



CLIMATE RISK ASSESSMENT REPORT

LTIMindtree Ltd.

Evaluated by

DEVELOPMATRIX CONSULTING LLP



Contents

BACKGROUND	3
METHODOLOGY	4
Peer Comparison of Climate Risk Assessment	8
CLIMATE RISK ASSESSMENT	9
Transition Risk	10
Physical Risk.....	13
Physical Risks: Water Risks.....	22
COST-RISK ANALYSIS	29
CONCLUSION	31
RECOMMENDATIONS.....	31
ANNEXURES	36
REFERENCES.....	38

PREFACE

This Climate Risk Assessment report provides an assessment of climate change and its impacts on water risk and energy investment. The report begins with an introduction to the topic, followed by a description of the methodology used in the assessment. The methodology used in this report by using Climate Scenario Analysis including Stress analysis as recommended by TCFD and based on IPCC's Fifth and Sixth Assessment Report. The analysis was using tools such as Climate Knowledge Portal, WRI's Aqueduct Water Risk Atlas, Senses toolkit and more. The analysis was using tools such as Climate Knowledge Portal, WRI's Aqueduct Water Risk Atlas, Senses toolkit and more.

Physical and transitional risks due to climate change impacts on the environment, water, and other factors, including natural disasters in different regions of the world, were assessed. Climate scenarios were then developed for the assessment, and these risks were correlated with impacts on LTMindtree's business in the regions where it operates in India and globally. LTMindtree peers' analysis including Infosys, Wipro, TCS, and Tech Mahindra, offers insights into climate resilience and response strategies in relation to industry peers, aiding benchmarking and highlighting areas for improvement. The report also includes a cost-impact analysis to understand the financial impacts of climate change on the business of LTMindtree. The report concludes that the Climate Risk Assessment serves as a cornerstone for LTMindtree's climate resilience initiatives and reinforces LTMindtree ESG Vision, as it guides the organization in becoming climate resilient by investing and reinforcing LTMindtree's ESG initiatives in green building infrastructures, renewable energy, afforestation, maintenance of HVAC systems and water conservation and recycling interventions. The report highlights the urgent need to address climate change and identifies physical and transition risks, such as heat waves, emergence of new technologies, and water shortage, which could lead to significant increase in costs as well as risks to lives and properties. The report recommends strengthening long-term resilience and sustainability by addressing and mitigating these climate risks. The report boils down the importance of understanding and addressing climate vulnerabilities and risks, and the need for organizations to align themselves with the Task Force on Climate Disclosure (TCFD) and Task Force on Nature related Disclosure (TNFD) recommendations.

BACKGROUND

The challenge of addressing climate change due to global warming and the urgent need to limit its impact to 1.5 degrees by 2050 is a complex puzzle to solve. Ignoring this issue today could potentially disrupt not only businesses but also economies and societies on a global scale. While India has not officially signed up

for the net-zero emissions goal in its National Determined Contributions (NDC), it is important to know that during COP26, our Prime Minister committed India to achieving net-zero emissions by 2070.

India's plan, called the Net Zero Emission Plan (NZE), sets ambitious targets for industries and energy to achieve net-zero emissions by 2050. The Big 4 emitters – USA, China, Europe and India have all pledged to achieve net-zero, in the pursuit of curtailing global warming, as per the Paris Climate Treaty – limiting the rise of global average temperatures below 1.5°C. Climate scenarios were originally designed to provide policymakers with advice on the risks from climate change and identify possible solutions. They form a key part of scientific assessments such as those conducted by the Intergovernmental Panel on Climate Change (IPCC). Each scenario depicts a world where global warming level reaches a certain 'limit' in rise in average temperature, with severe climate change impacts. It is increasingly predicted that planet's global warming limits may breach the crucial 1.5°C, wherein, the impacts of climate change are less severe. But even if the world manages to limit global warming to 2-3°C, still it will pose severe climate impacts. These impacts include more frequent and intense weather events like heat waves, cyclones, floods, and droughts.

Given that India is among the top carbon emitters globally, there is an increasing pressure to adopt strict "green and climate-friendly" policies. This pressure is likely to lead to higher expectations from investors and stakeholders, demanding renewable energy use, lower carbon emissions, and ecological restoration.

LTIMindtree has set its ESG goals and published the details in their annual report and sustainability report. These encompass targets like achieving net-zero emissions by 2040, using 85% renewable energy by 2030, and achieving water positivity for their Indian operations by 2030. Focus areas include green technology, innovation, emission reduction, renewable power, water management, and waste recycling. These investments offer not just economic benefits but also demonstrate LTIMindtree's dedication to tackling climate change through continuous reduction of greenhouse gas emissions. Additionally, LTIMindtree is committed to ensuring the continuity of their services to customers and has taken steps to invest in developing effective contingency plans and measures to recover IT infrastructure and operations in case of any unforeseen disasters. As part of this, LTIMindtree wants to further strengthen its risk preparedness and business continuity plans by assessing the impact of Climate Change on its operations and business.

METHODOLOGY

LTIMindtree appointed Developmatrix to undertake an in-depth assessment of climate vulnerability risks using climate scenario analysis. This analysis strategically examines potential risks within the operations in India and overseas of the company, using scenario analysis and stress forecasting to predict potential challenges.

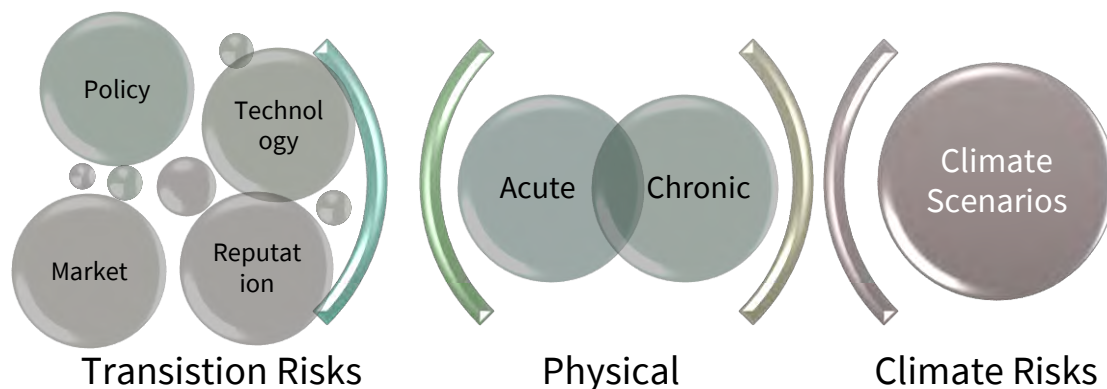
The report covers a significant operational footprint, all 45 offices within India and 35 international offices with a minimum seating capacity of 10 have been assessed. To ensure accuracy, the climate assessment has been tailored to regional weather data. This approach involves considering distinct regions – states/districts for India and counties or states for international locations.

We have referred to the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), which provides a structured framework for evaluating climate-related risks and Climate Scenario Analysis to assess future risks related to climate change as per IPCC. Also, referred to were other frameworks related to climate change and sustainability namely CDP, GRI, Taskforce on Nature-related Financial Disclosures (TNFD), etc. The time period considered is 2023-2040, and assumptions include increase in employees, built environment area and business revenues for the company.

The TNFD recognizes that climate and nature are interconnected, and that climate change can have a significant impact on nature. The scenario analysis undertaken here takes into account this interconnectedness by considering the potential impacts of climate change on nature, and the potential impacts of nature loss on the company. Overall, the climate scenario analysis is a good example of how organizations can use such tools to align themselves with the TCFD and TNFD recommendations.

The scenarios are forward-looking, predicting the climate change impacts based on which LTIMindtree can help make informed decisions by prioritizing climate mitigation efforts, determining necessary investments, assessing the likelihood of risks, and preparing for different future scenarios. Through the tool, we understand strategic implications, and assess location/regional based vulnerability to climate change impacts that are relevant and can have significant impact on the business of LTIMindtree. The intent is to enable LTIMindtree to develop a response matrix to these dynamic risks.

Climate Scenario Analysis as recommended by TCFD further categorizes climate-related risks into transition risks and physical risks.



This Climate Risk Assessment Report underscores the importance of understanding and addressing climate vulnerabilities and risks. By engaging in thorough scenario analysis, the company can anticipate risks, optimize low-carbon and climate mitigation efforts, and enhance our resilience against climate-related challenges. At the same time, it helps identify avenues or opportunities in business for companies.

Further, risks identified are mapped against LTIMindtree's ESG and Climate Strategy including its Net-Zero commitment by 2040. Risks are also aligned to India's Climate Action Strategy and other prominent countries, where LTIMindtree has significant presence or revenues like USA, Europe, South Africa, Japan, Australia among others.

Climate Scenario Tool is based on IPCC's sixth assessment report based on climate models. Physical Risks are based on Representative Concentration Pathways i.e., RCP. They are a set of greenhouse gas concentration trajectories developed by the Intergovernmental Panel on Climate Change (IPCC), to assess the impacts of climate change under different emissions scenarios. We have chosen RCP 8.5 for LTIMindtree, which embodies a high-emissions trajectory, portraying a future where emission-reducing policy changes are scarce, resulting in escalating greenhouse gas emissions. Thus, the company can prepare for the worst and be better prepared in terms of its ERM framework and Business Continuity plan.

Furthermore, Water stress, caused by limited water availability and increasing demand, poses risks to businesses. Evolving climate scenarios brings uncertainty in water availability, quality, and regulations, impacting operations and supply chains. Addressing water stress in current climate scenarios is crucial for business resilience and sustainability.

In the pursuit of a comprehensive climate risk assessment, attention to the vital aspect of scenario analysis is crucial.

For analysing Transition Risks; we have referred to the International Energy Agency's (IEA) Scenario Analysis that are current and aligned to global policies and climate actions. Recognizing LTIMindtree's commitment to achieving Net-Zero emissions for Indian operations by 2040, we have used IEA's Net Zero Emissions (NZE) scenario for evaluating transition risks.

Dataset Tools and References



The methodology used in this report for using Climate Scenario Analysis and Stress analysis as recommended by TCFD; includes tools such as:

1. Aqueduct Water Risk Atlas by WRI for water security risks,
2. Physical Climate Risks using IPCC's Fifth & Sixth Assessment report through Climate Knowledge Portal (CMIP6) of World Bank
3. Senses Toolkit (climatescenarios.org) part of the European Research Area for Climate Services (ERA4CS),
4. International Energy Agency's World Energy Outlook,
5. Assessment of Climate Change over the Indian and abroad region
6. Comparison or Peer Analysis of Climate Risks identified by LTIMindtree's peers
7. Cost Impact Analysis of the Climate Risks on business

Additionally, the World Bank Climate Knowledge Portal through CMIP6 supplies valuable data to comprehend climate changes. The SSP5 RCP 8.5 scenario offers insights into potential future situations, while the informative WRI-Water Risk Atlas illuminates' water-related challenges. With the information these tools provide, there's a readiness to navigate climate risk assessment with precision and insight.

Additionally, referring to the IEA's Net Zero Emission scenario, a pathway that outlines global net-zero greenhouse gas emissions by 2050, aiming to limit global temperature increase to 1.5°C above pre-industrial levels. Aligned with this scenario, LTIMindtree is steadfast in its commitment:

- Achieving Net Zero target for Indian operations by 2040
- Aims to achieve water positivity for all Indian operations by 2030
- Increasing the share of renewable energy from 52.07% to 85% by 2030
- Establishing LEED certified platinum-rated Green Buildings
- Scaling up sustainable infrastructure such as Greentech
- Achieve zero waste to landfill

Furthermore, a Cost Impact Analysis was conducted to understand financial impacts. Key parameters from 2023 to 2050, such as "Days with Heavy Rainfall" and "Hot Days with High Temperatures," were collected for this purpose.

The methodology section of a climate risk assessment report delineates the process employed to evaluate the company's exposure to climate risks. The process commences by identifying key climate-related risks, which encompass factors like extreme weather events' severity, rising sea levels, and shifts in customer preferences. Subsequently, a scenario analysis tool is utilized to calculate the financial impact of each risk.

This illustration demonstrates how these risks directly influence a company's financial standing, facilitating risk identification and the development of effective mitigation strategies.

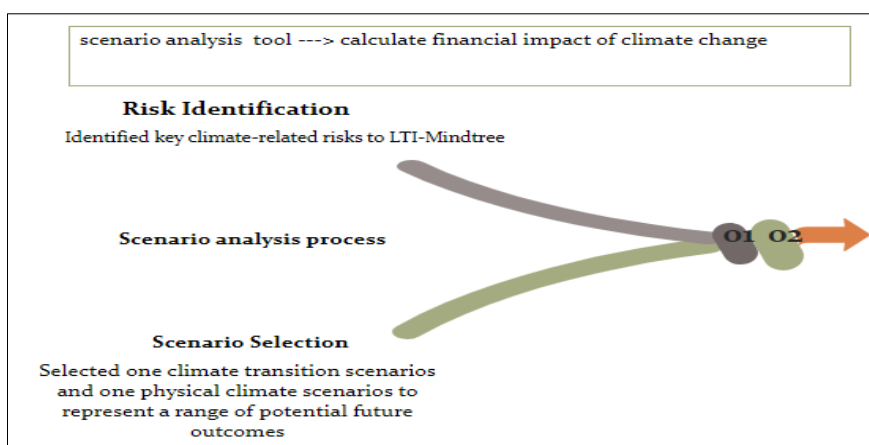


Fig no. 1 Climate Scenario analysis process

The methodology section plays a pivotal role within the climate risk assessment report, serving as a transparent and objective account of the process used to gauge the company's climate risk exposure. By offering insights into the methodology, the report empowers the company to make informed decisions on strategies to mitigate its climate risk exposure. Integral to this, the TCFD climate risk assessment conducts a thorough examination, encompassing both physical and transition risks associated with climate change. This inclusive evaluation not only scrutinizes the potential impacts of climate-related physical events on our operations but also delves into the strategic risks and opportunities arising from the transition to a low-carbon economy. Consequently, a peer gap analysis offers insights into climate resilience and response strategies in relation to industry peers. This process aids benchmarking and highlights areas for improvement. This comprehensive approach fosters a holistic comprehension of the complex interaction between physical and transition risks, guiding the path to a stronger and proactive climate risk management approach.

Peer Comparison of Climate Risk Assessment

LTIMindtree is devoted to efficient climate risk management. A peer comparison was performed with other notable IT services companies, unveiling its alignment with industry peers in terms of climate risk assessment commitment. This analysis and review equip the organization with an encompassing understanding of its climate-related risks.

PEER COMPARISON OF TCFD reporting ¹				
Parameters	Wipro	Infosys	Tech Mahindra	Accenture
TCFD led Climate Reporting	Yes	Yes	Yes	Yes
Scenario analysis for Physical Climate Risk	RCP 8.5, RCP 4.5	RCP 8.5	RCP 8.5	RCP 8.5
Scenario analysis for Transition Climate Risk	IEA 2DS	IEA 2DS	IEA 2DS	IEA INDC
CDP rating	A	A	A-	A-
S&P Global ESG Rating	86	79	89	30
Internal Carbon Pricing	Shadow price (\$50.11 per tonne)	Implicit price (\$14.25/ton CO2)	Implicit price (\$9/ton CO2)	\$30 per metric ton

¹Infosys Limited ESG Databook 2020-21([Infosys ESG Databook 2020-21.pdf](#))

Tech Mahindra Limited Integrated Annual Report 2020-21([Annual Report 2020-21.pdf](#))

PEER COMPARISON OF TCFD reporting ¹				
Parameters	Wipro	Infosys	Tech Mahindra	Accenture
MSCI Climate change Index	--	4.30	--	--
Transition Risk Identified	Reputation damage stemming from compliance issues and social/community concerns related to environmental	Increase Carbon tax and Mandate on RE. Enhanced Emission reporting, Obligations	Increase Carbon tax and Mandate on RE. Enhanced Emission reporting, Obligations	Increase Carbon tax and Mandate on RE. Enhanced Emission reporting, Obligations
Physical Risk Identified	Extreme weather events like floods and cyclones Erratic Rainfall	Water scarcity Extreme weather events - floods & drought	Extreme weather events like floods and cyclones erratic Rainfall	Water scarcity Extreme weather events like floods and drought Rising sea level

**All respective abbreviations and definitions can be found in the annexures.*

Most Peer Companies did their climate risks analysis at least 3-4 years prior, and hence the Transition Scenarios used are relevant to IEA 2DS that was prevalent at that time. IEA later has come up with new scenarios such as IEA NZE, which are based on the global transition and commitment to achieve Net-Zero and possible change in use of energy. Peer comparison and the review of the analysis provides a comprehensive understanding of its climate risks. This information will help the company to develop and implement effective climate risk management strategies.

CLIMATE RISK ASSESSMENT

From the perspective of climate risk assessment, the need to priorities the assessment of physical and transition risks in the near-term, mid-term and long-term is essential. Due to high human capital and facilities presence within India, we have analyzed the climate related risk assessment majorly for LTIMindtree India's operations accordingly as per the TCFD recommendations.

Various indexes relevant to the nature of LTIMindtree business has been considered for climate risk assessment by using WRIs' Water Risk Atlas analysis tools and World Bank Climate Knowledge Portal. WRIs' Water Risk Atlas tools to analyse the impacts of climatic conditions within certain geographical areas of LTIMindtree operations by considering the baseline scenario in the Water Risk Atlas representing the current water stress conditions and potential risks associated with water availability, quality, and governance. It serves as a reference point for understanding existing water-related challenges and their potential impacts on various sectors, including finance. Change from baseline values predicts the

projected change in the risk from the baseline year of 2023 measured up against RCP 8.5 for 2030. We have further analysed climate related risks based on following metrics (i) Impact and (ii) likelihood. Risk Severity is derived based on probability of occurrence and impact, on a scale of ‘High’, ‘Medium’ and ‘Low’.

Further we have conducted Cost to Risk analysis to build base for laying out climate mitigation strategies to reduce the negative impacts of climate change.

TRANSITION RISK

As the world transitions towards a low-carbon economy, LTIMindtree encounters various transition risks. These encompass regulatory, technology, market, and reputational risks. Regulatory risks stem from the potential introduction of new regulations by the Indian government, necessitating greenhouse gas emissions reduction. Technology risks emerge from the advancements in low-carbon technologies, like electric vehicles and renewable energy. Market risks arise from heightened consumer awareness of environmental impact, potentially driving demand for low-carbon products and services. Reputational risks emerge if LTIMindtree is perceived as neglecting responsible environmental practices, which could harm its reputation.

A. Transition Risks Identified

TRANSITION RISK TYPE 1: POLICY / REGULATIONS / LEGAL

1a. Green Energy/Green policies

Risks Description	Impact	Likelihood
In its updated NDC as per the Paris Climate Treaty, India has committed to reduce the emissions intensity of its GDP by 45% by 2030, based on 2005 levels and achieve around 50% cumulative installed capacity of electricity from non-fossil fuel-based energy sources by 2030. Further, as part of its transition to clean energy roadmap, India has brought about slew of ‘green’ policies that are seen as a boost up to existing environmental regulations. The country has just rolled out the amended National Electricity Plan 2023 (NEP2023); which acknowledges the shifting market dynamics with a rapid transition to renewable energy along with storage in line with its NDC. The Electricity (Promoting Renewable Energy Through Green Energy Open Access) Rules is expected to empower especially commercial consumers like businesses to shift to Green Energy. The Indian government provides several incentives to encourage green building and LEED certifications in India.	Failure to comply to these regulations or failure to acknowledge the new ‘green’ policies, may not only be counterintuitive, with not just the financial repercussions of non-compliance but also producing a negative effect on the reputation of the company.	High, Relevant

TRANSITION RISK TYPE 1: POLICY / REGULATIONS / LEGAL

1b. Climate-Related Regulations and Disclosures

Risks Description	Impact	Likelihood
-------------------	--------	------------

As India is signatory member of Paris climate agreement and UNFCCC, there is bound to be many changes in regulations or upcoming regulations especially on climate change like incentivising decarbonisation for companies. The big Four – USA, European Union, India and China have also pledged to become net-zero in the near future. Regulators in these countries, will in addition, to imposing stricter compliances in ‘Green’/Climate-related regulations also impose stricter climate change or ESG reporting disclosures. Countries like USA and China are expected to follow EU and declare strict regulations similar to the EU climate laws including imposing carbon-tax polices like the Carbon Border Adjustment Mechanism (CBAM).	Geopolitical crises, carbon pricing, and energy shortages would lead to the increased prices for electricity energy and fossil fuel price dependency and GHG emissions. Higher operational expenditures	High, Relevant
--	---	----------------

TRANSITION RISK TYPE 1: POLICY / REGULATIONS / LEGAL

1c. Carbon Tax/Trading or Renewable purchase obligations

Risks Description	Impact	Likelihood
Whilst India does not have any explicit carbon tax policy, it has schemes that place an implicit price on carbon like The Perform, Achieve and Trade (PAT) scheme, increased indirect taxes on Fossil-fuels, Carbon Cess on Coal and incentivising schemes like Renewable Purchase Obligations (RPO). In addition, it has announced investment and incentives in local manufacturing of Solar PVs, promotion of clean tech and Electric Vehicles in Transportation as well as Green Bonds. The Government of India could look at further incentivizing renewable energy transition and climate friendly policy initiatives. They can offer incentives on above climate related mitigation like Carbon Trading Policy. The government plans to develop the Indian Carbon Market (ICM) where a national framework will be established with an objective to decarbonize the Indian economy by developing the Carbon Credit Trading Scheme.	Penalty off LTIMindtree / write offs of old energy intensive equipment, vehicles etc.	High, Relevant

TRANSITION RISK TYPE 2: MARKET

Change in Customer preferences

Risks Description	Impact	Likelihood
Customers are placing more emphasis on energy efficiency and greenhouse gas emissions, and businesses must anticipate customer needs and innovate to meet them. Global top companies especially the Fortune 500 companies – most of whom are potential or customers of LTIMindtree – are increasingly adopting various ESG/Climate mitigation initiatives not just within the	Increase of human resources for specialised purposes like managing market and product demand of the overall company and other expenses related to	High, Relevant

companies but across their value chain. Hence, with LTIMindtree being a value chain partner, it will be expected of LTIMindtree to also align their ESG and climate change goals to those of their customers. As a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies, for LTIMindtree offering ESG solutions to customers is also an excellent market opportunity.

facility product management and logistics. Geopolitical crises, carbon pricing, and increase in demand for the sustainable products will eventually increase in expenses related to transportation.

TRANSITION RISK TYPE 3: TECHNOLOGY

Transition to Net-Zero commitment or transitioning to low-carbon technologies and products

Risks Description	Impact	Likelihood
<p>1. As part of our ESG vision, LTIMindtree has committed to be Net-zero by 2040, carbon neutral operations by 2030, water positivity by 2030 and 85% of total energy from renewable sources. As per International Energy Agency (IEA), buildings contribute to 1/3 of the global emissions and about 30% of global energy consumption. LTIMindtree also has committed to make our campuses truly green by committing to have 100% of existing and future campuses to be housed in LEEDS platinum certified Green Buildings.</p> <p>All these mean huge investment in green and clean climate solutions including Solar installations, IOT smart energy and water systems, HVACs optimisations, and Green Buildings, etc. However, as seen in the cost analysis sections, these investments still give better savings and in the long run will be more optimal than investing in carbon-led systems like fossil-fuel based electricity.</p>	<p>LTIMindtree has committed to Net-zero operations in India by 2040 and consume 85% of its energy from Renewable Energy by 2030 which would impact multiple aspects of our operating costs, including utility costs, rise in energy cost, reduced revenue.</p>	<p>High, Relevant</p>
<p>2. Increasingly rapid shift to low or zero carbon energy sources such as renewables and improvements in energy efficiency will increase in prices for Non fossil based raw material and product. Whilst we have pledged to be have 85% of our energy from renewable resources by 2030, LTIMindtree also are aware, that as a global technology and digital transformation company, and part of the global Information Technology</p>	<p>High expenditures required for development of sustainable products, reliable energy supply, low carbon technologies like RE and RE based</p>	<p>High, Relevant</p>

Industry, the sector is people i.e., intellectual capital intensive. And requires huge square feet of built environment	appliances which can impact the company's overall profitability.	
---	--	--

TRANSITION RISK TYPE 4: REPUTATION

Risks Description	Risks Description
<p>1. Reputational risk arises as a result of increased scrutiny following a change in stakeholder perceptions of climate-related action or inaction or Failure to achieve GHG emission reduction and other climate-related measure targets. Along with this increasing stakeholder there will be Investor pressure for CDP or climate related disclosure. E.g of Apple advertising its sustainability through using Mother Earth has caused a lot of negativity for the company among experts.</p> <p>2. Moreover, with climate change impacting natural resources, there will an increase in stakeholder conflict over use of natural resources like water, energy, waste etc</p> <p>Increasingly, companies like LTIMindtree may have to look at CSR initiatives (CSR Rules, India) like water conservation, food security/agriculture, afforestation – as climate change affects the society's use of resources especially in India, and South Africa.</p>	<p>Moderate, Relevant</p> <p>High, Relevant by 2030</p>

Mitigation of these risks can be achieved through several measures, including the adoption of low-carbon technologies, regulatory compliance, effective stakeholder communication, and investment in R&D. By taking these steps, LTIMindtree can position itself for success in the low-carbon economy.

PHYSICAL RISK

Under the TCFD framework, an examination is underway to assess the potential physical impacts of climate change on LTIMindtree and its stakeholders. In a worst-case scenario, global temperatures could rise by more than 4.1 degrees due to continued business-as-usual practices. This could lead to substantial ramifications for operations and interconnected entities such as employees, communities, and customers.

The primary concern revolves around elevated temperatures escalating the demand for cooling systems like Heating, Ventilation, and Air Conditioning (HVACs), possibly triggering water shortages. These shifts might also result in new regulations and influence energy efficiency standards. These factors have direct implications for costs and investments in facilities and infrastructure. The repercussions extend to asset damages, including power facilities and transmission lines, while also impacting broader aspects such as health, livelihoods, the economy, and cultural assets, thereby underscoring the far-reaching consequences of climate change.

Through this proactive approach, readiness is being ensured to facilitate informed decision-making, enhance resilience, and effectively counteract the potential impacts of climate change. The subsequent











































table illustrates various levels of physical risk posed by climate change, grounded in projected alterations in mean temperature, annual precipitation, and cooling degree days.

PHYSICAL RISK ²	LOW	MODERATE	HIGH	EXTREME
Rise in mean temperature (Projected Change in Hot Day; Tmax>35°C), Ensemble Median Range	0-45	45-92	93-137	>137
Annual precipitation (Projected Change in Days with Rainfall> 50mm)	0-1.5	1.5-3	3-4	>4
Average number hot days with temp > 45 °C	12	12-24	24-36	>36
Cooling Degree Days (ref to 18.33 °C) (From 2021- 2039)	0-2000	2000-4000	4000-6000	>6000































² World Bank Climate Knowledge Portal (CMIP6)
































B. Physical Risks Identified




The following table shows the number of days with precipitation greater than 50 mm, the average number of hot days with temperature above 35°C, and the average number of hot days with temperature above 45°C in select cities in India.

Sr No.	State	City	Locations	Days with precipitation > 50 mm	Average number hot days with temp > 35 °C	Average number hot days with temp > 45 °C
1	Karnataka	Bengaluru	11			
2		Mysore	1			
3	Odisha	Bhubaneswar	1			
4	Tamil Nadu	Chennai	5			
5		Coimbatore	3			
6	Delhi	Delhi	1			
7	Telangana	Hyderabad	7			
8		Warangal	1			
9	Madhya Pradesh	Indore	2			
10	Rajasthan	Jaipur	1			
11	West Bengal	Kolkata	3			
12	Maharashtra	Navi-Mumbai	7			
13		Pune	18			
14		Nagpur	1			
15		Mumbai	1			
16	Uttar Pradesh	Lucknow	1			
17		Noida	4			
18	Kerala	Ernakulum	1			

The following table shows the average number of cooling degree days (CDDs) in select cities around the world.

Sr. No.	Country	City	Days with precipitation > 50 mm	Cooling Degree Days (ref to 18.33 °C) (From 2021- 2039)	Average number hot days with temp > 35 °C
1	Australia	Sydney	0 	4071.19 	62 
2	Canada	Mississauga	1 	209.25 	2 
3	Costa Rica	San Jose	3 	4992.11 	27 
4	Denmark	Copenhagen	0 	213.28 	1 
5	France	La Défense	0 	834.82 	14 
6	Germany	Frankfurt Munich	0 	545.36 	6 
7	Japan	Tokyo	1 	1120.76 	5 
8	Mexico	Mexico City	1.5 	3510.3 	90 
9	Netherlands	Amsterdam	0 	350.68 	3 
10	Norway	Lysaker	0 	47.14 	0 

Sr. No.	Country	City	Days with precipitation > 50 mm	Cooling Degree Days (ref to 18.33 °C) (From 2021- 2039)	Average number hot days with temp > 35 °C
					
11	Poland	Warsaw Krakow	0 	651.18 	11 
12	Saudi Arabia	Dammam	0 	6330.09 	176 
		Riyadh Khobar			187 
13	Singapore	Changi	5 	6732.21 	13 
		Singapore			
14	South Africa	Johannesburg	1.5 	2041.03 	51 
15	Sweden	Stockholm	0 	125.44 	0 
16	United Arab Emirates	Dubai	0 	7208.73 	193 
		Abu Dhabi		7380.63 	194 
17	United Kingdom	London Belfast	0 	105.41 	0 

Sr. No.	Country	City	Days with precipitation > 50 mm	Cooling Degree Days (ref to 18.33 °C) (From 2021- 2039)	Average number hot days with temp > 35 °C
18	United States	Houston Dallas Milwaukee, WI Scottsdale Warren Minneapolis Atlanta Tampa Hartford Edison Bellevue	2 	1629.98 	47 

Dedicated to proactive management of its physical risks, LTIMindtree is diligently monitoring evolving climate risks and crafting novel mitigation strategies. Collaborating with partners, the company is enhancing the resilience of its supply chain and infrastructure. Moreover, the TCFD framework emphasizes two pivotal concepts for evaluating and addressing climate-related financial risks: likelihood and magnitude. Likelihood denotes the probability of a physical climate event occurring, while magnitude signifies the potential impact severity if such an event were to transpire. These concepts jointly enable the assessment of climate change risks to organizations. By comprehending the likelihood and magnitude of these risks, organizations can implement measures to diminish exposure and alleviate potential impacts.

Physical Risks Identified and Relevant to LTIMindtree Business				
Chronic Physical Risks				
Risk identified	Impacts	Time period	Likelihood	Magnitude of Impact
Rise in mean temperature	Due to rising mean temperature and heat wave - projections are that India will be facing an average 149 days of 'hot days' and used stress analysis tools including Heat stress map and Aqueduct tool by WRI to assess climate vulnerability of LTIMindtree India and Abroad Locations – specifically SSP5 RCP8.5 risk scenarios.	Long term (2023 - 2040)	High	Moderate
Heat wave	Negative impact on LTIMindtree operational costs and income in the form of raised employee health concerns, increased energy consumption, greater HVAC use, and other technological developments. Leading mainly to an increase in energy demand and thereby increasing the probability of breakdown of systems including IT infrastructure. Impacts would also include absenteeism leading to low productivity. Water shortage will also aggravate Heat waves.	Long term (2023-2040)	Moderate	High
Water stress	Acute Water scarcity is a resultant of changing rainfall patterns, increasing demand for consumption and combined with high precipitation, is leading to droughts. Higher costs from negative impacts on the workforce due to the climatic events which would have impact on employee's health and safety leading to more absenteeism.	Mid-term (2023 - 2030)	High	High

Physical Risks Identified and Relevant to LTIMindtree Business				
Acute Physical Risks				
Risk identified	Impacts	Time period	Likelihood	Magnitude of Impact
Drought	Acute physical risk arises through various events, such as increasing severity and/or frequency of severe weather like heatwave, floods or droughts. Some of the key Acute Physical Risks that have identify include extreme weather events like Floods, Heavy Precipitation (Heavy Rainfall) Damage to energy infrastructure and Supply chain disruptions which led to Reduced capital availability which can potentially have a negative financial impact on the Company.	Mid-term (2023-2030)	High	High
Heavy precipitation	Extreme weather events such as floods are causative events due to increased precipitation & rising sea levels. The cyclones also bring with them floods as does the changing heavy rain patterns. Floods, heat waves and droughts that call for emergency planning and may seriously harm our assets.	Long term (2023-2040)	Moderate	High
Flood Risk	In 2022, BCP was invoked for one of our India Operations – the Heavy Rainfall that hit the city of Bengaluru, causing major waterlogging in the city and the phenomena of urban Flooding. With the city waterlogged in key major areas for almost 2 consecutive days, there were operational issues, as the city and its citizens faced challenges of reaching work on time and travel was chaotic and hassled. Offices had to remain closed in the city for 3 days, including LTIMindtree Bengaluru operations.	Mid-term (2023-2030)	High	High

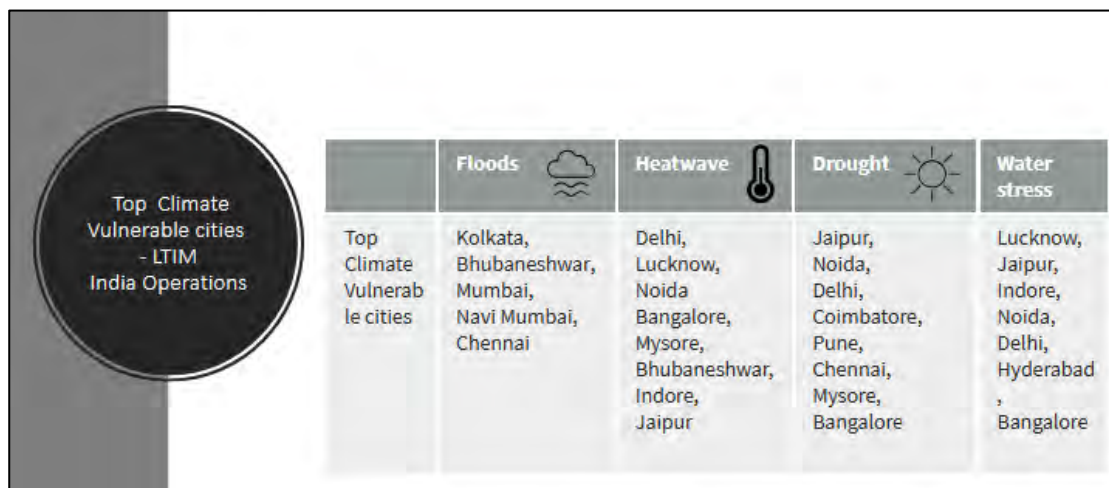


Figure No.2 : Top climate vulnerable cities - LTIMindtree India operations

Physical Risks Identified for LTIMindtree Operations Globally

LTIMindtree has 45 offices in India and 72 offices abroad which makes a total of 117 offices. For Scenario Analysis we have considered all 45 offices located in India, and 35 international offices with having at least 10 seating capacity.

ACUTE PHYSICAL RISKS

RISK	Impact	Likelihood
ACUTE CLIMATE CHANGE IMPACTS SUCH AS HEATWAVE, DROUGHTS, AND FLOODS ARE ANALYSED AS ONE OF THE SIGNIFICANT RISKS FOR LTIMINDTREE BUSINESSES	<ol style="list-style-type: none"> Higher costs from negative impacts on the workforce due to the climatic events which would have impact on employee's health and safety leading to more absenteeism Damage to energy infrastructure by extreme weather Damage to infrastructure, transportation routes, and lending portfolio by extreme weather events Supply chain disruptions which led to Reduced capital availability 	Moderate

CHRONIC PHYSICAL

RISK	Impact	Likelihood
Rise In Mean Temperature: Projected	Transmission and distribution networks efficiency and reliability of networks due to energy losses.	High

Increase in Average Temperature Due to Climate Change Can Significantly Impact the Transmission

Process Constraints Associated with Water Stress or Increasing Water Temperature or Decreasing Drinking Water Levels Due to Drought Stress Or Water Stress.

Increase use of HVACs for normal cooling which lead to increase use of energy consumption for their daily activities.

Increase in chances of zoonotic diseases and pandemic due to sudden climate change which can Severely impact on Employee health and safety leading to more absenteeism.

Low water levels or river water temperature increase can lead to the interruption in transmission losses or energy losses.

Such natural calamities may affect certain operations, physical assets and infrastructure along with employee travel and health. Subsequently, affecting our business profits.

High

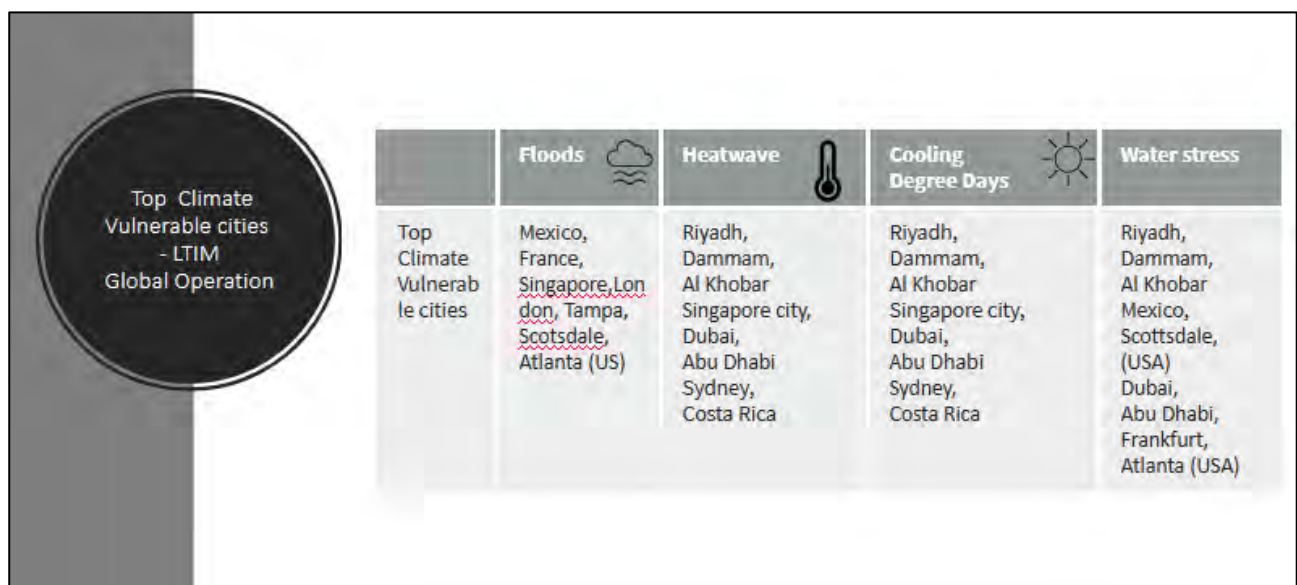


Figure No.3 : Top climate vulnerable cities - LTIMindtree Global operations

Physical Risks: Water Risks

Water risk assessment has emerged as a critical practice for businesses in response to escalating challenges related to water scarcity, compromised water quality, and inadequate water governance. In this context, LTIMindtree acknowledges the importance of comprehending and addressing potential

impacts of water-related issues on its operations. This proactive approach aligns with the essence of water risk assessment, which involves systematic identification, evaluation, and management of risks arising from water-related factors. By engaging in this comprehensive process, insights are gained into vulnerabilities that could disrupt operations, impact stakeholders, and potentially hinder long-term viability. These assessments, rooted in scientific analysis and forward-looking strategy, serve as a cornerstone of risk management in an era characterized by evolving water challenges.

An essential tool in water risk assessment is the Water Risk Atlas, an initiative of the World Resources Institute (WRI). This tool employs various data sources to craft comprehensive maps illustrating risks related to water stress, quality, and governance. From this atlas, businesses can glean insights into existing water-related challenges and potential risks affecting operations.

The Water Risk Atlas presents a baseline scenario outlining current water stress conditions and potential risks tied to water availability, quality, and governance. By mapping pertinent water-related risks linked to operations. This comprehensive mapping exercise covers 45 offices within India and 35 international offices with a minimum capacity of 10 seats. By closely aligning our assessment with regional weather data, the accuracy and relevance of findings are ensured.

The subsequent table, titled "Water Risk Assessment for LTIMindtree's Abroad and Indian Locations," concisely encapsulates diligent evaluation of water-related risks across diverse geographical regions. This underscores unwavering dedication to proactive and responsible risk management within a sustainability framework.

Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure													
Baseline Water Stress	The baseline water stress (BWS) layer, developed as part of WRI’s Aqueduct Water Risk Atlas, measures the ratio of total water withdrawals relative	<table><tr><th>Baseline Water Stress</th><th>LTIM Abroad Locations Exposure</th></tr><tr><td>Extremely High</td><td>5</td></tr><tr><td>High</td><td>5</td></tr><tr><td>Medium - High</td><td>7</td></tr><tr><td>Low - Medium</td><td>7</td></tr><tr><td>Low</td><td>11</td></tr></table>		Baseline Water Stress	LTIM Abroad Locations Exposure	Extremely High	5	High	5	Medium - High	7	Low - Medium	7	Low	11
Baseline Water Stress	LTIM Abroad Locations Exposure														
Extremely High	5														
High	5														
Medium - High	7														
Low - Medium	7														
Low	11														

³ Water Risk Assessment: WRI-Water Risk Atlas

Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure																																
	to the annual available renewable surface water supplies.	<div><div><div>LTIM Abroad Locations Baseline Water Stress Exposure</div><table><tr><td>Extremely High</td><td>1%</td></tr><tr><td>High</td><td>14%</td></tr><tr><td>Medium - High</td><td>20%</td></tr><tr><td>Low - Medium</td><td>20%</td></tr><tr><td>Low</td><td>32%</td></tr></table></div><div><table><tr><th>Baseline Water Stress</th><th>LTIM India Locations Exposure</th></tr><tr><td>Extremely High</td><td>30</td></tr><tr><td>High</td><td>3</td></tr><tr><td>Medium - High</td><td>3</td></tr><tr><td>Low - Medium</td><td>2</td></tr><tr><td>Low</td><td>3</td></tr></table></div><div><div>Baseline Water Stress risk</div><table><tr><td>Extremely High (>80%)</td><td>5%</td></tr><tr><td>High (40-80%)</td><td>8%</td></tr><tr><td>Medium - High (20-40%)</td><td>7%</td></tr><tr><td>Low - Medium (10-20%)</td><td>2%</td></tr><tr><td>Low (<10%)</td><td>80%</td></tr></table></div></div>	Extremely High	1%	High	14%	Medium - High	20%	Low - Medium	20%	Low	32%	Baseline Water Stress	LTIM India Locations Exposure	Extremely High	30	High	3	Medium - High	3	Low - Medium	2	Low	3	Extremely High (>80%)	5%	High (40-80%)	8%	Medium - High (20-40%)	7%	Low - Medium (10-20%)	2%	Low (<10%)	80%
Extremely High	1%																																	
High	14%																																	
Medium - High	20%																																	
Low - Medium	20%																																	
Low	32%																																	
Baseline Water Stress	LTIM India Locations Exposure																																	
Extremely High	30																																	
High	3																																	
Medium - High	3																																	
Low - Medium	2																																	
Low	3																																	
Extremely High (>80%)	5%																																	
High (40-80%)	8%																																	
Medium - High (20-40%)	7%																																	
Low - Medium (10-20%)	2%																																	
Low (<10%)	80%																																	
Water Stress Future Value	Water stress is an indicator of competition for water resources and is defined informally as the ratio of demand for water by	<table><tr><th>Water Stress BAU 2030</th><th>LTIM Abroad Locations Exposure</th></tr><tr><td>Extremely high</td><td>9</td></tr><tr><td>High</td><td>9</td></tr><tr><td>Medium-high</td><td>8</td></tr><tr><td>Low-medium</td><td>5</td></tr><tr><td>Low</td><td>4</td></tr></table>	Water Stress BAU 2030	LTIM Abroad Locations Exposure	Extremely high	9	High	9	Medium-high	8	Low-medium	5	Low	4																				
Water Stress BAU 2030	LTIM Abroad Locations Exposure																																	
Extremely high	9																																	
High	9																																	
Medium-high	8																																	
Low-medium	5																																	
Low	4																																	

Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure										
	human society divided by available water.	<div><div>LTIM Abroad Locations Water Stress Future Value Exposure</div><div><div><div>Extremely high</div><div>High</div><div>Medium-high</div><div>Low-medium</div><div>Low</div></div><div><div><div>1%</div><div>14%</div><div>23%</div><div>26%</div><div>26%</div></div></div></div></div>										
		<table><thead><tr><th>Water Stress BAU 2030</th><th>LTIM India Locations Exposure</th></tr></thead><tbody><tr><td>Extremely high</td><td>27</td></tr><tr><td>High</td><td>3</td></tr><tr><td>Medium-high</td><td>6</td></tr><tr><td>Low-medium</td><td>3</td></tr><tr><td>Low</td><td>2</td></tr></tbody></table> <div><div>BAU 2030 Water stress Risk</div><div><div><div>Extremely high</div><div>Medium-high (20-40%)</div><div>High (40-80%)</div><div>Low-medium (10-20%)</div><div>Low (<10%)</div></div><div><div><div>15%</div><div>7%</div><div>5%</div><div>62%</div><div>1%</div></div></div></div></div>	Water Stress BAU 2030	LTIM India Locations Exposure	Extremely high	27	High	3	Medium-high	6	Low-medium	3
Water Stress BAU 2030	LTIM India Locations Exposure											
Extremely high	27											
High	3											
Medium-high	6											
Low-medium	3											
Low	2											
Inter Annual Variability	Interannual variability measures the average between year variability of available water supply, including	<table><thead><tr><th>Inter Annual Variability</th><th>LTIM Abroad Locations Exposure</th></tr></thead><tbody><tr><td>Extremely High</td><td>3</td></tr><tr><td>High</td><td>3</td></tr><tr><td>Medium - High</td><td>4</td></tr></tbody></table>	Inter Annual Variability	LTIM Abroad Locations Exposure	Extremely High	3	High	3	Medium - High	4		
Inter Annual Variability	LTIM Abroad Locations Exposure											
Extremely High	3											
High	3											
Medium - High	4											

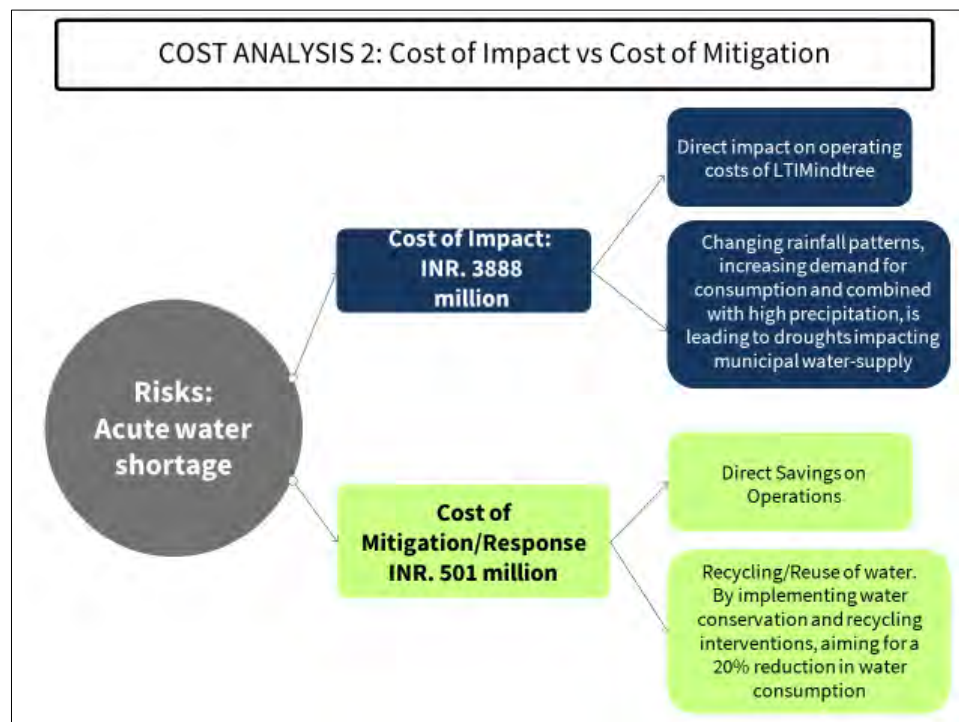
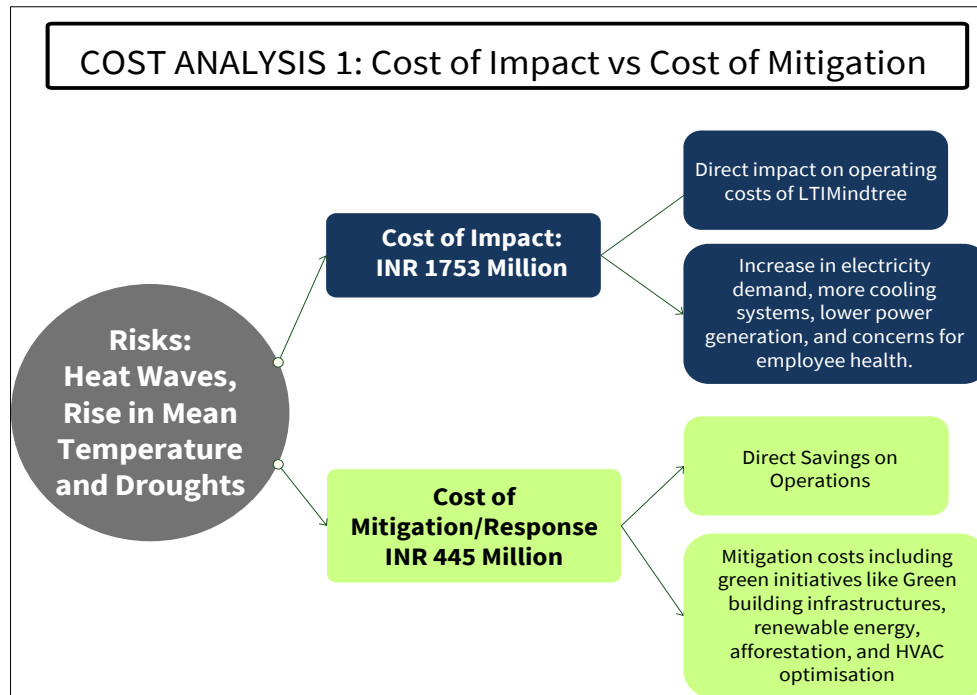
Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure													
	both renewable surface and groundwater supplies. Higher values indicate wider variations in available supply from year to year.	Low - Medium	21												
		Low	4												
		<div>LTIM Abroad Locations Inter Annual Variability Exposure</div> <div><div><div>Extremely High</div><div>High</div><div>Medium - High</div><div>Low - Medium</div><div>Low</div></div><div><div><div>31%</div><div>5%</div><div>11%</div><div>60%</div><div></div></div></div></div>													
		<table><tr><th>Inter Annual Variability BAU 2030</th><th>LTIM India Locations exposure</th></tr><tr><td>Extremely High</td><td>3</td></tr><tr><td>High</td><td>16</td></tr><tr><td>Medium - High</td><td>9</td></tr><tr><td>Low - Medium</td><td>13</td></tr><tr><td>Low</td><td>0</td></tr></table> <div>BAU 2030 Interannual variability</div> <div><div><div>Extremely high</div><div>Medium - High (0.50-0.75)</div><div>High (0.75-1.00)</div><div>Low - Medium (0.25-0.50)</div></div><div><div><div>7%</div><div>32%</div><div>22%</div><div>39%</div></div></div></div>		Inter Annual Variability BAU 2030	LTIM India Locations exposure	Extremely High	3	High	16	Medium - High	9	Low - Medium	13	Low	0
Inter Annual Variability BAU 2030	LTIM India Locations exposure														
Extremely High	3														
High	16														
Medium - High	9														
Low - Medium	13														
Low	0														
Riverine Flood Risk	Riverine flood risk measures the percentage of population expected	<table><tr><th>Riverine Flood Risk</th><th>LTIM Abroad Locations Exposure</th></tr><tr><td>Extremely High</td><td>1</td></tr><tr><td>High</td><td>6</td></tr><tr><td>Medium - High</td><td>3</td></tr></table>		Riverine Flood Risk	LTIM Abroad Locations Exposure	Extremely High	1	High	6	Medium - High	3				
Riverine Flood Risk	LTIM Abroad Locations Exposure														
Extremely High	1														
High	6														
Medium - High	3														

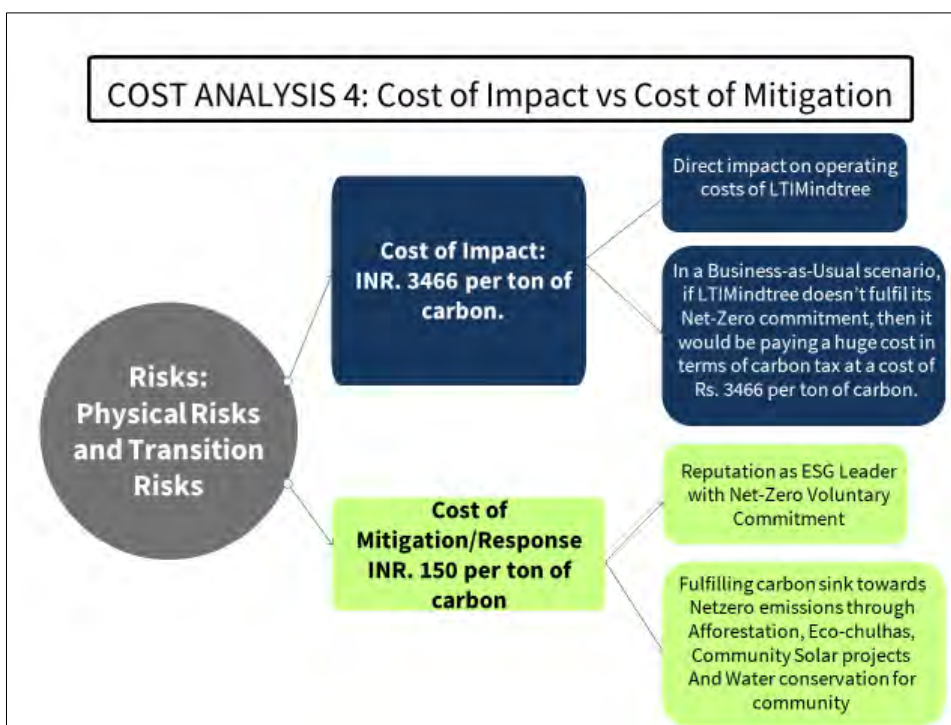
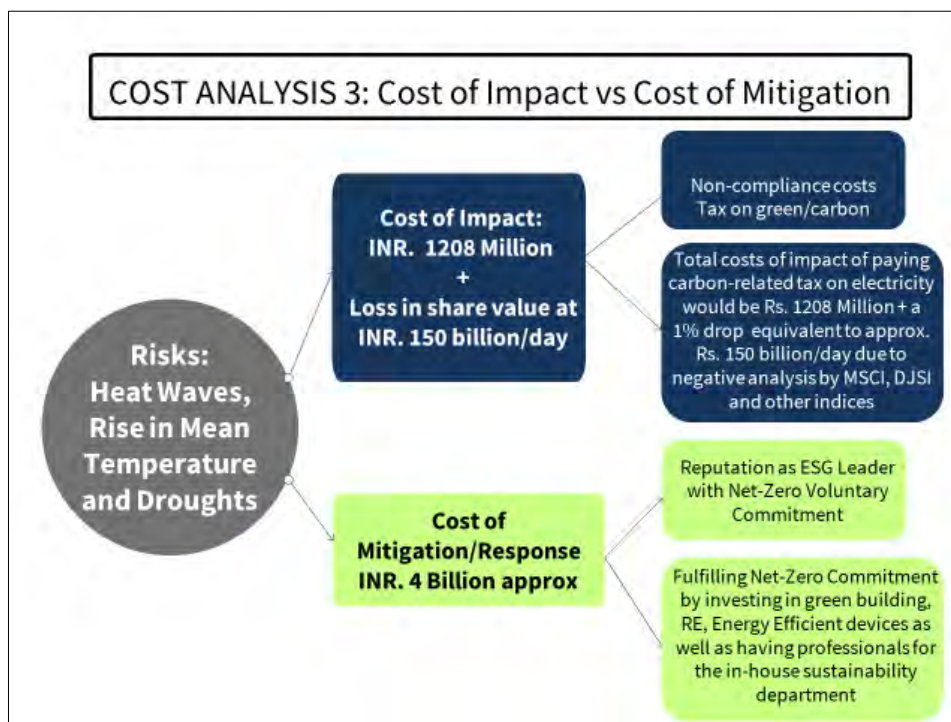
Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure													
	to be affected by Riverine flooding in an average year, accounting for existing flood-protection standards. Flood risk is assessed using hazard (inundation caused by river overflow), exposure (population in flood zone), and vulnerability. The existing level of flood protection is also incorporated. The indicator represents flood risk as average annual impact.	Low - Medium	6												
		Low	19												
		<div><p>LTIM Abroad Locations Riverine Flood Risk Exposure</p><table><thead><tr><th>Risk Level</th><th>Percentage</th></tr></thead><tbody><tr><td>Extremely High</td><td>3%</td></tr><tr><td>High</td><td>17%</td></tr><tr><td>Medium - High</td><td>9%</td></tr><tr><td>Low - Medium</td><td>17%</td></tr><tr><td>Low</td><td>54%</td></tr></tbody></table></div>		Risk Level	Percentage	Extremely High	3%	High	17%	Medium - High	9%	Low - Medium	17%	Low	54%
		Risk Level	Percentage												
		Extremely High	3%												
High	17%														
Medium - High	9%														
Low - Medium	17%														
Low	54%														
Riverine Flood Risk	LTIM India Locations Exposure														
Extremely High	8														
High	12														
Medium - High	3														
Low - Medium	16														
Low	2														
<div><p>Flood Risk</p><table><thead><tr><th>Risk Level</th><th>Percentage</th></tr></thead><tbody><tr><td>Extremely High</td><td>3%</td></tr><tr><td>High</td><td>17%</td></tr><tr><td>Medium - High</td><td>9%</td></tr><tr><td>Low - Medium</td><td>39%</td></tr><tr><td>Low</td><td>32%</td></tr></tbody></table></div>		Risk Level	Percentage	Extremely High	3%	High	17%	Medium - High	9%	Low - Medium	39%	Low	32%		
Risk Level	Percentage														
Extremely High	3%														
High	17%														
Medium - High	9%														
Low - Medium	39%														
Low	32%														

Water Risk ³	Definitions according to WRI	LTIMindtree Operations Exposure																				
Drought Risk	Drought risk measures where droughts are likely to occur, the population and assets exposed, and the vulnerability of the population and assets to adverse effects.	<table><tr><th>Drought Risk</th><th>LTIM Abroad Locations Exposure</th></tr><tr><td>Medium - High</td><td>6</td></tr><tr><td>Medium</td><td>13</td></tr><tr><td>Low - Medium</td><td>11</td></tr><tr><td>Low</td><td>5</td></tr></table> <div><p>LTIM Abroad Locations Drought Risk Exposure</p><table><thead><tr><th>Drought Risk</th><th>Percentage</th></tr></thead><tbody><tr><td>Medium - High</td><td>14%</td></tr><tr><td>Medium</td><td>37%</td></tr><tr><td>Low - Medium</td><td>32%</td></tr><tr><td>Low</td><td>14%</td></tr></tbody></table></div>	Drought Risk	LTIM Abroad Locations Exposure	Medium - High	6	Medium	13	Low - Medium	11	Low	5	Drought Risk	Percentage	Medium - High	14%	Medium	37%	Low - Medium	32%	Low	14%
		Drought Risk	LTIM Abroad Locations Exposure																			
Medium - High	6																					
Medium	13																					
Low - Medium	11																					
Low	5																					
Drought Risk	Percentage																					
Medium - High	14%																					
Medium	37%																					
Low - Medium	32%																					
Low	14%																					
		<table><tr><th>Drought Risk</th><th>LTIM India Locations Exposure</th></tr><tr><td>Extremely High</td><td>0</td></tr><tr><td>High</td><td>23</td></tr><tr><td>Medium- High</td><td>18</td></tr><tr><td>Low - Medium</td><td>0</td></tr><tr><td>Low</td><td>0</td></tr></table> <div><p>Drought Risk</p><table><thead><tr><th>Drought Risk</th><th>Percentage</th></tr></thead><tbody><tr><td>High</td><td>55%</td></tr><tr><td>Medium - High</td><td>44%</td></tr><tr><td>Extremely High</td><td>0%</td></tr></tbody></table></div>	Drought Risk	LTIM India Locations Exposure	Extremely High	0	High	23	Medium- High	18	Low - Medium	0	Low	0	Drought Risk	Percentage	High	55%	Medium - High	44%	Extremely High	0%
Drought Risk	LTIM India Locations Exposure																					
Extremely High	0																					
High	23																					
Medium- High	18																					
Low - Medium	0																					
Low	0																					
Drought Risk	Percentage																					
High	55%																					
Medium - High	44%																					
Extremely High	0%																					

COST-RISK ANALYSIS

Climate Change impacting businesses and affecting costs either directly or indirectly is imminent. The impacts however, that are identified and if co-related to specific LTIMindtree business operations, can be reduced if mitigation is undertaken.





In terms of reducing the cost of impact, LTIMindtree's ambition to have all their buildings rated as LEED Platinum (Green Building) is commendable. However, one of the shortcomings of Green Buildings is that they do not necessarily incorporate heat resilience. Therefore, care must be taken to incorporate heat resilience measures, such as using less glass for external facades in extreme hot regions or using double-glazed insulation.

CONCLUSION

The Climate Risk Assessment Report highlights the urgent need to address climate change. The report identifies physical and transition risks, such as heat waves, emergence of new technologies and water shortage, which could lead to INR. 1753 million and INR. 3888 million in costs, respectively. The report uses climate-related scenario analysis to assess the potential impacts of these risks. For example, the report predicts that the costs of electricity in India will rise year-on-year by at least 10%, with costs reaching INR. 44 per unit by 2040.

The report concludes that the Climate Risk Assessment serves as a cornerstone for LTIMindtree's climate resilience, as it guides the organization in becoming climate resilient by investing in green building infrastructures, renewable energy, afforestation, and maintenance of HVAC systems (INR. 445 million) and water conservation and recycling interventions (INR. 501 million).

The following are the possible risks that need to be addressed to strengthen long-term resilience and sustainability:

❖ **Physical risks:**

- Increased occurrence of extreme weather events such as floods, heatwaves, and droughts.
- Rising sea levels, which could lead to infrastructural vulnerabilities and equipment damage.
- Looming threat of water scarcity.
- The water risk assessment provides a comprehensive overview of the climate-related water risks facing operations in different locations. To strengthen risk preparedness and business continuity plans. It evaluates a variety of water stresses, including baseline water stress, water stress future value, interannual variability, riverine flood risk, and drought risk.

❖ **Transition risks:**

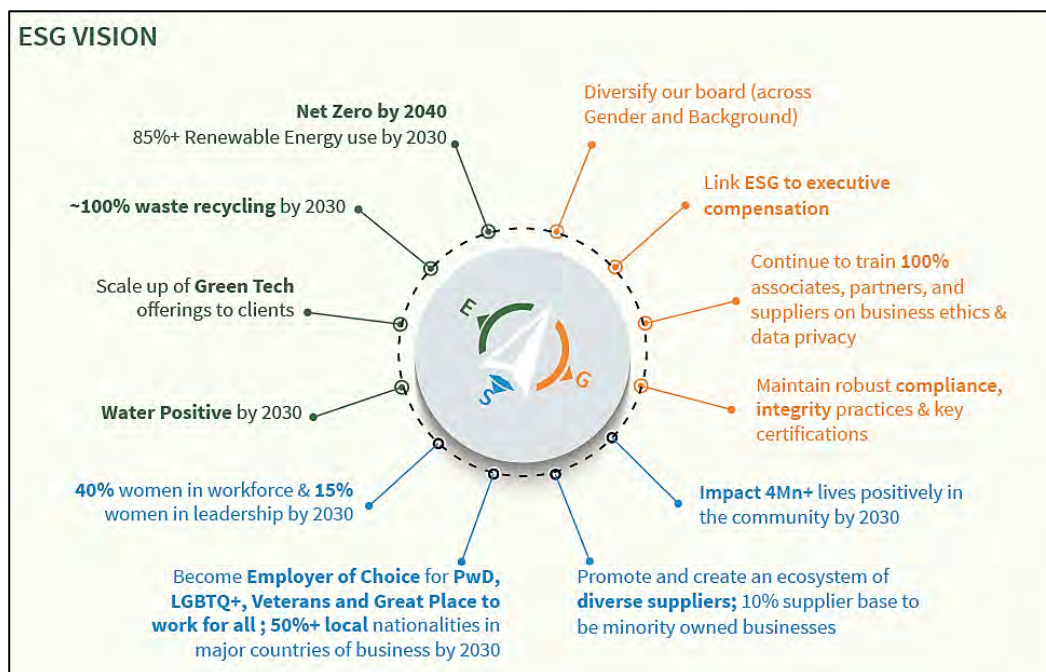
- Stringent regulations on greenhouse gas emissions and climate-related concerns.
- Volatility of commodity prices, notably energy and water.
- The emergence of new technologies could render certain products and services obsolete.

LTIMindtree must invest in climate resilience and sustainability infrastructure to mitigate the risks of climate change. Furthermore, the outcomes of this assessment reflect a better understanding of the impacts of climate change, identification of the regions that are most vulnerable to climate change (physical and transition risks) and water risk, and recommendations for future research and policy interventions to mitigate the impacts of climate change.

RECOMMENDATIONS

LTIMindtree is committed to reducing its climate impact and becoming a climate-resilient organization. To achieve this goal, LTIMindtree is implementing a comprehensive climate resilience strategy that covers a wide range of areas, including energy efficiency, renewable energy, water stewardship, and climate risk assessment. The strategy is based on best practices and innovative solutions, and it is designed to help LTIMindtree mitigate climate risks, reduce its environmental footprint, and create a more sustainable future.

To mitigate climate risks, LTIMindtree has set out a broad vision for ESG and is implementing a number of climate risk mitigation strategies.



- Committed to bring out a 1.5-degree world, with a decarbonisation strategy that includes to be Net-zero by 2040 and set forth bold ESG ambitions to become 5 times water-positive by 2030 for our India operations.
- Commitment to source 85% of their energy from Renewable sources
- Investing in energy conservation initiatives like Replacement of T5 Lights by LED Lights, Replacement of Refrigerants, Optimization of UPS, installation of motion sensors, Replacement of old AC units with energy efficient units, installation of Variable Frequency Drives (VFD), installation of APFC and AHF
- LTIMindtree has been recycling and recharging water systems using watershed and water management recharging systems for the benefit of the community. As part of their biodiversity conservation initiatives, LTIMindtree has implemented several programs in afforestation and water conservation, including increasing mangroves forests through preservation and planting of mangroves species and increasing access to water through water replenishment projects.
- LTIMindtree is committed to ensure all existing and future campuses will be green building infrastructure with Platinum LEEDs certifications and currently, has invested INR 2,735.6 Million in Green Buildings in FY 2023.
- Robust Business Continuity Plan system in place as well as a hybrid model during the extreme weather events. Contingency measures include a Hybrid model of working where the project work of critical and important client projects continue with employees asked to work from home.
- ESG tech 'by design' offerings and engineering solutions help businesses, societies, and the planet flourish while building a long-term value for all our stakeholders. ESG services offering are designed

to help clients with enterprise ESG strategy and activation, responsible and circular supply chain, regulatory compliance and reporting, NetZero transition, sustainable intelligence, risk and controversies management, green IT and green alpha enablement. and emphasizing biodiversity to attain net-zero emissions.

We recommend to augment and reinforcing current initiatives undertaken by LTIMindtree from point of view also of mitigating the climate risks identified in the report, such as:

Augmenting on-site solar power: This will reduce the company's reliance on grid-supplied electricity, which can be disrupted by extreme weather events. LTIMindtree can augment its commitment of 85% Renewable Energy, by tilting heavily towards on-site RE including Solar, rather than PPA and third-party purchases of RE certificates. Increasingly Governmental policies including of India, EU, USA, Australia, Canada, South Africa would be de-incentivising PPAs and third-party purchases. Self-reliant RE campuses like LTIMindtree's Bhubaneswar with 550KW would go a long way in making LTIMindtree's goal to be Net-zero operations successful by 2040. To optimise the cost effectiveness as well as achieve the Net-Zero goal by 2040, LTIMindtree should look at onsite RE with bigger capacities like 500KW soon starting with FY 2024. The cost of paying for diesel/fossil fuel and electricity-based energy will be more expensive than capital investment in RE. LTIMindtree also benefits dually both in terms of decarbonisation but also mitigating climate vulnerabilities like grid failure due to heat waves and higher cooling degree.

Uptaking group captive procurement options for RE: Taking advantage of L&T's group captive RE procurement, will allow LTIMindtree to purchase renewable energy at a discounted rate.

HVACs optimisation: A large part of power consumption for IT companies including LTIMindtree is due to HVACs – Air conditioners, Cooling systems, etc. Optimising HVACs thereby reducing power consumption of these systems can go a long way in cutting down CO2 emissions. Immediate step is to replace old HVAC system with new or replace HVACs with R22 refrigerants with R32 or complete replacement of Refrigerants. This will reduce the company's greenhouse gas emissions. R22 is a hydrofluorocarbon (HFC) refrigerant that is a potent greenhouse gas. R32 is a newer refrigerant that is less harmful to the environment. The International Energy Agency estimates that replacing HFCs with other refrigerants could avoid up to 0.5°C of global warming by 2100. Moreover, as per the physical risks analysed, India as well as other abroad locations where LTIMindtree has its campuses, rise in heat temperature and increase in heatwaves, will give rise for more demand in cooling systems in addition, this will put additional pressure on the electrical grid. Combined with water scarcity in the future, there are greater chances of grid breakdowns. This would lead to disruption of business continuity plans (BCP). And, LTIMindtree may already be facing it in the summer seasons in North India and USA especially California, where drought and increase in heat is leading to grid breakdowns.

- **Leveraging IoT and Sensor-based monitoring of key owned campuses for energy and water efficiency:** IOT Energy or Smart energy management systems and smart water meters are being offered as a business solution by LTIMindtree to its clients and hence this is most immediately 'doable' for LTIMindtree and post huge savings in energy as well as optimise water usage.

- **Shifting to electric vehicle (EV) providers for employee transportation:** This will help LTIMindtree reduce its reliance on fossil fuels. LTIMindtree can contract with electric vehicle (EV) vendors to provide transportation for its employees. EVs produce zero emissions, which can help reduce air pollution and climate change.
- **Mandating the consideration of physical climate vulnerability assessment for site selection:** This will help LTIMindtree avoid locating new facilities in areas that are at high risk of climate change impacts. LTIMindtree can conduct a climate vulnerability assessment to identify areas that are at risk of flooding, drought, heat waves, and other climate change impacts. This will help LTIMindtree protect its assets and operations from the impacts of climate change.
- **Augmenting initiatives to migrate to cloud-based servers:** This will help LTIMindtree reduce its energy consumption. Cloud-based servers are more energy efficient than traditional on-premises servers.
- **Emphasizing Biodiversity to attain Net-zero Emissions:** LTIMindtree can achieve net-zero emissions with balancing reduction in their emissions with increase in carbon sink. LTIMindtree already has initiated biodiversity projects that is commendable and we are recommending to invest more in such initiatives. Further, with the Taskforce on Nature related financial disclosures (TNFD) just being released, LTIMindtree may soon have to also disclose and align as per the TNFD framework in the very near future. Afforestation (Trees and Mangroves plantations)
 - a. Bio-diversity conservation
 - b. Eco-chulhas
 - c. Community Solar projects
 - d. Water conservation for community

In a Business-as-Usual scenario, if LTIMindtree doesn't fulfil its Net-Zero commitment, then it would be paying a huge cost in terms of carbon tax at a cost of INR. 3466 per ton of carbon. Whilst by implementing programs as above that not only restore ecology, and gain intangible benefits like community social impacts; LTIMindtree can potentially create carbon sink of approx. 50 lacs CO2 saved at only cost of INR. 150 per ton of carbon.

- **Expanding Disclosures to other frameworks and standards:** It is recommended to include climate risks as identified and relevant to also the ERM framework and review and monitor every year. Increasingly ratings and indices including CDP, S&P's CSA, MSCI are also rating companies based on their climate risks along with ESG risks. Reporting or aligning LTIMindtree's ESG reporting to other frameworks to include TCFD based climate risk reporting, GRI and IFRS, TNFD, etc. will also help LTIMindtree address different queries by investors/customers altogether in one or 2 reporting documents.
- **Setting Internal Carbon Price (ICP):** With all countries that have sign on to the Paris Climate Treaty, including India, having to reduce its carbon emissions, there is an increase in Governments introducing Carbon Tax like European Union. India as yet has not declared an explicit commitment to carbon tax corporates; however, it is increasing looking at indirect taxes to recover money that would need by the country to become Net-zero by 2070. For e.g., carbon cess on coal, increase on taxes on electricity and petroleum products. The 10% increase in diesel vehicle tax as announced

in September 2023, by the GoI is only an early warning sign that GoI will be looking at indirect carbon tax. Companies are increasingly realising there is a cost (tangible + intangible) for carbon emitted by them and hence are looking at tools that can help calculate a cost of their carbon emissions, so that they can look at a better utilisation of finances in renewable energy investment. We recommend that LTIMindtree use Internal carbon pricing (ICP) to assess its climate risk and identify opportunities to reduce its emissions. ICP is a voluntary tool that companies can use to put a monetary value on their greenhouse gas emissions. It is a way for companies to prepare for future climate regulations and to identify opportunities to profit from the transition to a low-carbon economy. Knowing its importance and value, the Niti Aayog, has recommended that all companies in India should consider adopting ICP. The International Monetary Fund (IMF) is also planning to launch a floor price carbon index, which would provide a benchmark for companies to set their internal carbon prices. On the similar note, LTIMindtree's peers, including Infosys, Wipro, TCS, and Tech Mahindra, have already adopted ICP and are using carbon budgets based on their internal carbon prices. These companies are all committed to reducing their emissions and becoming more sustainable businesses. Moreover, all ratings like CDP, S&P's CSA all have a separate section on use of Carbon Price and the section carries a scoring weightage.

CLIMATE RISK ASSESSMENT 2023

ANNEXURES

ABBREVIATIONS

BCP: Business Continuity Planning

BLDC Fans: Brushless Direct Current

BWS: Baseline Water Stress

CBAM: Carbon Border Adjustment Mechanism

CDD: Cooling Degree Days

CDP: Carbon Disclosure Project

CEMS: Continuous Emission Monitoring System

CMIP6: Coupled Model Intercomparison Project Phase 6

EPR: Extended Producer Responsibility

ESG: Environment Social and Governance

GDP: Gross Domestic Product

GHG: Green House Gas

HVACs: Heating, Ventilation and Air Conditioning

ICM: Indian Carbon Market

IEA 2DS: International Energy Agency 2-Degree Scenario

IEA: International Energy Agency

IEA: International Energy Agency

INDC: Intended Nationally Determined Contributions

IOT: Internet of Things

IPCC: Intergovernmental Panel on Climate Change

LED lights: Light Emitting Diode

LEED: Leadership in Energy and Environment Design

NDC: National Determined Contributions

NEP: National Electricity Plan

NZE: Net Zero Emission Plan

PAT: Perform, Achieve and Trade

RCP: Representative Concentration Pathway

RE: Renewable Energy

RPO: Renewable Purchase Obligations

SSP5: Shared Socioeconomic Pathway - Fossil Fuel Development

TCFD: Task Force on Climate-Related Financial Disclosures

UNFCCC: United Nations Framework Convention on Climate Change

WRI: World Resources Institute

DEFINITIONS

\$30 per Metric Ton: This denotes a cost or value of \$30 assigned to every metric ton of CO₂ emissions. It aids in evaluating the economic feasibility of carbon mitigation actions.

CDD: A cooling degree day (CDD) is a measurement designed to quantify the demand for energy needed to cool buildings. It is the number of degrees that a day's average temperature is above 18° Celsius.

IEA 2DS: International Energy Agency 2-Degree Scenario, aiming to limit global warming.

IEA INDC: International Energy Agency support for countries' climate pledges under the Paris Agreement.

Implicit Price (\$14.25/ton CO₂ and \$9/ton CO₂): Implicit prices, like \$14.25 and \$9 per ton of CO₂, refer to the unexpressed costs or benefits associated with reducing carbon emissions. They indicate the financial implications of carbon reduction efforts.

Likelihood: It is the probability of a physical climate event occurring.

Magnitude: It is the magnitude of the impact of a physical climatic event, if it occurs.

Physical Climate Risk: It refers to the risks posed to people, infrastructure, and ecosystems by changes in climate.

RCP: A Representative Concentration Pathway (RCP) is a greenhouse gas concentration (not emissions) trajectory adopted by the IPCC.

Shadow Price: The shadow price of \$50.11 per tonne represents the monetary value attributed to each additional ton of CO₂ emissions reduced. It helps in assessing the economic impact and benefits of emission reduction measures.

REFERENCES

Assessment of Climate Change over the Indian region: A report of the Ministry of Earth Sciences, Retrieved from: [489178_1_En_Print.indd \(iitd.ac.in\)](#)

Climate Senses: [Senses Toolkit \(climatescenarios.org\)](#)

IEA World Energy Outlook [World Energy Investment 2023 – Analysis - IEA](#)

Infosys Limited ESG Databook 2020-21 [infosys-esg-databook-2020-21.pdf](#)

Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), Retrieved from: <https://www.ipcc.ch/assessment-report/ar5/>

Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), Retrieved from: <https://www.ipcc.ch/assessment-report/ar6/>

Tech Mahindra Limited Integrated Annual Report 2020-21 [annual-report-20-21.pdf \(techmahindra.com\)](#)

Redrawing The Energy-climate Map: World Energy Outlook Special Report (10 June 2013) Retrieved from: [Redrawing the energy-climate map - World Energy Outlook Special Report \(windows.net\)](#)

The use of Scenario Analysis in Disclosure of Climate- Related Risks and Opportunities by TCFD, Retrieved from: [The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities - TCFD Knowledge Hub \(tcfdhub.org\)](#)

Water Risk Assessment: World Resources Institute (WRI)-Water Risk Atlas, Retrieved from: <https://www.wri.org/data/aqueduct-water-risk-atlas>

World Bank: Physical Climate Risk: Climate Knowledge Portal (CMIP6), Retrieved from: <https://climateknowledgeportal.worldbank.org/>