



Climate Risk Assessment

Wipro

(An Executive Summary)

2020

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Assessing climate risks isn't mere a choice; but a responsibility, empowering ourselves to mitigate and adapt, paving a path to resilience, sustainability and a better tomorrow....

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Scenarios

Assessing climate risks isn't mere a choice; but a responsibility, empowering ourselves to mitigate and adapt, paving a path to resilience, sustainability and a better tomorrow....

The Risks were assessed under 2 Scenarios using the Representative Concentration Pathway (RCP) as outlined by the IPCC:

- **Optimistic Scenario:**
 - Also known as RCP 4.5
 - In this scenario, emissions stabilize by 2100 and global temperature increase is restricted to below 2° C
- **Business-as-Usual Scenario**
 - Also known as RCP 8.5
 - In this scenario, emissions continue to increase till 2100 as per current rates leading to a global temperature increase of up to 3.7° C

RCP(Representative Concentration Pathway) were defined by their total radioactive forcing(cumulative measure of human emissions of GHG from all sources) pathway and level by 2100. The RCPs are chosen to represent a broad range of climate outcomes

Synopsis

Objective

Assessing and understanding the risks and associated impacts of climate change on Wipro's Global & Indian operations

Geographical Scope

- ❑ Indian Enterprise
 - North- Delhi & Noida
 - South- Bengaluru, Chennai, Coimbatore, Hyderabad, Kochi, Mysuru, Vishakhapatnam
 - East- Kolkata
 - West- Mumbai & Pune
- ❑ Global Enterprise
 - Europe- Germany, Romania, U.K
 - Asia- China & Philippines
 - North America- USA

Technical Scope

Risks Covered are:

- ✓ Physical-Risks associated from physical changes of climate change
- ✓ Transitional-Risks associated from transition to a low carbon economy.

Global Operations

Physical & Transitional Climate change risks

Country	Physical Risks	Transitional Risks	Prominent Risks
India	•		Heatwaves, Floods, Uncertainty in energy policy
China	•	•	National carbon market, Coastal flooding
Philippines	•		Cyclones, Floods, Fluctuating rainfall and humidity
Germany		•	Energy transition and climate regulation
Romania	•	•	Floods, Droughts, Increasing electricity prices,
U.S	•	•	Uncertainty in climate policy, Tropical storms and tornadoes
U.K	•	•	Energy transition, Green Finance, Uncertainty in emission trading

India: Transitional Risk Assessment

Key Sectors Impacted:

- WATER
- ENERGY
- GHG EMISSIONS
- CUSTOMERS
- SUPPLIERS

IMPACTS	SECTOR	Area of concern	Risk level
Operational impact	GHG emissions	Carbon Price	Low
		Scope 3	Average
	ENERGY	Renewable energy	Low
		Energy Efficiency	Low
		Carbon tax	Low
		Energy management products	Average
	WATER	Water conservation	Average
Business impact	SUPPLIER	Iron & Steel	Average
		Cement	Average
	CUSTOMER	Banking & Financial services	Low
		Technology	Low
		Healthcare	Average
		Energy & Utilities	High
		Manufacturing	High
		Communication	Low

Lower is the risk level , Higher is the opportunity and lesser is the adverse impact of the concerned area on Wipro's operations.

India: Transitional Risk Assessment

GHG Emissions	The total emission for all operations is decreasing by 5% annually due to various emission reduction targets. The majority reduction is due to reduction in fuel use (35% annually) under scope-1 emission and reduction in purchased energy consumption (6% annually). Reduction in scope 3 emissions is very low due to the increase in purchased goods & services.
Water	The overall water consumption has reduced by 7.6% in 2018 as compared to 2017. Dependency on ground water and private water has reduced by 25% and 21%, respectively. The dependency on private water tends to pose a risk of higher procurement costs.
Energy	The total energy for all operations is decreasing by 4% annually due to shift in the sources of energy consumption. The share of electricity from RE is increasing by 4.3% annually. Energy intensity (employee as well as area intensity) has been consistently decreasing annually.
Suppliers	Any increase in cost impact due to climate related events gets transferred to its customers. Thus, when Wipro wishes to develop more assets which utilize the use of cement, iron and steel(suppliers), cost associated could also increase.
Customers	Wipro's maximum share of revenue is from the banking and finance sector and commercial business units (retail companies), technology, healthcare, energy and utility sector.

India: Physical Risk Assessment

RCP 4.5(The Optimistic Scenario)	RCP 8.5(The Business-as-Usual Scenario)
<ul style="list-style-type: none"> • The emissions stabilize by 2100 and global temperature increase is limited to below 2oC • Medium global emission scenario • Indicates global average warming levels of 1.7 to 3.2°C by 2090 	<ul style="list-style-type: none"> • The emission continues to increase till 2100 as per current rates leading to global temperature increases of up to 3.7oC • High global emission scenario • Indicates global average warming levels of 3.2 to 5.4°C by 2090.

Risk Level	Defining Parameters
High	The probability of impact occurring is high, while the extent of damage or loss is also high as well
Medium	The probability of impact occurring can be high, medium or low with the extent of damage is low, medium and high respectively.
Low	The probability of impact occurring is low, while the extent of damage or loss is also low as well

The probability of impact occurring- The likelihood of occurrence of the identified possible impacts which is the function of city risk level and Wipro's current status. The extent of damage or loss- The magnitude of identified possible impact which is a function of probability of impact occurring

India: Physical Risk Assessment

	As per The Optimistic scenario(RCP 4.5)											
Zone	North		South							West		East
HAZARDS	Delhi	Noida	Bengaluru	Chennai	Coimbatore	Hyderabad	Kochi	Mysuru	Vishakhapatnam	Mumbai	Pune	Kolkata
Water Stress	High	High	High	High	Medium	Medium	Low	Low	High	High	High	High
Urban flooding	Low	Low	Medium	Medium	Low	Low	Low	Low	Medium	Medium	Low	High
Extreme rainfall days	Low	Low	Low	Medium	Low	Low	Low	Low	Medium	Medium	Low	High
Hot days	Medium	Medium	Low	Low	Medium	Low	Medium	Medium	High	High	Low	Low
Heatwaves	Medium	Medium	Medium	Low	Low	Low	Medium	Medium	Medium	High	Low	Low
Air Quality	High	High	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low

Under RCP 4.5 Water stressed 8 cities and Heatwaves are two primary critical risks that Wipro operation face.

Under RCP 8.5 in addition to water stress and heatwaves, Wipro is likely to face Extreme Rainfall events and Urban flooding

India: Health Impact Assessment

Under Optimistic Scenario(RCP 4.5) Business As Usual Scenario(RCP 8.5)

Seasonal Health Issues

Most common health issues are Headache, seasonal flu and allergies

Their occurrence cannot be associated with climate related changes

Changes are seen due to erratic shifts in seasonal trends

Impacts due to Increasing Heat

Delhi, Mumbai, Noida and Vishakhapatnam

Witness severe health impacts due to extreme hot days and heatwaves

Impacts Due to Urban Flooding *(RCP 4.5)

Kolkata

Impacts due to extreme rainfall and urban flooding

Most common disease- Dengue, Typhoid, Malaria, Diarrhea

Impacts Due to Urban Flooding *(RCP 8.5)

Mumbai, Chennai, Kolkata

Impacts due to extreme rainfall and urban flooding

Most common disease- Dengue, Typhoid, Malaria, Diarrhea

In 2023, with an increasing awareness amongst employees on prevalent diseases; is helping Wipro to conquer the adverse health impacts and ensuring employees well-being to new heights.

NOTE: *RCP 4.5 (The Optimistic Scenario) where emissions stabilize by 2100 and global temperature increase is limited to below 2oC

*RCP 8.5 (The Business-As-Usual Scenario) where emission continue to increase till 2100 as per current rates leading to global temperature increases of up to 3.7oC

Way Forward

- The outcome of the Climate Risk Assessment has been incorporated into the Enterprise Risk Management program
- The risks are assessed frequently and updated as necessary
- Business Resilience plans have been created as an adaptation measure by every site
- These plans are monitored and updated at a regular frequency



Thank - You

Signed

A handwritten signature in black ink, which appears to read "P.S. Narayan". The signature is written in a cursive style with a prominent flourish at the end.

P.S. Narayan
Vice President and Global Head – Sustainability
and Social Initiatives