metrics are consistent and comparable with the information reported by their peers and are in line with investor and stakeholder requirements.
- ✓ Companies should disclose their climate-related targets such as those related to GHG emissions, water usage, energy usage, etc. in line with their climate change risk mitigation strategies, business strategies and/or regulatory requirements. The following information should also be disclosed along with the targets:
  - ✓ Type of target: absolute or intensity
  - ✓ Timeframes over which the target is applicable
  - ✓ Base year from which progress is measured
  - ✓ Description of how the targets relate to the company's risk management strategy
  - ✓ Historical performance data: While in the first year after setting the target only the target undertaken will be disclosed, from the subsequent year companies should disclose progress of all targets in each year.
  - ✓ KPIs used to assess progress against each target
- ✓ If a company is a signatory of climate-related initiatives such as Science Based Targets (SBTs), RE100, EV100, etc. then they should disclose any targets that might have been taken up as part of these initiatives.

Disclose Climate Change Related Information

Scenario Analysis

- ✓ Companies should disclose the methodology used for scenario analysis along with the qualitative and quantitative information about each scenario including the underlying approach, assumptions, time periods, data sets used and expected outputs.
- ✓ Companies should disclose the reasons behind the selection of each scenario.
- ✓ Companies should disclose the internal or external stakeholders consulted during the scenario selection/development process.
- ✓ Companies should describe how scenario analysis has helped them subsequently develop climate resilient business strategies.

Climate Change Risk and Impacts

- ✓ Companies should disclose physical and transitional risks categorized as per TCFD’s requirements (physical risks as acute and chronic and transitional risks as regulatory, market, technology and reputation) for each region/location under each selected scenario.
- ✓ Companies should disclose the time periods over which risks are assessed (short, medium and long term).
- ✓ Companies should disclose the climate change drivers behind each risk. For example, increase in temperature is the driver for risks due to heatwaves and urban heat island effect.
- ✓ Companies should disclose the process followed for risk identification including models/frameworks utilized, underlying assumptions (if any), and definitions of risk categories used.
- ✓ Companies should describe how these identified risks are likely to impact your company currently and in the defined time periods.
- ✓ As required by TCFD, depending on the sector, companies that need to disclose supplementary information regarding their climate risks, should do so.
- ✓ Companies should also disclose relevant opportunities arising due to climate change and describe how they plan to make use of these opportunities over time.

Disclose Climate Change Related Information

Integration in Company’s ERM

- ✓ Companies should disclose how their climate change risk management process in terms of risk identification and prioritization, impact assessment, and mitigation has been integrated in the company’s existing mainstream ERM framework. This will include disclosing the following elements:
  - ✓ Extent of integration of climate-related risks in each aspect of the framework (identification, assessment including scenario planning and stress testing, and mitigation)
  - ✓ Process for materiality determination and/or prioritization of climate-related risks in line with the existing risk assessment process
  - ✓ Significance of climate-related risks in relation to other risks
  - ✓ Definitions for climate-related risk terminologies and their alignment with the overall system
  - ✓ Alignment of time horizons
  - ✓ Process and integration of climate change risks and impacts in the company’s business strategy

Climate Resilient Strategies

- ✓ Companies should disclose how existing (past or current) risks and opportunities have led to the development of its climate resilient business strategy.
- ✓ Companies should describe the changes made to their existing business strategies and additional measures adopted to mitigate the impacts of climate change.
- ✓ Companies should disclose their risk mitigation strategies developed to enhance their operational and financial resilience to climate change in the future.
- ✓ For each strategy, companies should describe the risks covered and how the strategy will lead to reduction in the company’s financial and operational exposure.
- ✓ Companies should describe the time periods delineated for implementation of these strategies.
- ✓ Companies should disclose the scenarios and underlying approach and assumptions used for assessing the vulnerability of existing business strategies.

Climate Change Governance

- ✓ Companies should disclose the involvement of the board and senior management in the climate change risk identification and management process.
- ✓ Companies should disclose the governance process including frequency of meetings, topics and outcomes of discussions with the board and senior management.

Essential Read for Companies

- **Advancing TCFD Guidance on Physical Climate Risks and Opportunities:** The guidance document by EBRD is focused at corporations and is intended to support early adoption of TCFD recommendations. It provides companies with a conceptual framework and a standard set of metrics for reporting physical climate risks and opportunities.[1]
- **Enterprise Risk Management:** The document provides guidance to companies in assessing ESG risks and defines the processes for integrating ESG risks in Enterprise Risk Management.[2]
- **Climate Resilience 2018 Handbook:** The Climate Resilience Handbook provides guidance to companies for developing strategies for climate resilience. It also focuses on financing for climate resilience, and how to use risk management tools to increase climate resilience.[3]
- **Guidance on Undertaking Second-Pass Risk Screening:** The document provides a step-wise process which can be used for corporates for carrying out detailed region specific climate risk assessment. The document is preceded by a brief 'first-pass risk screening' document for assessing company-wide risks and is followed by a more comprehensive 'third-pass risk screening' document for conducting detailed asset level risk assessment.[4]
- **SBTi Call to Action Guidelines:** The document provides comprehensive sector-wise guidance to corporates on how to commit to climate action by setting science based targets . It provides step-wise guidance to companies from committing to having an approved target announced.[5]
- **CDSB/SASB TCFD Good Practice Handbook:** This handbook aims to provide additional resource to TCFD adopters by chalking out good practices from existing climate-related financial disclosures from across the G20 countries.[6]

For more resources, tools and guidelines for TCFD implementation, companies can refer to **TCD Knowledge Hub.** [7]

1. http://427mt.com/wp-content/uploads/2018/05/EBRD-GCECA_final_report.pdf
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3. https://www.tcfdhub.org/risk-management/
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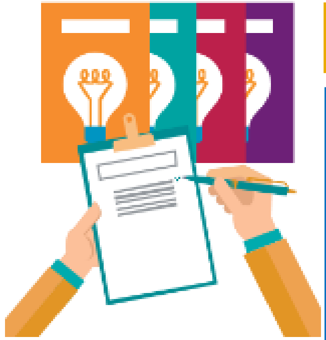
Scenario Analysis References, Tools and Database



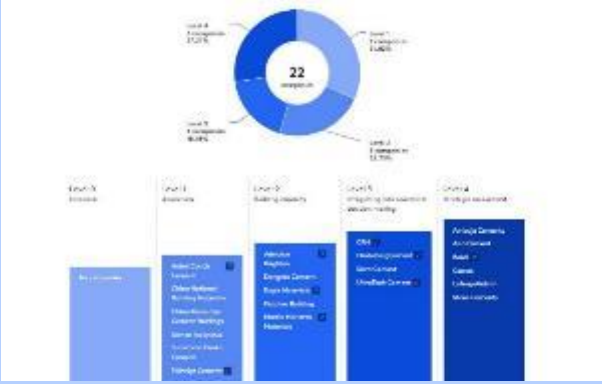
List of Publicly Available Tools

- ✓ **2º Investing Initiative:** 2º Investing Initiative is freely available online tool allows portfolio-level analysis for equities and fixed income climate transition risks in power, cement and steel sectors. It is applicable only for analysis of transitional risks [1]
- ✓ **WRI Aqueduct Water Risk Atlas:** The tool helps companies in analysis of water related risks and opportunities that are emerging across the world.[2] In addition to this tool, WBCSD Water Tool allows corporates in identifying water risks and helps in building resilience strategies.[3]
- ✓ **The Transition Pathway Initiative:** The initiative provides publicly available tools and reports for Bottom-up assessment of how companies are preparing for the transition to a low-carbon economy. It evaluates and monitors the GHG emissions of companies along with climate related risks and opportunities to low carbon transition.[4]

List of Service Provider Tools

- ✓ **Carbone 4:** Carbon Impact Analytics (CIA) is a methodology for assessing the climate impact of portfolios through the measurement of GHG emissions directly and indirectly induced and saved by companies. [6]
- ✓ **ClimateWise**: ClimateWise Transition Risk framework assesses the impact of transition risk and opportunity on the financial performance of investments in infrastructure at the portfolio and asset level.[7]

WRI Aqueduct Water Risk Atlas



The Transition Pathway Initiative

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3. https://www.wbcsd.org/Programs/Food-and-Nature/Water/Resources/Global-Water-Tool
4. https://transitionpathwayinitiative.org/
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Guidelines for Leaders

Pathway for Leaders

Moving Towards Enhanced Climate Change Disclosures

Climate change risk assessment and mitigation

- Companies should utilize the regional level risk assessment to determine high risk assets and perform detailed asset level risk assessments for them.
- Companies should identify impacts for each asset type in a region and develop asset level mitigation strategies.

Climate-related financial impacts

- Companies should assess the financial impacts of climate change on its revenues, expenditures, assets, liabilities, etc. and disclose the same in their financial fillings.

Disclose climate-related information

- Leaders should disclose their detailed asset level risk assessment process along with their risk management strategy in their climate change disclosures.
- Leaders should also quantify and disclose the possible financial impacts due to climate change risks along with corresponding planned mitigation strategies.

Progressive movement

- Companies should maintain their progress with respect to climate-related disclosures and strive to become compliant with all TCFD requirements.

Collaborate and inspire

- Companies should collaborate with internal and especially external stakeholders to develop guidelines and standards for their respective sectors based on their experience.

Manage Climate Change Risk & Opportunities

Climate Change Risk Assessment and Mitigation

- Companies should utilize the outcomes from the regional level risk assessment to determine high risk assets and subsequently carry out a detailed risk assessment for each of these assets. Assets in a region can be classified under multiple asset types such as buildings, factories, warehouses, utilities, roads, railways, ports, etc. (these definitions as per the company's requirements).
- Based on the above assessments, likelihood of occurrence of risk, asset's exposure to these risks and extent of impact, prioritize these assets based on their individual levels of vulnerability. For example, within a particular high risk region a factory might be exposed to higher risks due to climate change than a warehouse in the same region.
- Based on the outcomes of the prioritization exercise, companies should develop asset level risk mitigation strategies in consultation with the appropriate stakeholders of each asset.

Estimate Climate-related Financial Impacts

- Once an company is well positioned to assess its climate-related risks and opportunities and develop resilience strategies, it should assess financial impacts of climate change on its various financial metrics such as **revenues, expenditures, assets, liabilities, capital, financing, etc.**
- Determining financial impacts will involve the assessment of
    - Company's exposure
    - Proposed mitigation strategies
    - Strategy effectiveness
- These impacts should finally be disclosed in the company's various financial fillings such as income statement, cash flow statements, balance sheets, etc.

Examples of Potential Climate-related Financial Impacts

Areas	Examples
Revenue	Decrease in revenue due to operational disruption, Change in revenue from changing sales
Expenditure: OpEx	Increased operational cost for services (procuring water, waste treatment, emission control), R&D costs for new technology, products and services, Additional expenses such as insurance premiums
Assets: CapEx and Other Costs	CapEx in equipment's and new technologies to manage transitional risks and conservation efforts, CapEx for physical risk mitigation such as increase resilience of locations/facilities, Change in asset values based on environmental factors, Write-offs of existing assets
Liabilities	Legal liabilities due to climate risks, Compliance penalties
Financing	Change in debt, equity capital, credit rating, stock price and debt interest rates

Disclose Climate Change Risk & Opportunities

Climate Change Risk Assessment and Mitigation

- ✓ Companies should disclose the asset level risks identified for prioritized assets within high risk regions.
- ✓ Companies should disclose the process followed for asset level risk identification including models/frameworks utilized, underlying assumptions (if any), and definitions of risk categories used. If risks have been classified as high, medium and low, then an indication of what is meant by each classification should be provided.
- ✓ Companies should describe how these identified risks are likely to impact the operations of the associated asset.
- ✓ Companies should also disclose the asset level risk mitigation strategies that they have adopted or plan to adopt in the future.

Climate-related Financial Impacts

- ✓ Companies should disclose the following with respect to financial impacts:
  - ✓ Exposure and potential financial impact if no action is undertaken
  - ✓ Financial implications of mitigating risks and maximizing opportunities in the context of a company's overall business strategy and environment.
- ✓ Companies should disclose which climate-related metrics were utilized to estimate financial impacts. For example, if an internal carbon price is used by a company to estimate its exposure to climate-related risks, the same should be disclosed.
- ✓ Some of the pertinent financial information that companies should disclose in their financial filings include the following:
  - ✓ Proportion of total Capex allocated for green investments
  - ✓ Absolute and relative (percentage of a company's revenue) that is generated from low-carbon products and services
  - ✓ R&D investments including resources allocated for ESG
- ✓ Companies can disclose any additional climate-related financial information as they see fit.

Progressive Movement Towards Complete Alignment

Continually Improve Disclosures

✓ Companies leading the climate-disclosure space should continuously improve their disclosures by

Governance

- Disclosing the roles and responsibility of the management with respect to climate change, highlighting any changes that might have occurred from previous years.
- Providing information on the frequency of meetings, topics and outcomes of discussions with the board and senior management.
- Integrating climate change indicators into the company's renumeration policy to ensure increased stakeholder involvement. The same should be disclosed in the company's climate change disclosures.

Strategy

- Conducting research to better understand how climate-related issues translate to potential financial impacts.
- Disclosing financial impacts of risks and opportunities as well as development and implementation of corresponding mitigation strategies.
- Improved scenario analysis for assessing climate change risks (physical and transitional), assessing and developing asset level climate resilient strategies through increased use of quantitative data, research and studies.
- Developing guidelines and study material for sector peers, incorporating good practices from the company's own experience.

Risk Management

- Disclosing the climate change risk management framework and clearly highlighting the progress in the framework from previous years.
- Disclosing the extent of integration within the existing ERM and improvements carried out from previous years (if any).

Metrics and Targets

- Improving metrics quality by
  - Adding more data, locations, trends and descriptions (if required)
  - Making them consistent and comparable with sector requirements and/or regulatory requirements
  - Making them useful for stakeholders
- Tracking and disclosing progress against targets along with all requisite information as defined in the previous sections.

Collaborate and Inspire

How can Leaders Collaborate and Guide Other Companies?

- Companies leading the climate disclosure space with the experience gained during the climate-change risk assessment process can play an important role in guiding and inspiring other companies in the sector(s).
- Companies leading the space can collectively develop guidelines and work together to define standard practices for risk assessment as well as disclosures within the sector by collaborating with a number of stakeholders. Some of these stakeholders include:
  - Organizations that request climate information such as TCFD
  - Guidance from enabling organizations such as World Resources Institute on how to prepare climate-related information
  - Corporate preparers of information who develop disclosure techniques
  - Users of information such as investors to assess information useful for investors and how it should be presented.
- Companies can also collaborate with policy makers to influence policy development on preparing climate-related risk assessments and disclosures.
- Companies can also develop, and improve access to, methodologies, data sets, and tools that allow other companies to more effectively
  - Conduct scenario-based analysis of transition and physical risks at more granular industry, geographic, and temporal levels
  - Integrate climate risk assessment framework in a company's existing ERM
  - Develop company specific decarbonization strategies consistent with its sectoral decarbonization pathway
  - Assess and monitor metrics and set appropriate targets
- Companies can develop and refine accepted good practices for scenario-based climate-related financial disclosures.
- Companies can develop guidance for investors to better understand and use climate-related disclosures.
- Companies can collaborate and develop sector-wide performance reports thereby opening up the sector to further improvement.

Essential Read for Companies

- ✓ **A New Vision of Value – Connecting Corporate and Societal Value Creation:** This document provides guidance on how companies should account for their corporate and societal value in financial terms using the KPMG True Value Methodology. The methodology can help companies estimate the financial impact of climate change risks.[1]
- ✓ **Guidance on Undertaking Third-Pass Risk Screening:** The document provides a step-wise process which can be used by corporates to carry out a detailed asset level climate risk assessment. The document is preceded by 2 documents, which are 'first-pass risk screening' document for assessing company-wide risks and 'second-pass risk screening' document for conducting detailed region specific risk assessment.[2]
- ✓ **A Framework for Assessing Financial Impacts of Physical Climate Change – A Practitioner's Aide for the General Insurance Sector:** The document provides a six-stage framework that insurers can follow, using existing tools and associated metrics to better assess, manage, and report exposure to physical climate risks related to extreme weather events which in turn will lead to action. The document provides a number of case studies that illustrates the application of the framework and showcases how consideration of financial impacts from physical climate change can better inform insurer's risk management decisions.[3]

For more resources, tools and guidelines for TCFD implementation, companies can refer to **TCD Knowledge Hub.** [7]

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2. https://coastadapt.com.au/sites/default/files/factsheets/T3M4_3_3rd_pass_risk_assessment.pdf
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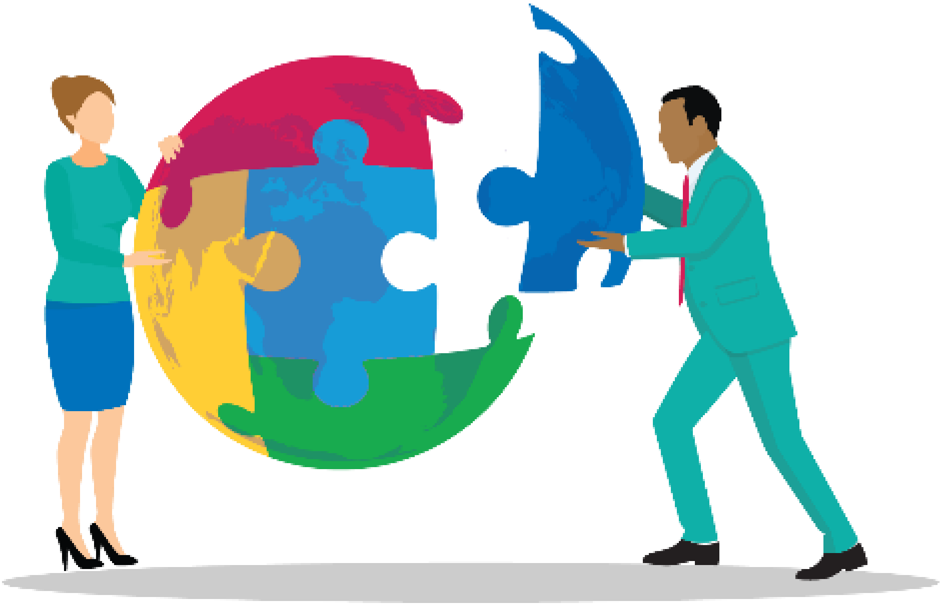
Conclusion

Conclusion

- Based on a detailed assessment on status of TCFD adoption in India, it was observed that majority of the companies in India qualify as 'aspirants' and have a long way to go when it comes to aligning their disclosures with TCFD requirements.
- Surveys/Consultations conducted with these companies showcased that the most common challenges faced by them include:
    - Lack of relevant expertise
    - Limited access to relevant tools and methodologies
    - Limited subject knowledge
- This guidance document has been developed considering that majority of the companies are beginning to disclose climate related information and require significant support in understanding risk assessment processes, tools and methodologies.
- Keeping this in view the guidance document has been developed to provide a staggered approach for companies at various stages of their disclosure journey i.e. aspirant, intermediate and leader helping them progress in the climate change disclosure space.
- The guidance document not only provides guidelines for aligning climate-related disclosures with TCFD's requirements but also provides detailed steps that companies should undertake prior to disclosing information.
- The guidance document also provides references to relevant climate change risk assessment reading material, tools and methodologies, for companies at all stages of their disclosure journey.
- The guidance document has been designed on the back of a flexible framework which is open for commentary and changes based on user feedback.



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Knowledge Partner: KPMG India

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The performance of services provided and the report issued to the Client are based on and subject to the terms of the Contract.

This report sets forth our views based on the completeness and accuracy of the facts stated to us and any assumptions that were included. If any of the facts and assumptions is not complete or accurate, it is imperative that we be informed accordingly, as the inaccuracy or incompleteness thereof could have a material effect on our conclusions.

While performing the work, we assumed the genuineness of all signatures and the authenticity of all original documents. We have not independently verified the correctness or authenticity of the same.

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The content of the report is based on publicly available secondary sources, meetings with the Client and various stakeholders and the information made available by such officials.

Shakti Sustainable Energy Foundation was established in 2009 to support India's developmental and energy security objectives. The Foundation seeks to facilitate India's transition to a sustainable energy future by aiding the design and implementation of policies in the following areas: clean power, energy efficiency, sustainable urban transport, climate change mitigation and clean energy finance