Task Force on Climate related Financial Disclosures

<24.10.2024 version 4>

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Contents

TCFD pillar	Description	Recommended disclosure	Slide Number
Governance	Disclose the organization's governance around climate-related risks and opportunities.	a. Describe the board's oversight of climate-related risks and opportunities.	12-15
		b. Management's role in assessing and managing climate related risks and opportunities	16
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	21-36
		b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	64-65
		c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	21-36

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Abbreviations

TCFD	Task Force on Climate related Financial Disclosures
FSB	Financial Stability Board
ESG	Environment, Social, Governance
GRI	Global Reporting Initiative
SASB	Sustainability Accounting Standards Board
SDGs	United Nations Sustainable Development Goals
CDP	Carbon Disclosure Project
CSR&S	Corporate Social Responsibility and Sustainability
ISO	International Organization for Standardization
ERM	Enterprise Risk Management
BAU	Business as Usual
GHG	Green House Gas Emission
SSP	Shared Socio-economic Pathways
RCP	Representative Concentration Pathways
CBAM	Carbon Border Adjustment Mechanism
IFRS	International Financial Reporting
ETP	Effluent Treatment Plants
STP	Sewage Treatment Plants
MW	Megawatt
KL	Kilolitre
CNG	Compressed Natural Gas
LPG	Liquefied Petroleum Gas
PNG	Portable Network Graphics
RWH	Rainwater Harvesting
EPR	Extended Producer Responsibility
CO_2	Carbon Dioxide
CapEx	Capital Expenditure
OpEx	Operating Expenditure

About Us

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APAR at a Glance

Founded in 1958, APAR Industries has grown from humble beginnings in India into a global leader with annual revenues of $1.95B. We are a diversified conglomerate, renowned for our expertise in conductors, cables, specialty oils, polymers, and lubricants. Innovation drives us, pushing us to consistently deliver forward-thinking solutions.

In FY 2023-24, we generated $2B (₹16,153 crores) in revenue, with 45.2% from exports and 54.8% from domestic sales, supporting the global energy sector. As India's energy demand is set to grow 4-5% annually over the next five years, APAR is committed to aligning with national goals, ensuring reliable and sustainable energy for all, fueling economic growth.

Globally, we export to over 140 countries, expanding our reach in response to the rising global energy demand of 1.5-2% per year. Our focus is on providing tailored solutions that meet diverse customer needs worldwide.

- We are the world's largest global aluminium and alloy conductor manufacturer.
- Ranked among the top 10 players in India's lubricants industry.
- India's largest and the world's third-largest transformer oils manufacturer.
- The first and only Indian company offering end-to-end solutions in copper and fiber hybrid cables.
- Certified as a Great Place to Work with a team of over 1,900 employees.
- India's leading exporter and producer of specialty and renewable cables.
- Our presence spans over 140 countries worldwide.

Sustainability is at the core of our operations. We prioritize resource conservation, promote innovative practices to reduce natural resource dependency, and encourage our customers and suppliers to adopt sustainable practices through webinars and discussions. With many of our plants located in high solar radiation areas, we have already integrated solar energy and continue to seek further advancements.

About this Report

This Climate Report serves as APAR's FY 2023-24 disclosure of climate-related risks and opportunities. Informed by the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, including supplemental guidance for the financial sector and on metrics, targets, and transition plans, the report outlines how climate change scenarios may impact our business and our strategy to mitigate those potential impacts while ensuring resilience.

The report is structured according to TCFD recommendations and covers key areas such as governance, strategy, risk management, resilience assessment, and metrics and targets. It details how our corporate governance practices address climate-related risks, opportunities, and targets. It also explains our evolving strategies and programs to support the transition to a low-carbon economy, including plans to align our activities with the goal of net-zero emissions by 2050.

Additionally, the report describes how we identify, assess, and manage climate risks within our risk management framework. It provides insights into how we measure performance and progress toward our climate targets, including operational emissions and key sectors of our financing portfolio. APAR also shares climate-related information annually through various channels, including our Annual Report, Environmental, Social, and Governance (ESG) report, regulatory filings, and press releases. All data in this report is as of FY 2023-24, unless otherwise noted.

Introduction

Climate change poses significant financial risks to the global economy, prompting investors and shareholders to seek forward-looking assessments of climate-related issues. They require information on how vulnerable organizations may be to climate risks and guidance on mitigating these vulnerabilities. Similarly, organizations need a clear framework for disclosing climate-related financial information to determine what should be reported and how it should be presented.

In response, the Financial Stability Board (FSB) established the industry-led Task Force on Climate-related Financial Disclosures (TCFD) in 2015 to create a set of recommendations for consistent disclosures. These disclosures aim to help financial market participants understand and assess their climate risks. In 2017, the Task Force issued recommendations to address gaps in the information disclosed about the financial impact of climate risk across the investment chain. Since then, companies worldwide have increasingly adopted these recommendations.

The TCFD's recommendations guide organizations in making more informed decisions regarding investments, credit, and insurance underwriting. They also help stakeholders better understand the concentration of carbon-related assets in the financial sector and the financial system's exposure to climate-related risks. These recommendations focus on four critical areas of an organization's operations: Governance, Strategy, Risk Management, and Metrics and Targets. By providing specific climate-related financial disclosures, the TCFD offers valuable insights to investors and stakeholders on how organizations are addressing climate-related challenges.

Key Elements of TCFD

Governance

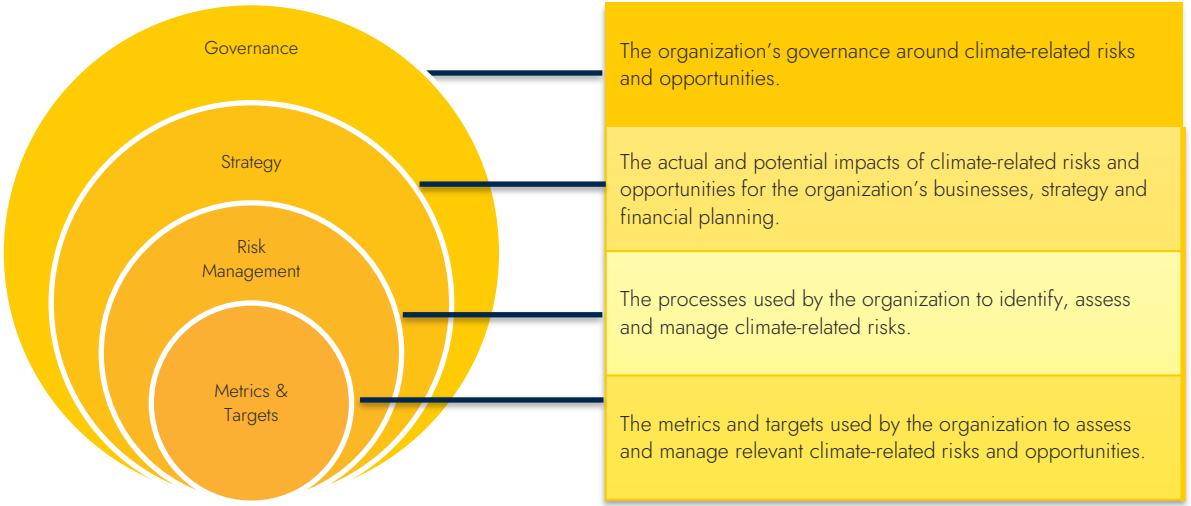
- Provide information on the Board and management's oversight of climate-related risks and opportunities.
- Detail how these risks and opportunities are assessed and managed.

Strategy and Risk Management

- Describe the climate-related risks (physical and transitional) and opportunities identified over the short, medium, and long term.

Metrics & Targets

- Disclose the metrics used to assess climate-related risks and opportunities.
- Ensure alignment of these metrics with the company's strategy and risk management processes.



Our Position on Climate Change

Current Status

- We have made significant progress in integrating climate change considerations into our business practices. We have implemented various measures to enhance energy efficiency and reduce greenhouse gas emissions.
- We have invested in sustainable technologies and processes, including energy-efficient lighting, advanced manufacturing techniques, cleaner technologies, waste reduction strategies, and energy management systems. Additionally, we have explored renewable energy sources such as solar panels to further reduce our environmental impact.
- We track our carbon footprint meticulously. For the year 2023-2024, we have reported reductions in both Scope 1 (direct emissions from owned or controlled sources) and Scope 2 (indirect emissions from the generation of purchased electricity) emissions. We have also tracked our energy consumption, identified key areas for improvement, and implemented energy-efficient measures to lower our carbon footprint.

Strengths

Energy Efficiency: We have achieved significant reductions in energy consumption across our operations. By implementing energy-saving technologies and practices, such as energy-efficient lighting and advanced manufacturing techniques, we have decreased energy usage per unit of production.

Carbon Emission Reductions: We have successfully reduced our carbon emissions through various initiatives, including process improvements and the adoption of cleaner technologies. Our reduction in Scope 1 and Scope 2 emissions demonstrates our commitment to climate action.

Sustainability Reporting: We demonstrate transparency in our environmental performance by providing detailed disclosures in our annual report, including our carbon footprint and sustainability initiatives. Our efforts align with global sustainability standards and frameworks, including:

Global Reporting Initiative (GRI): We follow GRI standards for sustainability reporting, ensuring transparency and consistency in our environmental impact disclosures.

Carbon Disclosure Project (CDP): We participate in the CDP, which allows us to disclose our environmental impacts and strategies for managing climate risks.

Sustainability Accounting Standards Board (SASB): We align our reporting with SASB standards, focusing on industry-specific sustainability metrics.

United Nations Sustainable Development Goals (SDGs): Our sustainability efforts are aligned with relevant SDGs, particularly those related to climate action and sustainable industry practices.

Areas of Improvement

- Climate Risk Management: While we have made strides in reducing emissions, we recognize the need to improve our climate risk management practices. We aim to develop more comprehensive risk assessment and adaptation strategies to enhance our resilience against climate impacts.
- Long-Term Goals: We see an opportunity to set more ambitious long-term climate targets and strategies to further drive our sustainability efforts. We are working to better align these goals with global climate targets and frameworks.
- Supply Chain Management: We acknowledge the need to extend our sustainability practices beyond direct operations to include our supply chain. We plan to collaborate with suppliers to help reduce their carbon footprint and amplify our overall climate impact.

Our Position on Climate Change

Outlook

- **Future Investments in Sustainability:** We are committed to increasing our investments in sustainable technologies and practices to further reduce our environmental impact. Our focus is on improving energy efficiency, adopting cleaner technologies, and exploring innovative ways to lower carbon emissions across our operations.
- **Strategic Climate Goals:** We plan to enhance our climate strategy by integrating advanced climate risk management practices. We aim to set ambitious emission reduction targets that align with global climate goals, ensuring our long-term sustainability.
- **Business Continuity through Energy Transition:** Our product portfolio supports global energy transition pathways by providing solutions that enable cleaner, more efficient energy systems. We are focused on aligning our products with sustainable energy trends and ensuring business continuity through the green energy shift.
- **Commitment to Stakeholder Engagement:** We are dedicated to engaging with our stakeholders, including customers, suppliers, and industry peers, to promote climate action. We actively participate in industry initiatives and partnerships that drive sustainability and help advance global climate objectives.

Governance

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Environmental stewardship is central to APAR's strategy. We drive the circular economy, reduce waste, cut GHG emissions, and ensure sustainable supply chains. Our responsible practices are key to long-term success and a sustainable future.

This chapter outlines how APAR integrates climate-related risks and opportunities into its governance framework, detailing leadership roles in managing these factors. We embed climate considerations into strategic planning, risk management, and performance evaluations, ensuring alignment with sustainability goals. It also emphasizes transparent stakeholder engagement and governance practices that prioritize climate challenges, supporting long-term business resilience and informed decision-making.

Group Structure

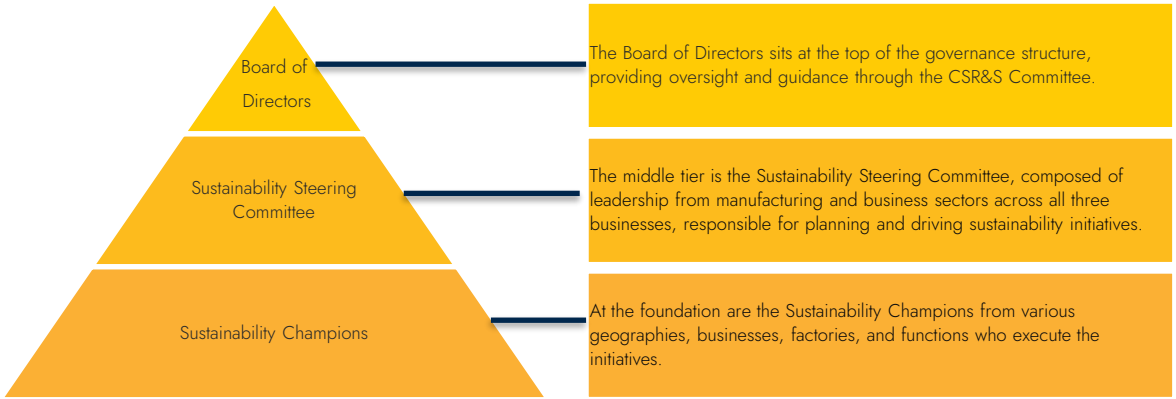
At APAR, we are dedicated to delivering long-term value to our stakeholders through responsible business practices. Our trusted products, brands, and operations are built on principles of environmental and social responsibility, regulatory compliance, and integrity.

Our governance framework, anchored in the APAR Code of Conduct, reflects our 66 years of experience, global presence, and diverse businesses. This code is central to our governance, guiding strategic decisions and ensuring transparency and accountability.

Supported by a robust governance structure, our Board of Directors provides oversight, ensuring alignment with our growth objectives and future vision. We continually enhance our governance practices to promote a culture of integrity and compliance.

Our governance framework also includes clear processes and policies for effective decision-making and risk management. This structure is essential for maintaining stakeholder trust and adhering to international standards.

Recognizing that strong governance is key to sustainable practices, APAR has implemented a comprehensive **three-tiered Governance Architecture**. This approach leverages the expertise and commitment of our workforce to integrate environmental stewardship and long-term value creation into our operations.



Board Oversight

Our governance framework is built on the foundation of the Sustainability Champions—a dedicated team drawn from various geographies, businesses, factories, and functions. We rely on these champions to drive the implementation of our sustainability initiatives, turning our company's vision into actionable steps on the ground. Their commitment ensures that sustainability is integrated into every aspect of APAR's operations.

- The **Sustainability Steering Committee** forms the middle layer of this structure. Composed of seasoned leaders from APAR's three core businesses, the committee is responsible for planning and executing our sustainability initiatives. By leveraging their deep understanding of our operations and industry landscape, they guide us towards a more sustainable future, aligning our strategic goals with our sustainability commitments.
- At the top of the framework is **APAR's Board of Directors**. The board provides strategic guidance and oversight, setting sustainability targets, reviewing progress, and keeping sustainability at the forefront of our decision-making. With extensive experience in climate change and its potential impacts, our board ensures we allocate financial resources effectively to create long-term stakeholder value. This understanding of systemic environmental risks informs their decisions, safeguarding APAR's assets and future growth.
- To strengthen our sustainability efforts further, we established a dedicated board-level committee—the **Corporate Social Responsibility and Sustainability (CSR&S) Committee**. This committee reviews our sustainability goals, assesses ESG risks and opportunities, sets ESG targets, and monitors performance against established metrics. It also oversees the development and implementation of our sustainability-related policies, programs, and initiatives, ensuring our efforts are comprehensive and aligned with global best practices.

Board Knowledge of Sustainability

The board's expertise in sustainability is complemented by the personal commitment of APAR's leadership. Notably, the Chairman and Managing Director has completed a specialized course **on 'Business and Climate Change: Towards Net Zero Emissions'** from the prestigious Cambridge Institute for Sustainability Leadership (CISL), further equipping the board to lead APAR's climate action strategies effectively.

APAR's robust governance framework is designed to foster trust and integrity, driving long-term value for its stakeholders. By implementing stringent compliance measures and fostering a culture of ethical decision-making, the company reinforces its commitment to responsible business practices and sustainable growth. The board's proactive approach to integrating climate science and expert advice into their considerations ensures that APAR not only meets stakeholder expectations but also leads the way in addressing the global challenge of climate change.

Board Roles and Responsibilities

At APAR Industries, our CSR and Sustainability Committee drives our climate action and ESG strategies. We integrate sustainability into our business practices, oversee policies, and keep sustainability at the forefront. The Committee reviews and recommends sustainability goals, assesses risks and opportunities, sets performance targets, and regularly updates the Board on our progress and initiatives, all in alignment with APAR's long-term mission and values.

Responsibilities of the Sustainability Committee

- Advance APAR's climate action and ESG strategies.
- Ensure sustainability considerations are integrated into business decision-making.
- Oversee sustainability-related policies and disclosure practices.
- Report regularly to the Board, providing updates on activities, findings, and recommendations.
- Review and recommend sustainability goals, objectives, and strategies aligned with APAR's mission.
- Assess ESG risks and opportunities, suggesting actions to mitigate risks and capitalize on opportunities.
- Set and monitor ESG performance targets and report progress to the Board.
- Provide input on sustainability policies, including energy efficiency, waste reduction, and carbon footprint.
- Integrate sustainability into business decision-making processes.
- Recommend and review sustainability-related disclosure practices.
- Access resources, funding, staff, and external advisors as needed.

Board Roles and Responsibilities

- Engage independent experts or consultants at APAR's expense for specialized advice.
- Provide regular updates to the Board on the Committee's activities and recommendations.
- Periodically review and amend the Sustainability Charter, subject to Board approval.

Monitoring of Climate-Related Issues

At APAR, we manage climate-related risks through our **Enterprise Risk Management (ERM)** program, which provides a structured approach to addressing risks across the organization. We evaluate various risks, particularly the physical and transition risks associated with climate change. We periodically identify and assess key risks that could significantly impact our financial condition or operational performance, along with emerging risks.

- We regularly report on the management and mitigation of these material risks, including those related to climate change and environmental concerns, to our Leadership Team. Our risk evaluation process covers a wide range of climate-related issues, such as:
- Customer Requirements: Meeting the demand for carbon-efficient products to comply with global climate regulations, respond to consumer needs, and maintain profitability.
- Operational Issues: Addressing new climate-related regulations, voluntary actions, and industry standards.
- Supply Chain: Managing disruptions caused by weather events linked to climate change.
- Resilience Building: Enhancing measures like water security to strengthen our adaptability.

Our Sustainability Steering Committee meets periodically to review the progress made by our Sustainability Champions in implementing climate risk management initiatives. These meetings involve resetting goals when necessary, approving budgets or forwarding them for board approval, sharing updates on industry and sustainability regulations, and discussing best practices.

Key decisions, such as our voluntary participation in the CDP climate disclosures for FY2024 and the development of this TCFD report, were thoroughly discussed and approved during these committee meetings before being submitted to the board for final approval. The committee has outlined a clear path for APAR's sustainability journey, aligning our efforts with relevant Sustainable Development Goals (SDGs), with a specific focus on SDG 13: Climate Action.

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Management Roles and Responsibilities

At APAR Industries, the **Chief Sustainability Officer (CSO)** is our highest management-level position responsible for climate-related issues. This role is critical in integrating climate considerations into our corporate strategy and operations.

Our CSO manages the annual budgets designated for climate mitigation activities, ensuring that financial resources are effectively allocated to achieve our climate-related objectives. This position is also tasked with embedding climate issues into our strategic planning, setting corporate targets aligned with these climate goals. Furthermore, the CSO assesses, manages, and monitors climate-related risks and opportunities, including engaging with our value chain to address these concerns and tracking progress against our targets.

We report to our Board of Directors on climate-related issues **quarterly**. During these updates, we cover several key areas:

- **Progress Updates:** We review the achievements of our Sustainability Champions in implementing ESG initiatives, assess the effectiveness of these initiatives, and make necessary adjustments to targets.
- **Target and Budget Review:** We present the status of our climate-related targets and seek Board approval for budgets related to climate activities. This ensures that our financial and strategic resources are aligned with our climate objectives.
- **Risk and Opportunity Analysis:** We discuss climate-related risks and opportunities, share developments in industry trends and sustainability regulations, and explore best practices. This thorough review helps us refine our strategies and enhance our climate management practices.

In addition to these responsibilities, our CSO collaborates with operational leaders to implement climate-related initiatives effectively and monitors their progress. This approach ensures that we maintain momentum and successfully achieve our climate goals.

Integration of Sustainability across Management Levels

We have seamlessly integrated sustainability into our performance metrics through a dedicated ESG performance-linked incentive program. This initiative underscores our commitment to embedding sustainability within our corporate framework.

Out of our total workforce of 1,941, we have identified **129 key employees** who are crucial in managing and executing our sustainability initiatives. These include:

- Leaders at the C-suite level, such as the Chief Sustainability Officer (CSO) and Chief Procurement Officer (CPO).
- Senior positions include the Manufacturing Head, Site HR Head, Head of Quality, Design & R&D Head, Operations Leads, EHS Head, and Sustainability Manager.
- Mid- and junior-level roles, such as the Procurement Manager, EHS Manager, and Sustainability Champions at each plant.

The variable pay for these roles is directly tied to the achievement of Key Result Area (KRA) objectives, which encompass ESG-related goals. This incentive is awarded annually as a percentage of their salary.

To ensure alignment and progress, we conduct **weekly** Sustainability meetings with our Sustainability Champions. These representatives come from various geographies, businesses, factories, and functions. The meetings are designed to:

- Review ongoing progress.
- Address any bottlenecks.
- Strategize future actions.

APAR's Climate Policies

APAR Industries implements a range of environmental and operational policies to support sustainability and ethical practices. These policies address key areas including air pollution, biodiversity, climate change, environmental stewardship, goods and services management, chemical waste, and water usage. By following these guidelines, we ensure compliance with regulatory standards and foster practices that advance environmental sustainability and corporate responsibility.

Air Pollution Policy: APAR Industries works to reduce air pollution from its operations by using advanced technologies to minimize emissions. Our policy emphasizes compliance with national and international air quality standards to ensure clean air for our communities. We regularly evaluate our emissions and air quality and provide training to employees to promote practices that reduce air pollution. This approach supports our goal of improving air quality and protecting public health.

Biodiversity Policy: Our Biodiversity Policy focuses on protecting and enhancing biodiversity in areas affected by our operations. We perform detailed environmental impact assessments to prevent harm to local ecosystems and implement measures to preserve natural habitats. APAR Industries supports conservation initiatives both locally and globally and educates employees on the importance of biodiversity. These efforts contribute to preserving biological diversity.

Climate Change Policy: The Climate Change Policy at APAR Industries aims to mitigate climate change impacts by reducing greenhouse gas emissions. We set targets to enhance energy efficiency and lower carbon emissions and develop strategies to address climate-related risks. Our policy includes transparent reporting on our carbon footprint and climate performance. Working with stakeholders enhances our efforts to manage climate challenges and promote sustainable practices.

Environment Policy: The Environment Policy at APAR Industries promotes sustainability across all operations. We use environmental management systems to monitor and reduce our environmental impact, focusing on resource efficiency and waste reduction. Compliance with environmental regulations and standards is central to our policy, and we continuously seek to improve our environmental practices. This policy underscores our commitment to a healthy environment and effective sustainability measures.

Goods and Services Policy: Our Goods and Services Policy ensures that procurement and supply chain management are conducted with integrity and sustainability. We assess suppliers based on environmental and social criteria and maintain transparency in our procurement processes. By prioritizing sustainably and responsibly sourced goods and services, we support ethical practices throughout our supply chain and engage suppliers in promoting sustainability.

Material Chemical Waste Policy: The Material Chemical Waste Policy at APAR Industries addresses the safe management and reduction of hazardous material and chemical waste. We enforce strict procedures for the disposal and recycling of chemical waste and comply with relevant regulations. Employee training on handling and disposing of chemical waste supports this policy, and we monitor and report on waste management performance. This policy reflects our commitment to responsible material management and environmental protection.

Water Policy: Our Water Policy focuses on efficient and sustainable water use across all operations. We implement water conservation measures and technologies to reduce consumption and minimize wastewater generation. Compliance with water usage and discharge regulations is essential, and we support local water conservation initiatives. These practices aim to protect water resources and promote sustainable water management.

Our Commitment to Sustainability and Environment Responsibility

At APAR Industries, climate transition and environmental responsibility drive our efforts. We focus on facilitating a low-carbon future by addressing key environmental challenges such as reducing air pollution, conserving water resources, and protecting biodiversity. By leveraging innovative technologies, setting ambitious climate targets, and adhering to rigorous sustainability standards, we strive to exceed regulatory requirements and advance toward a more sustainable world. Through ethical procurement, effective climate change mitigation, and proactive practices, we are dedicated to leading the way in creating a greener, more resilient future.

- **Reducing Air Pollution:** Utilizing advanced technologies and practices to minimize emissions from production and vehicles, adhering to air quality standards, and conducting regular evaluations to protect public health and the environment.
- **Protecting Biodiversity:** Conducting impact assessments to preserve natural habitats, supporting local and global conservation efforts, and educating employees on biodiversity's importance to enhance ecological balance.
- **Mitigating Climate Change:** Setting targets for reducing greenhouse gas emissions, improving energy efficiency, using renewable energy, and transparently reporting on climate performance to manage climate risks effectively.
- **Environmental Stewardship:** Employing environmental management systems to monitor and reduce impacts, focusing on resource efficiency, waste reduction, and compliance with environmental regulations to ensure sustainability.
- **Ethical Procurement Practices:** Ensuring that procurement processes align with sustainability goals, assessing suppliers on environmental and social criteria, and maintaining transparency to support ethical and responsible sourcing.
- **Managing Chemical Waste:** Implementing procedures for the safe disposal, recycling, and reduction of hazardous materials, providing employee training on waste handling, and adhering to regulatory requirements to ensure responsible waste management.
- **Conserving Water Resources:** Applying water conservation measures and technologies to reduce consumption, minimize wastewater, and comply with regulations, while supporting local water conservation initiatives to protect water resources.

Commitments and Short-Term Targets

Target Area	Short-Term Target	Timeline
Water Footprint Intensity	Reduce water footprint intensity by 5% across all plants	By FY 2024-25
GHG Emissions Intensity	Achieve a 4% reduction in GHG emissions intensity	By FY 2024-25
Renewable Energy Projects	Commission two renewable energy projects (one by February 2025, the other by June 2025) to significantly increase renewable energy consumption	By June 2025
SBTi Commitment	Set and verify science-based emissions reduction targets with the Science Based Targets initiative (SBTi)	In Progress
Long-Term GHG Emission Reduction	Continue working on renewable energy projects to achieve a 50% GHG emission intensity reduction by 2030	By 2030

Strategy

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We are driven by a commitment to a sustainable future in all our decisions. Through the adoption of advanced technologies and innovative practices, we focus on minimizing our carbon footprint, boosting energy efficiency, and promoting renewable energy.

This chapter details APAR's strategic approach to managing climate-related risks and opportunities, in line with TCFD recommendations. It explains how we integrate these factors into our business decisions, build resilience against disruptions, and seize opportunities in the low-carbon transition. By sharing this, we aim to promote transparency, support informed decision-making, and engage stakeholders on our sustainability path.

At APAR Industries, we recognize the vital importance of conserving our planet's natural resources and are dedicated to sustainable practices across all aspects of our operations. Our strategy is designed to support the global transition to a low-carbon future by focusing on energy efficiency, renewable energy adoption, and effective resource management. We are committed to minimizing our environmental footprint and achieving significant sustainability milestones.

Our climate change strategy emphasizes the transition from high-carbon activities to low-carbon alternatives, such as improving energy efficiency, reducing emissions, and expanding our use of renewable energy. We have achieved a **4.84% decrease in Scope-1 and Scope-2 emission intensity** and a **13% reduction in energy intensity in our cable and conductor manufacturing processes**. Our efforts have been recognized with awards such as the **Leadership Awards** and **Green Gujarat Awards 2023**, acknowledging our dedication to mitigating climate impacts and enhancing sustainability.

Energy Efficiency and Renewable Energy: The energy crisis highlights the need to reduce demand and integrate renewable sources into our energy mix. At APAR Industries, we are addressing this challenge by increasing energy efficiency and expanding our use of renewable energy. Our renewable energy consumption increased from 4% in FY 2022-23 to 7% in FY 2023-24. Additionally, we are commissioning two wind-solar hybrid projects to further boost our renewable energy share by June 2025. Our commitment to energy efficiency is also reflected in our 4% reduction in energy intensity in our manufacturing processes.

Water and Resource Management: We have made significant strides in water conservation, reducing absolute water consumption from 385,974 KL to 376,139 KL between FY 2022-23 and FY 2023-24. Our water intensity decreased by over 13%, from 26.89 KL/Rs. Cr. turnover to 23.29 KL/Rs. Cr. turnover. These improvements are the result of process enhancements, increased recycling, and rainwater harvesting initiatives.

All key plants of APAR Industries are certified under **ISO 14001**, demonstrating our commitment to environmental management system standards and continuous improvement in our sustainability practices.

Our Approach towards Climate Scenario Analysis

Selected Scenario Identified

We have conducted a comprehensive assessment of climate-related physical risks and scenario analysis for our assets at APAR. This process involved collaborating with the heads of various business segments and departments to identify risks, which we then incorporated into the scenario analysis of 29 APAR assets. Each asset was evaluated based on factors such as temperature, water availability, and climate hazards.

In alignment with TCFD guidelines, we considered both low-emission and high-emission temperature scenarios: **SSP1-RCP2.6** and **NGFS Net-Zero by 2050** for low-emission scenarios, and **SSP5-RCP8.5** for a high-emission scenario. We utilized open-source tools like The **World Bank Think Hazard**, the **World Bank Climate Knowledge Portal**, the **Network for Greening the Financial System**, and **OS-Climate (Phyrisk)** for scenario data.

This assessment has provided us with valuable insights into high-risk assets within our operations and highlighted the specific types of risks we face. By identifying these high-risk areas, we can proactively implement strategies to mitigate risks, safeguarding our assets and ensuring business continuity in the face of climate-related challenges.

Scenario and Time Horizons	
SSP 1-RCP2.6	This pathway involves significant efforts to reduce emissions through increased use of renewable energy, environmentally friendly transportation, and technological advancements.
SSP 5-RCP8.5	This scenario features minimal efforts to control emissions, with continued reliance on coal-fired power, extreme weather conditions, and lack of transportation regulations.
NGFS Net Zero 2050	An ambitious scenario aiming to limit global warming to 1.5°C through stringent climate policies and innovation, with a goal of achieving Net Zero CO_2 emissions by around 2050.
Scenario Time Horizons	Short-term (0-3 years); Medium-term (3-5 years); Long-term (5-10 years) These time horizons align with APAR's framework for identifying risks and opportunities.
Target Areas	The assessment covers various assets such as manufacturing facilities, warehouses, and offices.

Data Sources used for Analysis

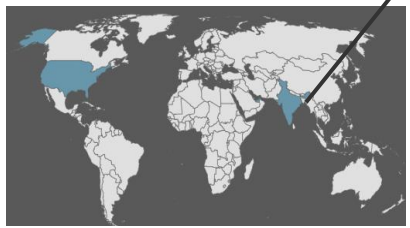
Data Source	Description
World Bank Think Hazard	ThinkHazard! offers a comprehensive overview of hazards for specific locations, aiding project design and implementation to enhance disaster and climate resilience. It uses published hazard data from private, academic, and public sources to indicate hazard levels.
World Bank Climate Knowledge Portal	The Climate Change Knowledge Portal (CCKP) serves as the central repository for climate-related information, data, and tools from the World Bank Group (WBG). It includes datasets on climate, disaster risk, and socio-economic factors, and provides synthesis products like Climate Risk Country Profiles tailored to specific countries or sectors.
Network for Greening the Financial System	The NGFS offers crucial resources and frameworks for climate scenario analysis. By using NGFS scenarios, institutions can model different climate outcomes and evaluate their impacts on financial assets and stability. NGFS provides guidance on integrating climate risks into financial assessments, recommending best practices for stress testing and offering open-source tools and data for accurate scenario modelling. Their disclosure guidelines ensure transparency in reporting, helping organizations manage climate-related risks and support a sustainable financial system.
OS-Climate (Phyrisk)	OS-Climate (Phyrisk) supports scenario analysis by providing detailed climate-related risk assessments and data. It enables users to model and assess the impacts of various climate scenarios on assets and investments. By integrating climate data with financial and operational parameters, OS-Climate (Phyrisk) helps organizations understand how different emission pathways and climate conditions could affect financial performance and operational resilience, guiding strategic decision-making and risk management.

Data Prioritization of location and scope of boundary

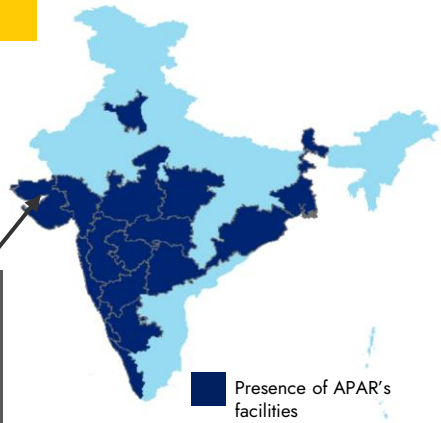
Factories	+	Depots	+	Offices	+	Vendors	+	Customers	=	Total Assets for Assessment
(7 factories across) 4 states		11		3		5		3		29

Assets considered for Physical Risks Assessment

- *For **Factories,,** 7* sites located in India were considered for evaluation. Sites outside India were excluded from this assessment.
- *For **Vendors**,* only 5 vendors were considered with revenue exceeding INR 160 Cr, and this was based on a threshold of 1% of overall revenue (1% of INR 16,153 Cr for FY 2023-24).
- *For **Offices**,* with more than 100 employees were considered, specifically the following locations: Chembur, Nariman Point, Vadodara.
- *For **Depots**,* with a size exceeding 5,000 sq ft, 11 depots were assessed.
- *For **Customer** locations,* with a total spend of more than INR 500 Cr were considered for assessment, specifically in the following locations: Miami (Florida), Australia, Dhaka (Bangladesh).



Global Presence of APAR



Assessing areas for calculating ***baseline climate risks***

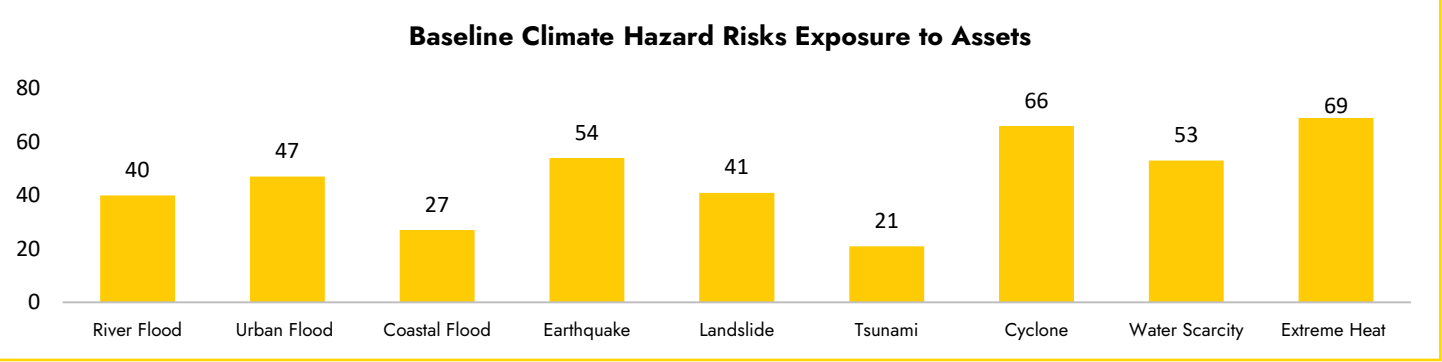
Vulnerability Assessment of Assets

Physical Risk Baseline by ThinkHazard! Tool

ThinkHazard!

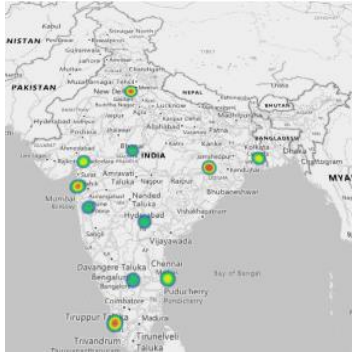
We utilized the ThinkHazard! tool to assess acute physical risks such as floods, earthquakes, landslides, and extreme weather events. Backed by the World Bank's GFDRR, ThinkHazard! identifies natural hazards and evaluates the associated risks, enabling us to strengthen our mitigation and preparedness efforts. We applied its assessment methodology to categorize our hazard baseline.

Climate Physical Risks	Description
River Flood	Inundation of land near rivers due to high water levels from heavy rainfall, snowmelt, or upstream reservoir releases, posing risks to communities, infrastructure, and agriculture.
Urban Flood	Flooding of urban areas due to heavy rainfall, inadequate drainage systems, and impervious surfaces, posing risks to infrastructure, property, and public safety.
Coastal Flood	Inundation of coastal areas caused by storm surges or extreme tidal events exacerbated by sea level rise, posing risks to communities, infrastructure, and ecosystems.
Earthquake	Seismic events resulting from the release of energy within the Earth's crust, causing ground shaking and potentially leading to widespread damage and loss of life.
Landslide	Sudden movement of rock, soil, and debris down a slope, often triggered by heavy rainfall, earthquakes, or human activities, posing risks to communities, infrastructure, and transportation networks.
Water Scarcity	Insufficient availability of freshwater resources to meet the demands of people and ecosystems, leading to economic, social, and environmental challenges.
Extreme Heat	Abnormally high temperatures exceeding thresholds, posing risks of heat-related illnesses, infrastructure stress, and agricultural impacts, exacerbated by climate change.
Tsunami	Large ocean waves triggered by underwater earthquakes, volcanic eruptions, or landslides, posing catastrophic risks to coastal communities, infrastructure, and marine environments.
Cyclone	Intense tropical storm characterized by strong winds and heavy rainfall, posing risks of flooding, storm surges, and wind damage to coastal and inland areas



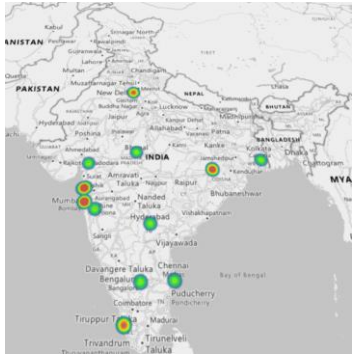
Assets exposed to different climate hazards having very high-risk scales

River Flood



Jharsuguda, Sambhalpur, Ernakulam, New Delhi, Mumbai

Urban Flood

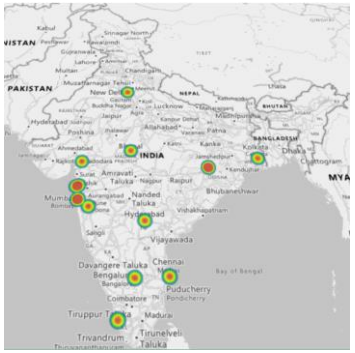


Mumbai, Jharsuguda, Sambhalpur, Ernakulum, New Delhi

Coastal Flood

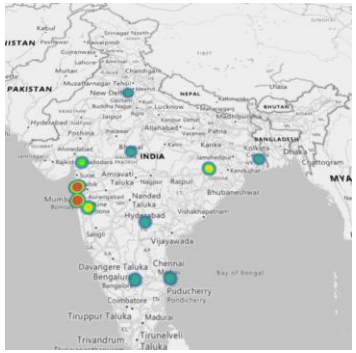
Mumbai, Ernakulum, Chennai

Earthquake



Mumbai, Jharsuguda, Sambhalpur, New Delhi, Kolkata

Landslide

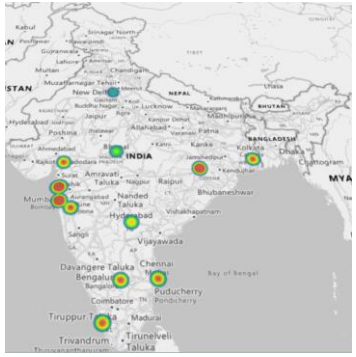


Mumbai, Jharsuguda, Sambhalpur, Pune

Tsunami

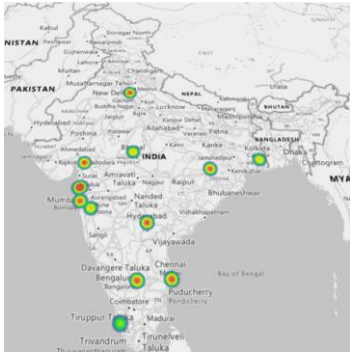
Mumbai, Ernakulum, Chennai

Cyclone



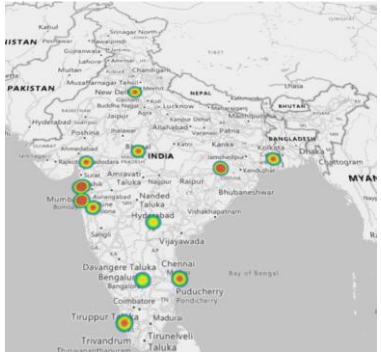
Jharsuguda, Sambhalpur, Mumbai, Ernakulum, Kolkata, Chennai, Bangalore, Vadodara

Water Scarcity



Chennai, Bangalore, Hyderabad, Jharsuguda, Sambhalpur, Vadodara, New Delhi, Mumbai

Extreme Heat



Jharsuguda, Sambhalpur, Mumbai, Chennai, Kolkata, New Delhi, Bhopal

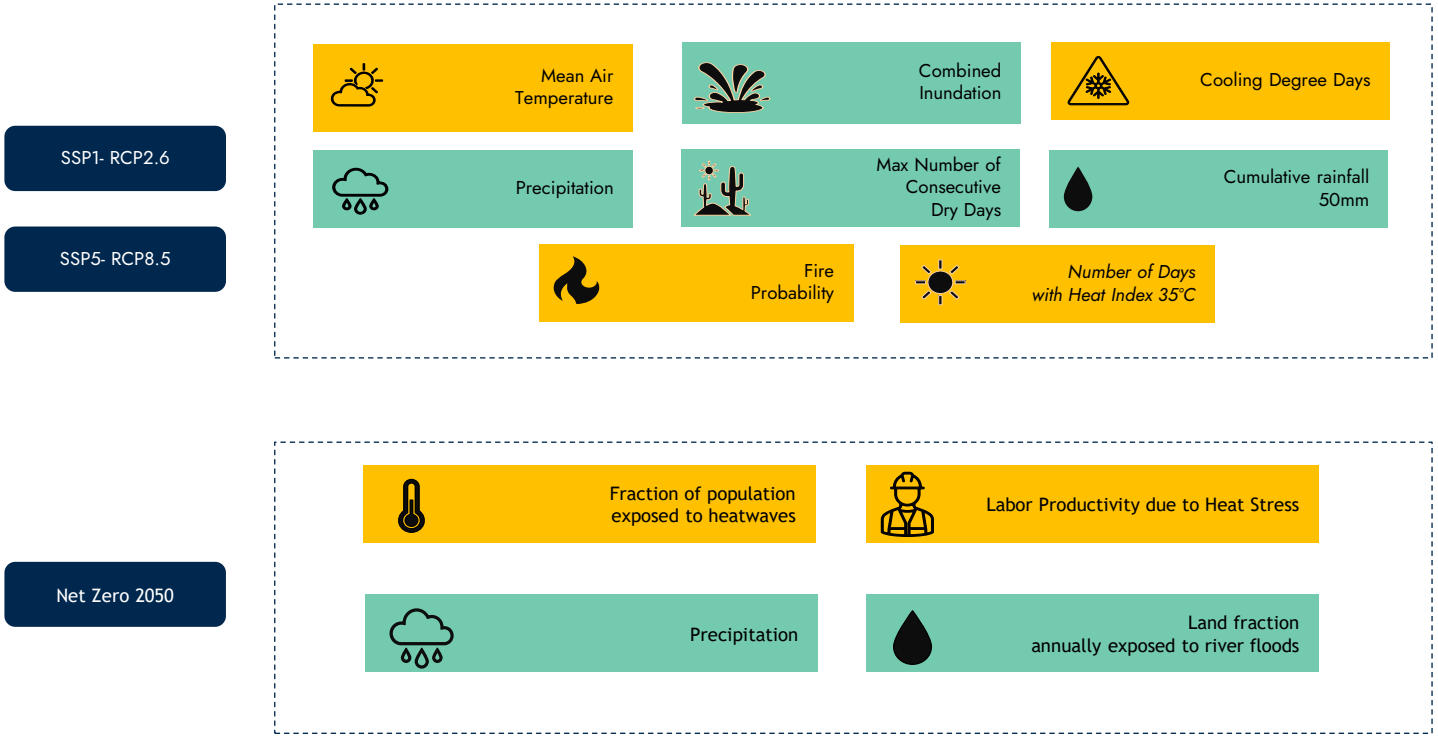
Assessment of Physical Risks: Most Impacted Areas

Intensity Scales

1	2	3	4
Very Low	Low	Medium	High

Risk variables considered for scenario analysis

The scenario analysis incorporates key risk variables to project future outcomes across three distinct scenarios: SSP1-RCP2.5, SSP5-RCP8.5, and Net Zero 2050.



*The key risk variables sourced include **temperature** (mean surface temperature, heat index >35°C, Cooling Degree Days, heat stress on labor productivity, heatwave exposure, fire probability), **precipitation** (total precipitation, days >50mm rainfall, extreme 5-day rainfall), **water scarcity** (consecutive dry days, inundation risk, river flood exposure), and **climate hazards** (floods, earthquakes, cyclones, extreme heat, water scarcity, tsunamis, landslides).*

STEP 1

Baseline	Extreme Heat	4				World Bank Think Hazard
Baseline	Tsunami	3				World Bank Think Hazard
SSP1-2.6	Max number of consecutive dry days	158.83	155.84	155.98	158.48	World Bank CKP
SSP1-2.6	Combined Inundation		0.60421	0.60698	0.60987	OS-Climate(Physrisk)
SSP1-2.6	Fire Probability		0.48805	0.49272	0.49393	OS-Climate(Physrisk)
SSP1-2.6	Precipitation	670.25	760.9	735.51	695.63	World Bank CKP
SSP1-2.6	No. of days with precipitation 50mm	1.26	1.78	1.43	1.7	World Bank CKP
SSP1-2.6	No. of days with heat index (35degree)	99.93	97.14	108.1	121.44	World Bank CKP
SSP1-2.6	Mean surface air temperature	28.1	28	28.38	28.69	World Bank CKP
SSP1-2.6	Cooling Degree Days (ref-65°F)	6432.72	6356.91	6621.23	6803.84	World Bank CKP
SSP5-8.5	Max number of consecutive dry days	155.33	158.15	156.77	156.84	World Bank CKP
SSP5-8.5	Combined Inundation		0.60961	0.61645	0.62363	OS-Climate(Physrisk)
SSP5-8.5	Fire Probability		0.48557	0.48832	0.49223	OS-Climate(Physrisk)
SSP5-8.5	Precipitation	737.06	731.86	732.34	824.69	World Bank CKP
SSP5-8.5	No. of days with precipitation 50mm	1.69	1.22	1.91	2.12	World Bank CKP
SSP5-8.5	No. of days with heat index (35degree)	93.7	98.33	129.8	142.59	World Bank CKP
SSP5-8.5	Mean surface air temperature	27.8	28.04	28.69	29.11	World Bank CKP
SSP5-8.5	Cooling Degree Days (ref-65°F)	6233.79	6384.23	6821.52	7077.95	World Bank CKP
Below 1.5	Extreme rainfall (5-day)		20.28117282849132	20.422135643340745	20.28117282849132	NGFS
Below 1.5	Land fraction annually exposed to river floods		0.1150866204543174	0.15287792110096796	0.1150866204543174	NGFS
Below 1.5	Labour Productivity due to heat stress		-5.235006396	-5.737457758	-5.235006396	NGFS
Below 1.5	Fraction of population exposed to heatwaves		14.49007937	18.65448131	14.49007937	NGFS

Data collection for identified physical risks variables from relevant sources for each scenario.

STEP 2

Assets	Precipitation Risk	Temperature Risk	Water Security Risk	Climate Hazard Risk
Silvasa	0.5	0.799180469	0.407695452	0.25
Brundamal	0.337068604	0.625242428	0.112252348	0
Sambhalpur	0.337068604	0.625242428	0.350200057	0
UAE	0	1	0	0.145833333

Data Validation and normalization for identified 4 types (Precipitation, Temperature, Water and Climate Hazard)of risk

STEP 3

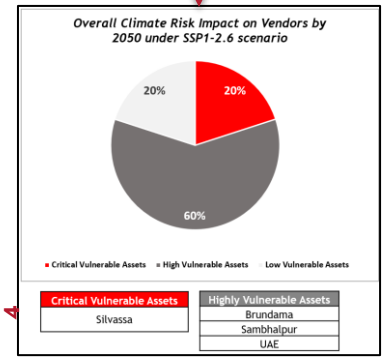
Asset	SSP1 2.6	SSP5 8.5	Below 1.5 Ds
Silvasa	1.96	1.82	0.52
Brundamal	1.07	1.10	0.45
Sambhalpur	1.31	1.10	0.45
UAE	1.15	1.40	0.40
Seoul	0.81	0.77	0.22

Calculated the **overall climate risk** for each asset in all scenarios.

RCP 2.6	
Total Assets for assessments	5
Critical Vulnerable Assets	1
High Vulnerable Assets	3
Low Vulnerable Assets	1

Categorized assets into **critical, high, and low vulnerability** through **hotspot analysis**.

STEP 4



Physical Risk Scenario Analysis

Through our climate scenario analysis, we identified the most critical and vulnerable segments within APAR's operational, upstream, and downstream value chains. By assessing 29 assets against a range of climate hazards, including temperature changes, precipitation, and water-related risks, we gained valuable insights into the potential impacts under both low-emission (SSP1-RCP2.6, NGFS Net-Zero by 2050) and high-emission (SSP5-RCP8.5) scenarios.

Climate Change Knowledge Portal
For Development Practitioners and Policy Makers

We leveraged the Climate Change Knowledge Portal (CCKP) by the World Bank to project climate change impacts under SSP1-RCP2.6 and SSP5-RCP8.5 scenarios.

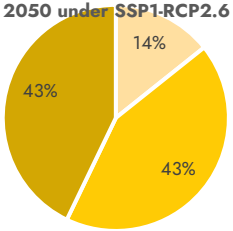
NGFS

We also incorporated the NGFS Net Zero 2050 scenario to evaluate potential climate impacts under a low-emission pathway.

Analysis on Operational Assets: Factories and Offices

We concentrated on plant sites in India, assessing 15 out of 16 locations across three business units in seven states. For offices, we included only those with over 100 employees, specifically at Chembur, Nariman Point, and Vadodara. The following analysis presents our overall climate risk assessment, highlighting both our critical and highly vulnerable assets. The legend provides a description of the pie chart representation.

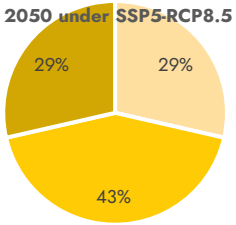
Overall Climate Risk Impact on Factories by 2050 under SSP1-RCP2.6 scenario



Critical vulnerable assets: Silvassa

Highly Vulnerable Assets: Umbergaon, Kathalwada

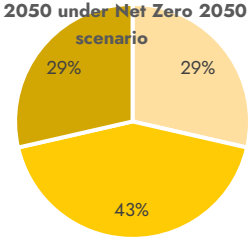
Overall Climate Risk Impact on Factories by 2050 under SSP5-RCP8.5 scenario



Critical vulnerable assets: Silvassa

Highly Vulnerable Assets: Rabale, Umbergaon, Kathalwada

Overall Climate Risk Impact on Factories by 2050 under Net Zero 2050 scenario



Critical vulnerable assets: Umbergaon, Kathalwada

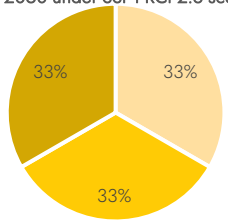
Highly Vulnerable Assets: Silvassa,Rabale

Most Vulnerable Assets
Low Vulnerable Assets
Exposed Assets

Analysis on Operational Assets: Factories and Offices

We concentrated on plant sites in India, assessing 15 out of 16 locations across three business units in seven states. For offices, we included only those with over 100 employees, specifically at Chembur, Nariman Point, and Vadodara. The following analysis presents our overall climate risk assessment, highlighting both our critical and highly vulnerable assets. The legend provides a description of the pie chart representation.

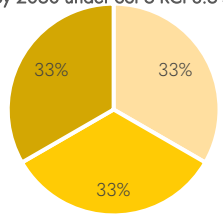
Overall Climate Risk Impact on Offices by 2050 under SSP1-RCP2.6 scenario



Critical vulnerable assets: Silvassa

Highly Vulnerable Assets: Umbergaon, Kathalwada

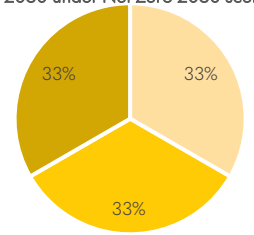
Overall Climate Risk Impact on Offices by 2050 under SSP5-RCP8.5 scenario



Critical vulnerable assets: Vadodara

Highly Vulnerable Assets: Nariman Point

Overall Climate Risk Impact on Offices by 2050 under Net Zero 2050 scenario



Critical vulnerable assets: Vadodara

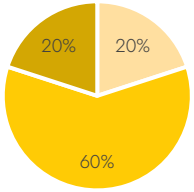
Highly Vulnerable Assets: Chembur

Most Vulnerable Assets
Low Vulnerable Assets
Exposed Assets

Analysis on Upstream: Vendors

We focused on 5 vendors with revenue exceeding INR 160 crore, based on a threshold of 1% of our overall revenue (1% of INR 16,153 crore for FY 2023-24). The legend provides a description of the pie chart representation

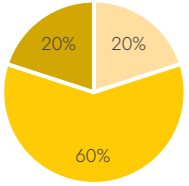
Overall Climate Risk Impact on Vendors by 2050 under SSP1-RCP2.6 scenario



Critical vulnerable assets: Silvassa

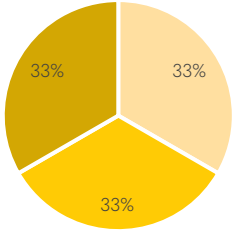
Highly Vulnerable Assets: Brundamal, Sambhalpur, UAE

Overall Climate Risk Impact on Vendors by 2050 under SSP5-RCP8.5 scenario



Critical vulnerable assets: Silvassa
Highly Vulnerable Assets: Brundama, Sambhalpur, UAE

Overall Climate Risk Impact on Offices by 2050 under Net Zero 2050 scenario



Critical vulnerable assets: Vadodara

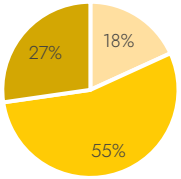
Highly Vulnerable Assets: Chembur

Most Vulnerable Assets
Low Vulnerable Assets
Exposed Assets

Analysis on Downstream: Depots

We assessed 11 depots larger than 5,000 sq ft. The legend provides a description of the pie chart representation

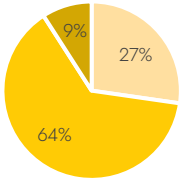
Overall Climate Risk Impact on Depots by 2050 under SSP1-RCP2.6 scenario



Critical vulnerable assets: Bhiwandi, Kolkata

Highly Vulnerable Assets: Ernakulam, Jaipur, Chennai, Ghaziabad, Patna, Hyderabad

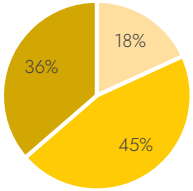
Overall Climate Risk Impact on Depots by 2050 under SSP5-RCP8.5 scenario



Critical vulnerable assets: Bhiwandi, Chennai, Hyderabad

Highly Vulnerable Assets: Ernakulam, Jaipur, Indore, Kolkata, Bangalore, Ghaziabad, Patna

Overall Climate Risk Impact on Depots by 2050 under Net Zero 2050 scenario



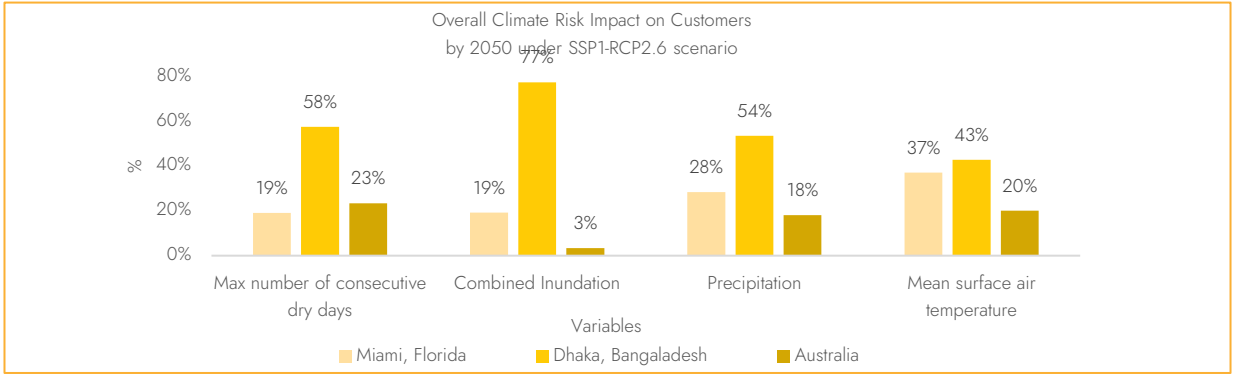
Critical vulnerable assets: Bhiwandi, Chennai

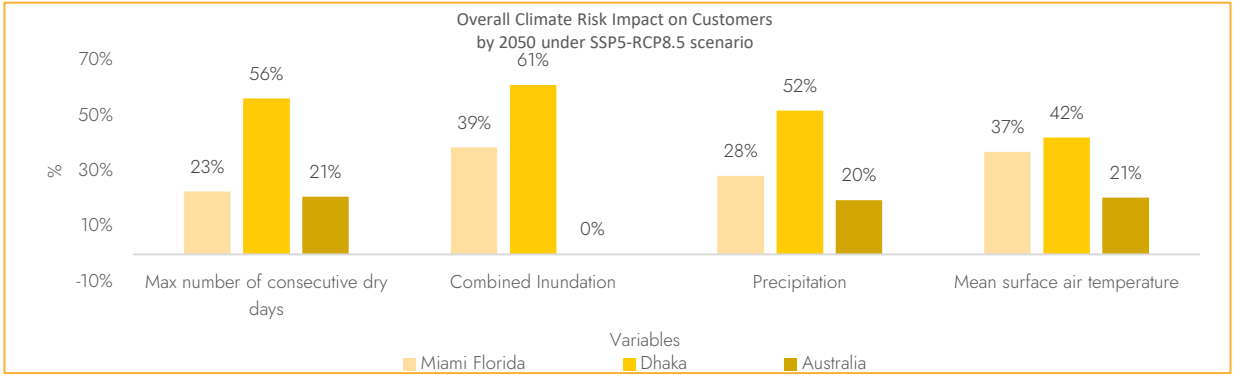
Highly Vulnerable Assets: Ernakulam, Kolkata, Bangalore, Patna, Hyderabad

Most Vulnerable Assets
Low Vulnerable Assets
Exposed Assets

Analysis on Downstream: Customers

We assessed customer locations with a total spend exceeding INR 500 crore, specifically in Miami (Florida), Australia, and Dhaka (Bangladesh). The legend provides a description of the bar graph representation.

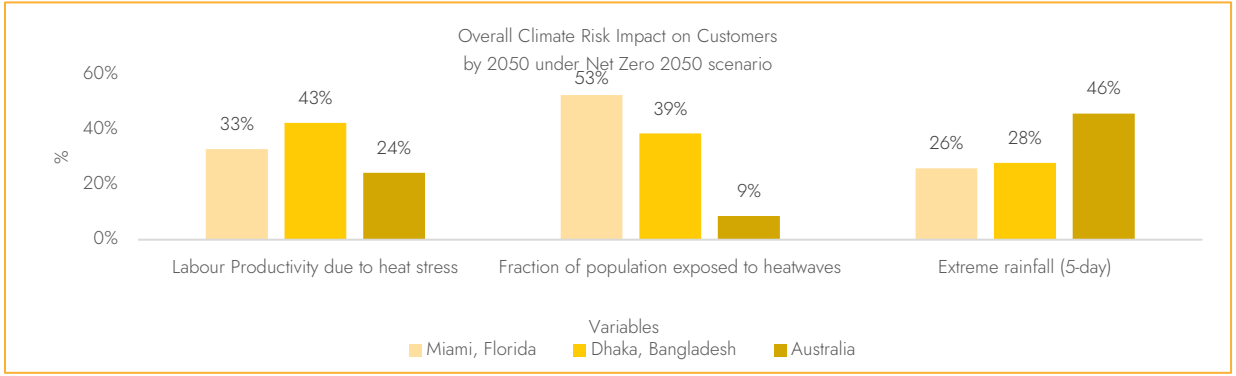




- Flood risk in Dhaka (Bangladesh) and Miami (Florida) could cause delays in material transportation, disrupt the supply chain, and increase logistics costs. It may also compromise employee safety and productivity, leading to operational slowdowns.
- Due to the high number of consecutive dry days and rising temperatures in Dhaka (Bangladesh), Miami (Florida) and Australia may face challenges such as increased energy consumption for cooling, disruptions in supply chains and logistics, and an increased number of consecutive dry days could also exacerbate drought conditions, leading to water scarcity and further impacting operations.

Analysis on Downstream: Customers

We assessed customer locations with a total spend exceeding INR 500 crore, specifically in Miami (Florida), Australia, and Dhaka (Bangladesh). The legend provides a description of the bar graph representation.



- Florida faces significant risks due to a high fraction of its population being exposed to heatwaves. These risks include diminished workforce productivity, increased absenteeism, and rising healthcare expenses as heat-related illnesses become more common. Additionally, businesses may encounter operational challenges and higher costs associated with mitigating these impacts.
- Australia could face significant risks from extreme 5-day rainfall events, including disruptions to logistics and supply chains, flooding, infrastructure damage, and delayed raw material deliveries, making it challenging to meet consumer demands. These challenges may also hinder business continuity and increase operational costs.

Operational Risks Identified in Low Emission Scenarios: SSP1- RCP2.6 and Net Zero 2050 for APAR

Ernakulam is identified as being at a **high risk of population exposure to heatwaves**. These heightened risks can pose challenges on the **productivity & labor force** within these vulnerable assets. Additionally, this can lead **to high absenteeism, reduced efficiency, and high healthcare insurance costs.**

In both high & low emission scenarios, Vadodara, Umbergaon, Kathalwada are the most vulnerable regions to **water scarcity risks**. This can lead **to difficulties in securing reliable water sources for production processes, domestic water supply chains and overall operational needs.** This could lead to disruptions in manufacturing, increased costs, and potential reputational risks.

Kolkata, Patna, and the UAE are at a high risk of experiencing **hot days with temperatures exceeding 35°C**. These elevated temperatures can lead to **increased energy consumption as cooling systems work harder, potentially driving up operational costs**.

Silvassa has been identified as the most vulnerable asset of experiencing highest **number of days with high precipitation of 50 mm**, leading to events like **flooding, waterlogging, damages to warehouses and distribution networks**, which can further pose major risks to APAR's **operations, logistics, and deliveries.**

Vadodara, Umbergaon and Kathalwada are exposed to significant **fire probabilities**. This elevated risk can lead to disruptions **in manufacturing operations**, potentially causing **damage to infrastructure and equipment**. The threat of fire can also result in **production delays and increased costs for fire prevention and safety measures**, which are crucial to maintaining business continuity and protecting both workers and assets.

Operational Risks Highlighted by High Emission Scenarios like SSP5- RCP8.5 for APAR

Ernakulum and Silvassa has been identified as the most vulnerable assets under different precipitation risks events such as **number of days with precipitation 50mm**, highlighting major threats of **flooding, landslides, water-borne diseases**, leading to various operational disruptions including **infrastructure damage, supply chain interruptions, increased operational costs, delayed supply chain logistics, high labor costs and increased healthcare costs.**

Kolkata, Patna, the UAE are the most vulnerable assets to **hot days with > 35°c**. Prolonged exposure to higher temperatures can pose major threat to infrastructure, **affecting facilities, equipment, operational efficiency**. It can also lead to heat related **illness in the workforce, leading to low productivity,** and extreme heat events can also lead to **disruptions in transportation networks & logistics.**

UAE, Chennai, Vadodara, Umbergaon and Kathalwada which face high risks of **mean surface air temperatures** are exposed to various challenges **including increased energy consumption for cooling systems, potential disruptions in supply chains and logistics**, and **adverse effects on employee health and productivity**. As heatwaves become increasingly frequent and severe in these regions, **communities are at greater risk of experiencing elevated rates of heat-related illnesses, disruptions in agriculture, and increased pressure on water resources.**

Vadodara, Umbergaon and Kathalwada rank highest to experience more damage due to floods. This vulnerability can result in **damage to production facilities and infrastructure**. It may also affect **office spaces, increase repair costs, and compromise worker safety and productivity.** The recurring nature of river floods also increases the likelihood of long-term operational instability and higher insurance costs.

UAE is highly exposed to fire risk she would lead to disruption to supply chains, potential damage to goods and heightened operational costs.

Critical Assets as per Climate Risk Variables

	Temperature Risk	Water Risk	Precipitation Risk	Climate Hazards
SSP1-2.6	1. *Umbergaon* 2. *Kathalwada*	1. *Umbergaon* 2. *Kathalwada*	1. *Silvassa* 2. *Ernakulam* 3. *Chembur* 4. *Nariman Point*	1. *Bhiwandi* 2. *Athola* 3. *Silvassa* 4. *Umbergaon* 5. *Kathalwada* 6. *Vadodara*
SSP5-8.5	1. *Umbergaon* 2. *Kathalwada* 3. *UAE* 4. *Vadodara* 5. *Chennai*	1. *Umbergaon* 2. *Kathalwada* 3. *Silvassa* 4. *Jaipur* 5. *Vadodara*	1. *Athola* 2. *Silvassa* 3. *Ernakulam* 4. *Chembur* 5. *Nariman Point*	1. *Bhiwandi* 2. *Athola* 3. *Silvassa* 4. *Umbergaon* 5. *Kathalwada* 6. *Vadodara*
Net zero 2050	1. *Umbergaon* 2. *Kathalwada* 3. *Bangalore* 4. *Brundamal* 5. *Sambhalpur* 6. *Silvassa*	1. *Umbergaon* 2. *Kathalwada* 3. *Zirakpur* 4. *Vadodara* 5. *Sambhalpur* 6. *Kolkata* 7. *UAE*	1. *Umbergaon* 2. *Kathalwada* 3. *Jaipur* 4. *Brundamal* 5. *Sambhalpur* 6. *Chembur*	1. *Bhiwandi* 2. *Athola* 3. *Silvasa* 4. *Umbergaon* 5. *Kathalwada* 6. *Chembur* 7. *Vadodara* 8. *Nariman Point*

Transition Risk Scenario Analysis

We used the En-ROADS Model Version History (April 2024 Release) to conduct a scenario analysis for transition risks and opportunities. En-ROADS is a simulation model designed to explore global energy and climate challenges through significant policy, technological, and societal shifts. The model simulates how changes in taxes, subsidies, economic growth, energy efficiency, technological innovation, carbon pricing, fuel mix, and other factors impact global carbon emissions and temperature. We tested the most relevant sub-variables under different scenarios using the key variables from the simulation tool.

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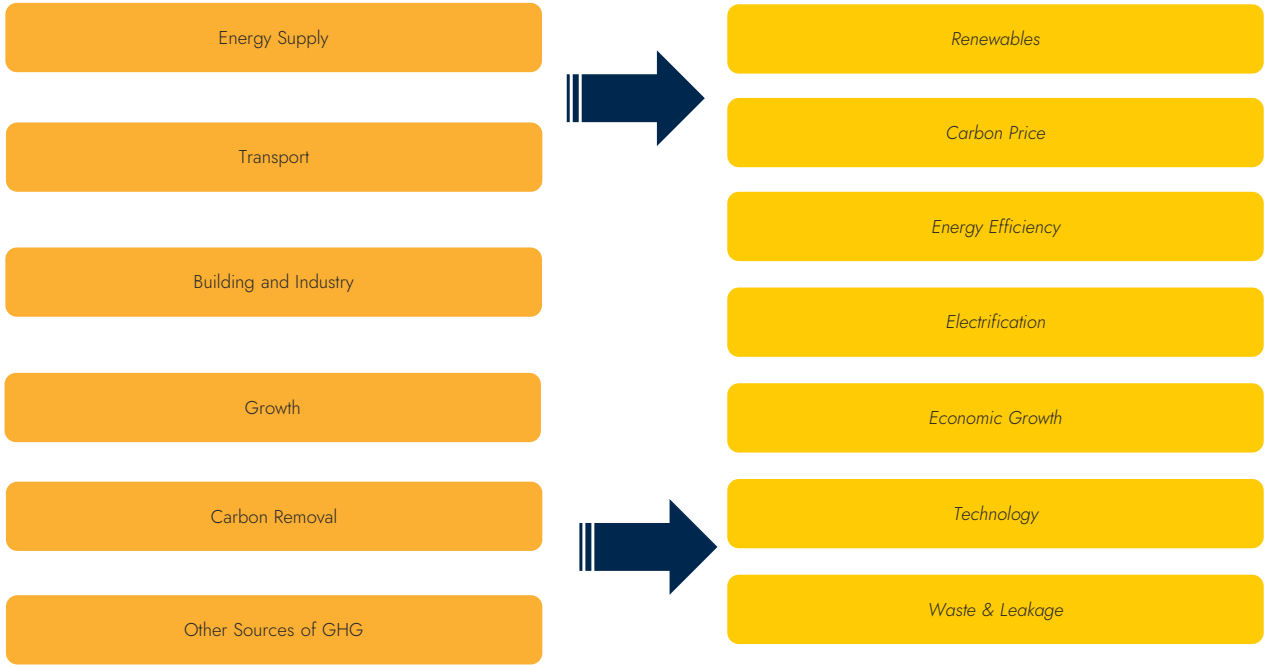
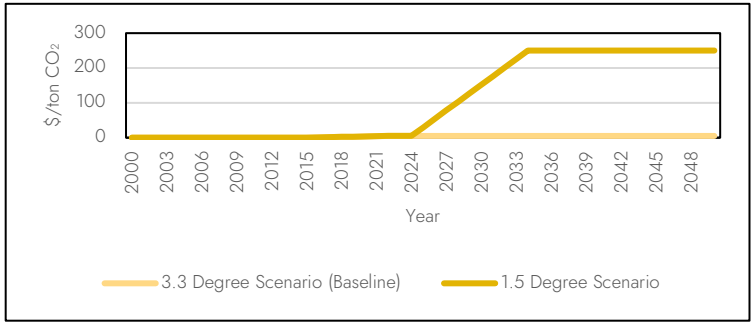


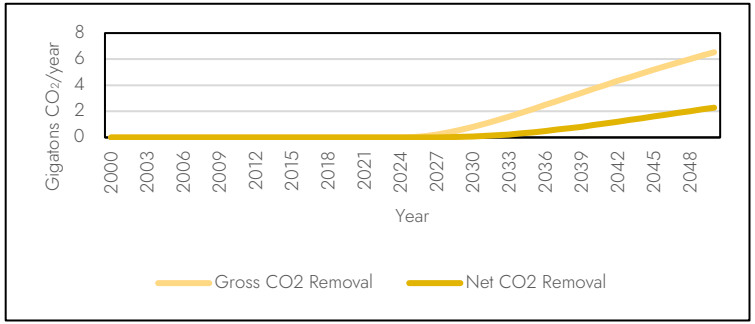
Transitional Risk and its potential operational impacts



1. Carbon Price

Global price of carbon dioxide emissions in dollars ($US 2017 PPP) per ton CO_2, set by the Carbon Price controls.

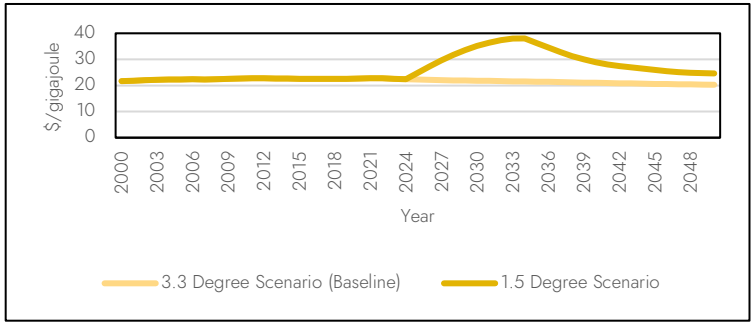
The carbon price makes coal, oil, and natural gas more expensive depending on how much carbon dioxide they release for energy produced. The carbon price does not apply to bioenergy by default, but this can be changed in the carbon price advanced settings, since it can also be a source of carbon dioxide. The carbon price is applied to the cost of fuel for both electric and non-electric sources of energy. All these parameters can negatively impact companies by raising their operating costs, reducing profitability, and potentially making them less competitive in markets.



2. Carbon Dioxide Removal from Afforestation

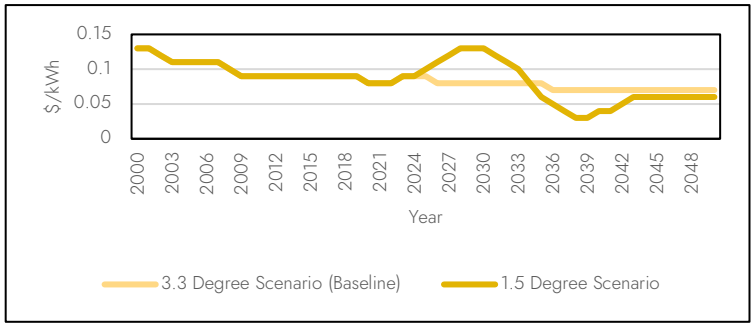
As trees are planted and grow, they absorb CO_2 from the atmosphere, leading to an increase in total removal over time. The net removals are lower than the total because some carbon is lost due to natural processes such as the decay of trees and forest fires. This highlights the importance of considering not only the initial carbon sequestration benefits of afforestation and reforestation but also the ongoing management needed to maintain and enhance carbon storage in forests.

Transitional Risk and its potential operational impacts



3. Cost of Energy

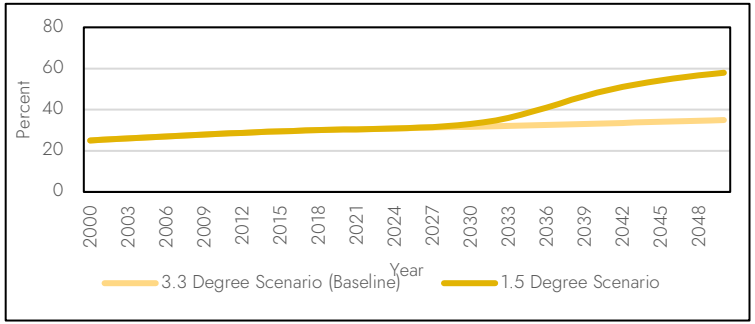
The cost of energy includes the impacts of taxes, subsidies, and carbon pricing. It covers the global energy costs across all sources both electric and non-electric. This is the cost to produce the energy rather than market price paid for the energy. The operations of APAR are quite energy intensive, which would ultimately give rise to high energy costs. Higher the energy costs, higher the operation costs, impacting the profit margins. With Climate risk impacts it may also affect heating and cooling, HVAC Costs.



4. Market Price of Electricity

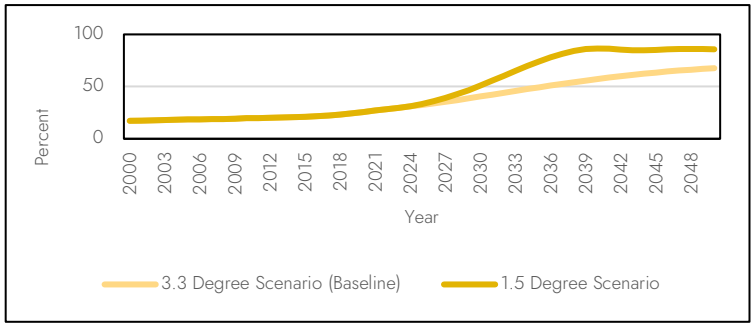
Fluctuations in the market price of electricity can directly impact operational costs. If electricity prices rise unexpectedly, it could lead to higher production costs, squeezing profit margins, especially if the company heavily relies on electric-powered equipment in its manufacturing processes.

Transitional Risk and its potential operational impacts



5. Electric Share of Total Buildings & Industry Equipment

As governments implement stricter regulations to mitigate climate change and promote energy efficiency, transitioning to electric equipment can ensure compliance with evolving environmental standards. This can mitigate regulatory risks and potential fines for non-compliance. The percent of total buildings and industry equipment that are powered by electricity (e.g., electric heating, stoves, or industrial machines).



6. % Electricity Consumption from Renewables

It is the percent of final electric energy consumption provided by renewables like wind, solar, hydropower, geothermal etc. Final energy consumption is the total energy consumed to meet the demand of all end uses.

Renewable energy sources such as solar and wind often have fixed or predictable costs over the long term, reducing exposure to volatile fossil fuel prices. This can provide APAR with greater cost stability and resilience against energy price fluctuations, contributing to improved financial performance.

Opportunities for Apar

We have identified key opportunities to enhance sustainability and resilience. These include business diversification, use of lower-emission energy, circular economy practices, and water recycling systems.

Opportunity Driver	Key Opportunity Areas	Time Horizon	Time Horizon Rationale	Area of Business Impact
Ability to diversify business activities	Market low-carbon products, boost revenue through sustainable solutions, enhance brand reputation. Strategic R&D and partnerships to position APAR as a sustainability leader.	Medium Term	Requires investment and time to transition to renewable energy and align with regulations, with impacts on revenue, risk mitigation, and market growth over several years.	Revenue growth, risk mitigation, market expansion, innovation, competitive advantage, long-term resilience.
Use of lower-emission sources of energy	Transition to renewable energy, align with new regulations, invest in sustainability technology supporting net zero commitments.	Medium Term	Requires adaptation to evolving regulations, technology investment, and alignment with consumer preferences, needing time for planning and implementation.	Cost savings, regulatory compliance, enhanced brand value, innovation, risk mitigation, competitive edge.
Circular Economy	Strengthen recycling efforts via cable scrap collection, aluminum scrap processing, advanced material reuse, and support for net-zero and environmental goals.	Medium Term	Offers resource recovery, waste reduction, and alignment with regulations, supporting sustainability and APAR's net zero commitments.	Revenue efficiency, cost savings, compliance, brand reputation, revenue growth.
Water Recycling Systems	Implement water recycling systems to ensure sustainable water supply, demonstrating responsible resource use and CSR commitment.	Long Term	Reduces operational costs, ensures compliance with water regulations, and boosts APAR's reputation among sustainability-focused stakeholders.	Regulatory compliance, resource efficiency, operational continuity, risk mitigation, cost reduction.

Risk Management

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At APAR, we integrate climate risk into our core strategy, using cross-functional collaboration to identify, assess, and mitigate risks. By prioritizing sustainability, we turn challenges into opportunities, advancing toward a low-carbon future while safeguarding business continuity.

This chapter details how we identify, assess, and manage climate-related risks and opportunities for investors, stakeholders, regulators, and internal decision-makers. We integrate climate risks into our overall risk management framework, addressing both physical and transition risks to mitigate their impact on our operations and financial performance. This section serves as a resource for stakeholder consultations, providing transparency in our approach to climate risk management and informing ongoing improvements through engagement and feedback.

At APAR, we use an integrated, cross-functional, and company-wide risk management process to assess climate change risks and opportunities annually, aligning with our medium- and long-term corporate strategy. Our risk management team works directly with our business units to evaluate operational risks and opportunities. We hold regular meetings to assess the impact and likelihood of risks that could influence our strategic objectives, conducting both qualitative and quantitative evaluations of climate-related topics, including policy and legal, reputational, and other strategic and operational risks.

When we identify a risk or opportunity, we determine if it is substantive based on its potential impact on our legal, financial, operational, reputational, or customer aspects. For example, if extreme weather events could reduce our production capacity, we assess this risk by analyzing:

- The potential financial impact from business interruptions
- The effect on our ability to deliver products and services to our customers
- Estimated costs of losses

We also consider our existing mitigation measures, such as our business continuity program, which helps minimize potential business and financial impacts. On the flip side, an opportunity such as reducing energy costs by increasing our use of renewable energy is evaluated by analyzing the financial impact of reducing grid energy consumption across our plants and comparing it to key financial metrics, like revenue and operating expenses.

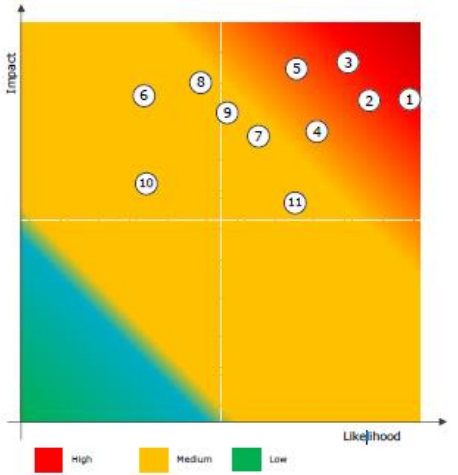
Our suppliers' capabilities and sustainability practices are regularly assessed, including their carbon footprint and ethical standards. Once we identify a risk, we determine ownership and work together to develop and monitor mitigation strategies. If sudden changes occur, we conduct interim reviews and take corrective actions. We also stay in regular contact with our multinational customers to share information and understand their risk concerns and mitigation strategies. Any risk affecting 10% or more of our average revenue over the past three years is classified as substantive.

Our Sustainability Steering Committee is integral to our risk management framework. We meet periodically to review our progress on climate risk management initiatives, align our actions with the relevant Sustainable Development Goals (SDGs), with a focus on SDG 13: Climate Action, and adjust our goals as necessary. The Committee is responsible for approving budgets or forwarding them to the Board for approval, discussing updates on industry regulations and best practices, and making key decisions such as participating in CDP climate disclosures and developing our TCFD report. This structured approach ensures that our sustainability efforts are clearly defined and aligned with our strategic objectives.

Materiality Assessment and Identification of Critical Risks

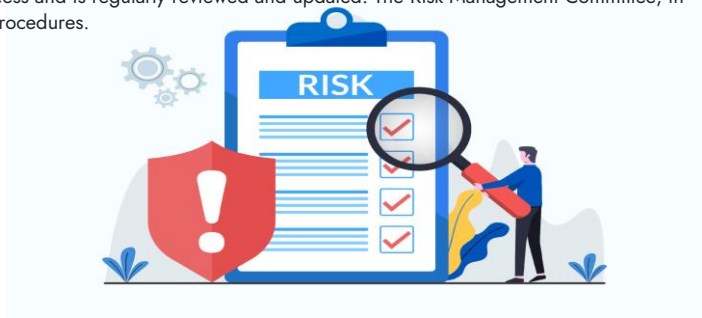
In FY 2023-24, we conducted a comprehensive materiality assessment to identify and prioritize key risks that could affect our strategic objectives and operations. By engaging with key stakeholders and analyzing industry trends, we identified several critical risks. These are interconnected with our climate-related risks, which also play a significant role in our risk management framework. Here's a detailed overview:

1. **Delays in Renewable Projects and Evacuation Infrastructure:** Potential delays due to regulatory approvals, material availability, and access to capital could impact our capacity to implement renewable energy initiatives and enhance infrastructure.
2. **Changes in Government Policies:** Shifts in government leadership may lead to changes in policies and regulations, affecting our business operations and strategic planning.
3. **Geopolitical Issues and Market Slowdowns:** Geopolitical tensions and economic slowdowns in major markets, such as the US and Europe, can impact commodity prices and our export activities.
4. **Supply Chain Disruptions:** Disruptions in the supply chain can lead to increased freight costs and affect our logistics operations, impacting overall efficiency and cost management.
5. **Nationalistic Policies:** Policies favoring local manufacturing could hinder our export capabilities and affect our global market position.
6. **Increased Competition:** Rising competition, especially from countries like China, might put pressure on pricing and reduce margins for our products.
7. **Pressure from New Competitors:** The entry of new competitors could lead to pricing pressures on premium products and impact profit margins.
8. **Succession Planning and Talent Management:** Challenges in succession planning and talent retention could affect our organizational stability and long-term growth.
9. **Third-Party Risks:** Risks associated with third-party partners can impact operational effectiveness and reliability.
10. **Cybersecurity Threats:** Increasing cybersecurity threats pose risks to data security and operational integrity, requiring robust protection measures.
11. **Sustaining Growth:** Identifying and entering new sectors or geographies is crucial for maintaining growth and adapting to evolving market demands.



Risk Management Committee

Our Board of Directors has established a Risk Management Committee to oversee and strengthen our risk management framework. This Committee plays a crucial role in identifying, assessing, and mitigating risks that could impact our operations and strategic objectives. We have implemented a Risk Management Policy that guides this process and is regularly reviewed and updated. The Risk Management Committee, in coordination with the Audit Committee and the Board, consistently evaluates and refines our risk assessment and minimization procedures.



Key Responsibilities:

- Risk Identification and Mitigation: We identify potential risks and develop strategies to address them.
- Policy Review: We review and recommend updates to our Risk Management Policy.
- Oversight and Reporting: We monitor risk management procedures and report our findings to the Board.

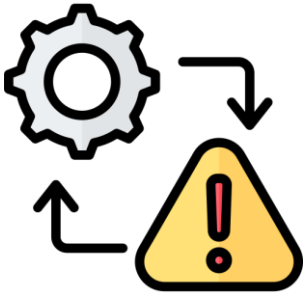
Risk Management Committee Members:

The Committee comprises a diverse group of directors and senior management, ensuring comprehensive oversight:

Name	Position in Board	Position in Risk Management Committee
Shri Kushal N Desai	Executive Director	Chairperson
Shri Chaitanya N Desai	Executive Director	Member
Smt. Nirupa K Bhatt	Non-Executive - Independent Director	Member
Shri Rajesh Narayan Sehgal	Non-Executive - Independent Director	Member
Shri Kaushal Jaysingh Sampat	Non-Executive - Independent Director	Member
Shri Vinayak K. Lele	Sr. Vice President (Finance)	Member of the Management
Shri Ramesh S Iyer	Chief Financial Officer	Member of the Management

Our Risk Management Framework

In our Risk Management Framework, we ensure that we systematically identify, assess, and manage both external and internal risks. Our framework covers all significant risk areas including strategic, financial, operational, sectoral, legal, compliance, sustainability (ESG-related), and information and cyber security risks. This approach helps us align with industry standards and achieve our strategic objectives.



Risk Identification and Assessment

1. **Periodic Assessment:** We, the function heads across the organization, are responsible for regularly assessing risk factors.
2. **Risk Categories:** We categorize risks into strategic, financial, operational, sectoral, legal, compliance, ESG, and information and cyber security.
3. **Reporting Mechanisms:** We identify and report risks through operational reviews, internal audits, and committee meetings.

Risk Management Framework

1. **Procedures and Guidelines:** Our framework includes detailed procedures and guidelines for:
   - Contextualizing risks with our strategic objectives.
   - Identifying, assessing, and mitigating risks.
   - Implementing internal controls.
   - Ensuring effective communication, monitoring, and governance.
2. **Risk Rating:** We rate risks as 'High', 'Medium', or 'Low' based on their criticality and likelihood of occurrence.

Key Risks

1. **Currency Fluctuation Risk:** This impacts us due to our status as a net importer.
2. **Metal and Oil Price Fluctuations:** These affect our performance due to international market volatility.
3. **Market Trends:** Broad market trends and factors beyond our control impact our profitability.
4. **Succession Planning:** We face risks related to the adequacy of succession planning for future leadership.
5. **Bad Debts Risk:** Risks arise from our customers' financial conditions, both domestically and internationally.

Risk Presentation and Mitigation:

1. **Audit and Board Meetings:** We present risks to the Audit Committee and Board regularly, including root causes and mitigation plans.
2. **Mitigation Plans:** Based on the Committee's feedback, we finalize risk mitigation plans, which are then implemented by the relevant function heads.

Addressing the impact of climate change

APAR Industries is committed to climate action by integrating sustainability across its operations. We focus on reducing our environmental footprint through a dynamic strategy that anticipates risks and monitors progress. Our approach includes offering low-carbon products, investing in renewable energy, and promoting circularity in the oils, cables, and conductors sectors. Through innovation and responsible resource management, we set industry standards, meet customer expectations, and support global sustainability goals.

Our Climate Management Initiatives

- **ACCC Conductors:** Reduce aluminum use, enhance energy efficiency, and lower GHG emissions.
- **POWEROIL NE/Premium:** Renewable ester-based transformer oils that reduce environmental impact and extend insulation life.
- **Environmental Product Declarations (EPD):** We provide EPDs for key products, including AL59 Conductors, adhering to international standards and detailing the carbon footprint.
- **Wind-Solar Hybrid Project:** A 3.30 MW wind turbine and 2.80 MW solar installation, launched in June 2023, to cover 10% of our electricity needs, generating 15 million units annually and cutting GHG emissions by over 10,000 tCO_2e per year.
- **AdBlue® Diesel Exhaust Fluid:** Lowers NOx emissions and supports emission regulation compliance.
- **Power ZAD Conductors:** Durable conductors designed for extreme weather conditions.
- **Medium Voltage Covered Conductors (MVCC):** Provides safety against accidental contact and enhanced protection in dense areas.
- **Circularity and Waste Recycling:**
  - 100% Aluminum Waste Recycling: Implemented in our conductor division.
  - Copper Waste Reuse: Recycles plain copper scrap; tinned copper scrap is sold to recyclers.
  - Innovative Recycling: Uses recycled materials in cable armoring.
- Extended Producer Responsibility: Complies with EPR regulations, managing plastic packaging waste through certified recyclers.
- E-beam (HR FR EBXL) Wires: Offers up to 50 years of service life, nearly doubling the lifespan of conventional cables.

Prioritizing Climate-related Risks

At APAR, we integrate risk identification and management into our business strategy, focusing on both climate-related and other risks impacting our operations and clients. Using techniques like scenario analysis, we assess risks qualitatively and quantitatively to gauge their likelihood and impact, allowing us to create effective mitigation plans. Our approach prioritizes advancing the quantification of climate-related risks alongside financial and non-financial risks. The Board-level Risk Management Committee reviews these risks and mitigation strategies, categorizing them as short-term (0-3 years), medium-term (3-5 years), and long-term (5-10 years).

Our risk mitigation strategies are executed at two levels:

Business Level: We develop sustainability strategies to manage major risks such as climate change and water-related issues, with ongoing progress monitoring.

Asset Level: These strategies are translated into specific action plans for each asset, ensuring detailed risk management at the operational level.

Each risk undergoes a structured analysis process involving identification, assessment, and integration into our Enterprise Risk Management (ERM) framework. This methodical approach ensures that our risk management is comprehensive and aligned with strategic objectives, enhancing our ability to address evolving challenges effectively.

Risk Identification

We manage climate risk through a comprehensive, ongoing process that identifies and consolidates risks from peer reviews, sector reports, and stakeholder consultations. Aligned with the TCFD Framework, we categorize risks into Physical (acute and chronic) and Transitional (policy, technology, and market). Our forward-looking approach assesses all relevant risk factors and explores opportunities from the low-carbon economy shift. We integrate climate-related risks across sectors, products, and geographies, linking them to sustainability categories and time horizons.

- Key Departments
- Operations
- Human Resources
- Procurement/ Warehouse & Logistics
- Health, Environment and Safety

This collaborative approach ensures a thorough and balanced risk evaluation across all business segments, enhancing our ability to manage both physical and transitional risks while capitalizing on emerging opportunities.

Our TCFD assessment covered all operations, including new manufacturing sites, identifying risks through site-level surveys, peer reviews, and stakeholder consultations. Risks were categorized into Physical and Transitional, aligned with the TCFD Framework, while opportunities tied to the low-carbon economy were explored.

Each risk and opportunity was evaluated using a 4-factor analysis—**Likelihood, Impact, Vulnerability, and Speed of Onset**—to account for climate change's time-sensitive effects. We also assessed key climate variables like temperature changes, water scarcity, and precipitation for their long-term business impact.

Likelihood:

How likely is it that the negative business effect will occur

Impact:

How extensive is the expected business effect when it occurs?

Vulnerability:

How susceptible a company is to a risk event in terms of the company's preparedness, agility, and adaptability?

Speed of Onset:

The time that elapses between the occurrence of an event and the point at which the company first feels its effects

Following this analysis, we ranked and prioritized the most significant climate risks and opportunities, allowing us to focus on those that pose the greatest material impact. These insights help shape our strategic direction, ensuring that we are well-prepared to manage the evolving challenges posed by climate change.

Physical Risk Assessment

Site-specific risks: Identified across the value chain, categorized as either acute (e.g., extreme weather events) or chronic (e.g., rising temperatures, long-term water scarcity).

Transition Risk Assessment

Legal and Policy Risks: Climate policies are evolving, aimed either at reducing harmful activities or promoting climate adaptation. The timing and nature of policy shifts impact financial outcomes. Additionally, litigation risk is rising, with climate-related lawsuits increasingly filed by property owners, municipalities, shareholders, and public interest groups.

Market Risks: Shifts in supply and demand for commodities, products, and services are influenced by climate-related risks. Markets could experience significant disruption as climate concerns are incorporated into purchasing and investment decisions.

Technology Risks: Technological innovations that facilitate a low-carbon, energy-efficient economy can disrupt existing systems. While such changes create opportunities, they may also displace old technologies, leading to "winners" and "losers." The uncertainty of technology development timelines complicates risk assessments.

Reputation Risk: Public and stakeholder perceptions of a company's role in addressing climate change can affect its reputation. Organizations seen as lagging in the transition to a low-carbon economy may face reputational damage, affecting customer trust and investor confidence.

Climate Risk Assessment Process

Risk Categories

Our Approach for Integrating Climate-Related Risks into the Organization's Risk Management

Following the climate risk assessment, risks were prioritized according to the nature of our business. Integration of priority climate-related risks into APAR's Enterprise Risk Management (ERM) involved a systematic approach, as follows:

Phase 1

Establishing a Climate Change Risk Repository

We developed a repository of climate-related physical and transitional risks, identified through peer reviews and stakeholder consultations. This repository forms the foundation for our climate risk management strategy, ensuring that both immediate and long-term risks are captured across all business units.

Phase 2

Stakeholder-Driven Climate Risk Assessment

Key climate-related risks were identified through thorough consultations with stakeholders, including inputs from the Sustainability Committee and the Board. This collaborative process helped prioritize the most significant risk drivers, aligned with APAR's business operations and strategic goals.

Phase 3

Identifying and Prioritizing Climate Risk Drivers

Critical climate-related risks, such as rising mean air temperatures, extreme rainfall events, water scarcity, fluctuations in oil prices, carbon pricing, shifts in consumer demand, and energy price volatility, were identified as key drivers. These risks were prioritized based on their potential impact on APAR's operational resilience and long-term sustainability.

Phase 4

Integrating Climate Risks into APAR's Enterprise Risk Management (ERM)

The identified climate-related risk drivers were systematically incorporated into APAR's Enterprise Risk Management (ERM) framework. This integration ensures that climate risks are continuously monitored and managed within the broader scope of our corporate risk management system, enabling a proactive approach to mitigating risks while capitalizing on opportunities in the transition to a low-carbon economy.

Metrics & Targets

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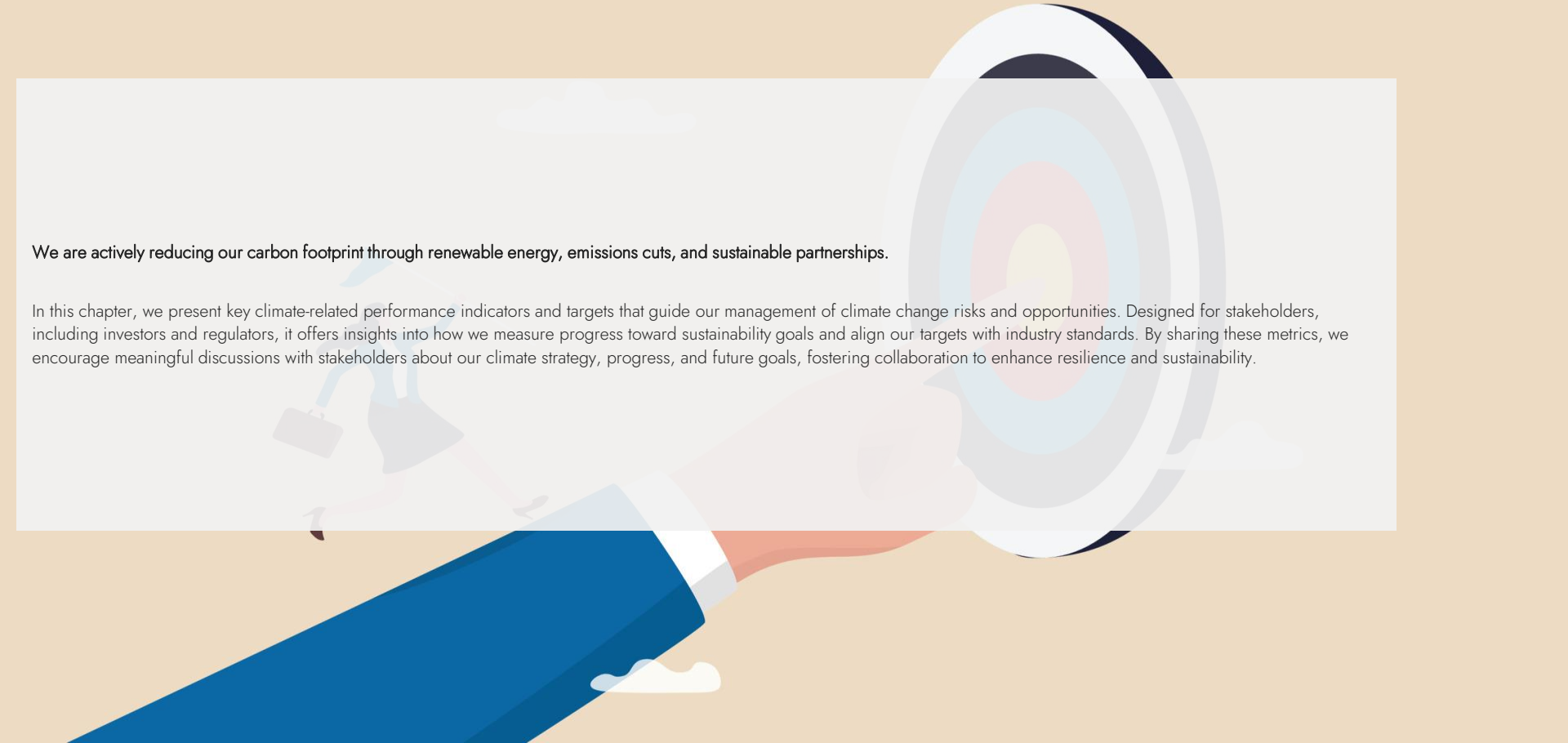
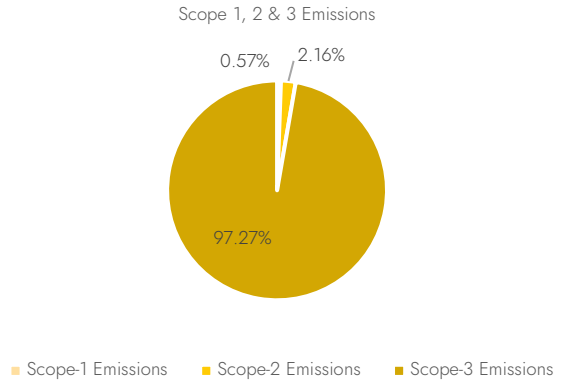


We are actively reducing our carbon footprint through renewable energy, emissions cuts, and sustainable partnerships.

In this chapter, we present key climate-related performance indicators and targets that guide our management of climate change risks and opportunities. Designed for stakeholders, including investors and regulators, it offers insights into how we measure progress toward sustainability goals and align our targets with industry standards. By sharing these metrics, we encourage meaningful discussions with stakeholders about our climate strategy, progress, and future goals, fostering collaboration to enhance resilience and sustainability.

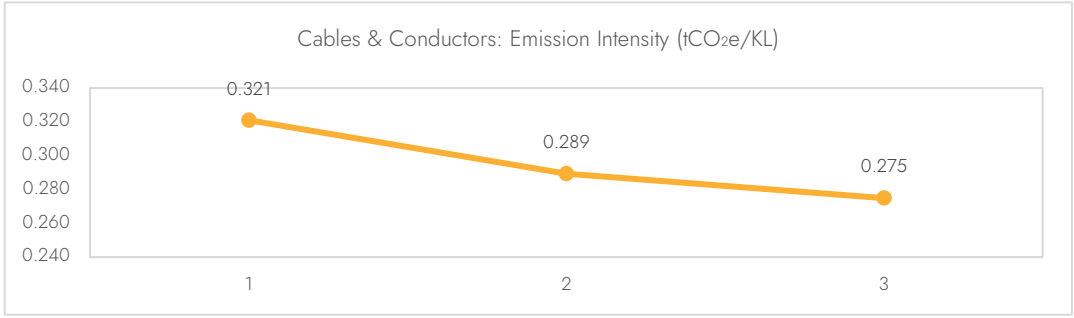
Emissions Overview for APAR Industries

We calculated our carbon footprint for FY 2023-24, covering emissions across all our operations. Our Scope-1 emissions, from direct sources like diesel, refrigerants, PNG, LPG, and CNG, mainly came from manufacturing and transportation activities. For Scope-2, emissions generated from purchased electricity were mostly driven by our Conductor & Cable business, with minimal contribution from our Oil business. Our Scope-3 emissions, largely from our supply chain, came from raw material procurement, transportation, and distribution. To address these, we've identified our top 100 suppliers and are working closely with them to reduce emissions, marking a key step in strengthening our sustainability efforts.

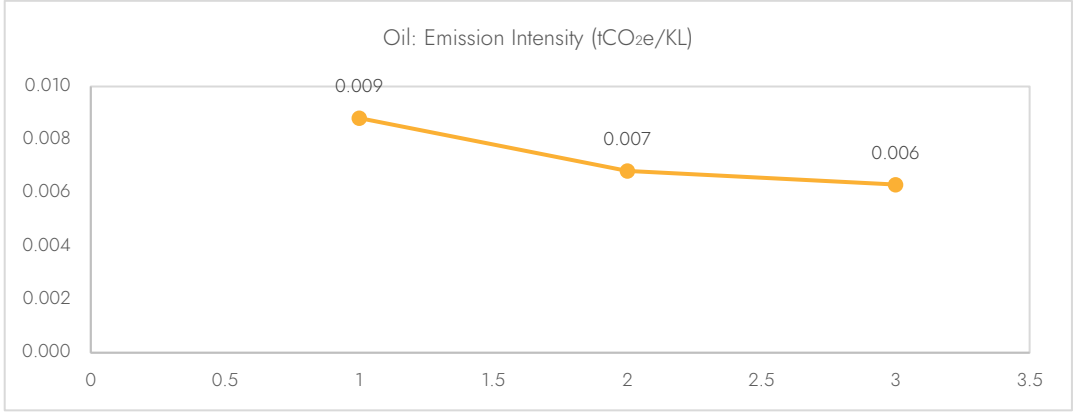


As part of our ongoing commitment to reducing emissions, we have set a target to lower our GHG emission intensity by 4% in FY 2023-24-25 compared to the previous year.

We achieved a 4.84% reduction in our Scope-1 and Scope-2 emission intensity, lowering it from 0.289 tCO_2e/MT to 0.275 tCO_2e/MT, in line with our low-carbon strategy for our Cables and Conductors Business.

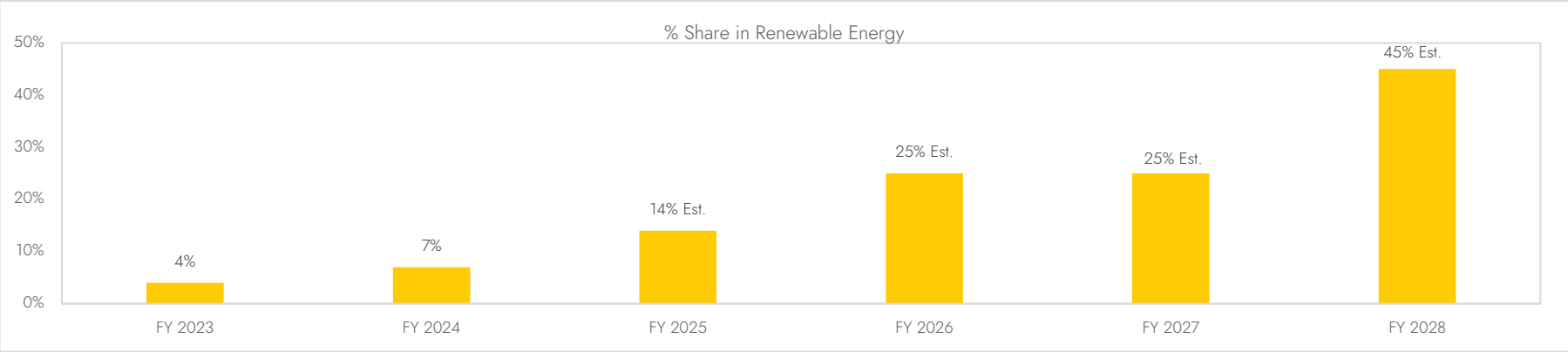


We reduced the emission intensity (tCO_2e per KL) for Scope 1 and 2 in our Oil Business from 0.007 in FY 2023 to 0.006 in FY 2023-24.



At APAR, we have made significant strides in reducing our GHG emissions through a combination of innovative projects and operational efficiency. In June 2023, we commissioned our first wind-solar hybrid project, consisting of a 3.30 MW wind turbine and 2.80 MWp solar energy at our Khatalwada plant, in partnership with a leading consultant. This initiative has successfully increased our renewable energy share from 4% to 7.3%, marking a critical step towards our sustainability goals.

Looking ahead, we are on track to further expand our renewable energy capacity with two additional projects scheduled for completion by June 2025. These projects will push our renewable energy share to 25% (exit rate), while also reducing our carbon footprint by 25,000 tCO_2e.



Our efforts to transition away from fossil fuels and adopt electric energy sources are further supported by comprehensive energy audits across all manufacturing sites in India. With most of the audit recommendations already implemented, we continue to improve operational efficiency through the integration of Industry 4.0 technologies and Six Sigma methodologies. These actions reflect our dedication to driving productivity while significantly lowering our environmental impact, in alignment with our long-term sustainability vision.

We aim to continuously increase our share of non-fossil fuel-based energy in the future.

Water Footprint for APAR Industries

We have implemented various measures at APAR that have successfully reduced both our water footprint intensity and total absolute water consumption, despite increased production.

Demand Side Management:

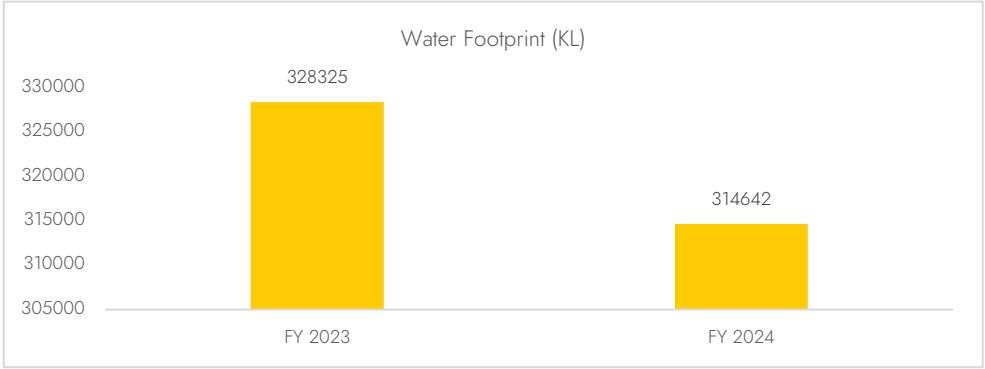
- We focus on monitoring and evaluation, leak detection and repair, and the adoption of water-efficient technologies.
- Our wastewater treatment and management are handled through Effluent Treatment Plants (ETP) and Sewage Treatment Plants (STP) across our facilities.

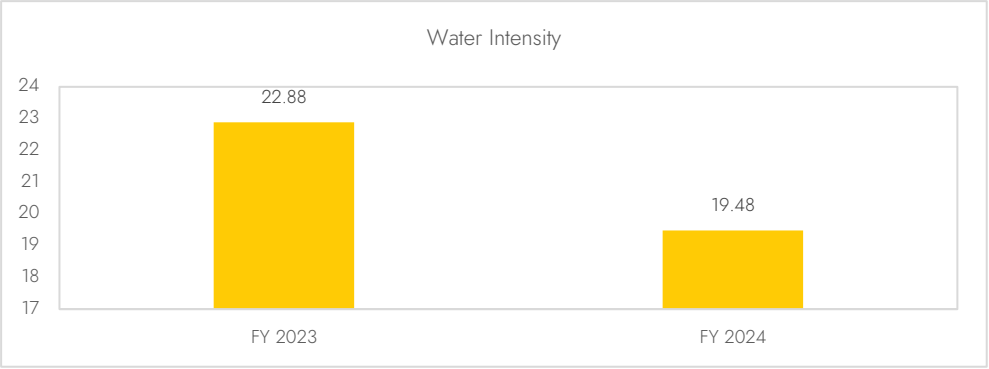
Supply Side Management

- We have made significant investments in our Rainwater Harvesting (RWH) initiatives, achieving a collection of 61,497 KL during FY 2023-24.

Additionally, we have committed to integrating water neutrality into the design considerations for our upcoming facilities..

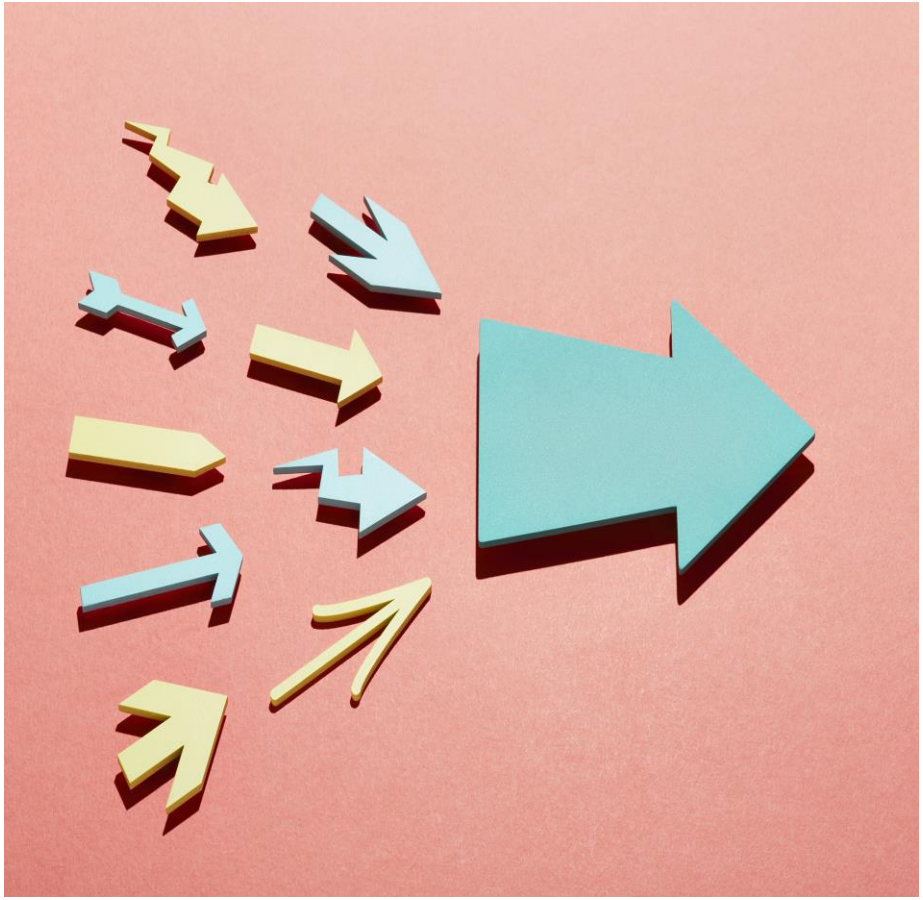
We aim to reduce our water footprint intensity by 5% across all plants by FY 2023-24-25, measured against FY 2023-24 levels.





Way Forward

APAR
Tomorrow's solutions today



Way Forward

At the core of APAR's ESG strategy is a proactive approach to managing risks, including climate change. By aligning with the Task Force on Climate-related Financial Disclosures (TCFD) and utilizing a robust climate risk assessment framework, we effectively identify and mitigate both physical and transition risks. Our commitment also includes fostering a safe, inclusive, and rewarding work environment for all employees.

Looking ahead, we are focused on continuously improving our climate risk scenario analysis, recognizing the evolving nature of climate challenges. We will refine our strategies to meet sustainability targets, contribute meaningfully to emissions reduction, and reduce our overall environmental impact. Our future efforts will prioritize **reducing water footprint intensity, advancing renewable energy projects**, and **setting science-based emissions reduction targets** to drive substantial progress in reducing greenhouse gas emissions.

As we move forward, APAR remains dedicated to sustainability, responsible business practices, and creating lasting value for all stakeholders—ensuring a sustainable future for generations to come.

Appendix

APAR
Tomorrow's solutions today

Description of Transition Risks for APAR

Risks	Description	Time Horizon	Area of Business Impact	Area of Financial Impact
Market Risk				
Shifting consumer preferences towards low carbon and sustainable products/commodities	Cable manufacturers must address growing customer demands for environmental sustainability and climate change mitigation, with inadequate transparency potentially harming their reputation and stakeholder trust. Similarly, oil producers face increased pressure to support customers in reducing Scope 3 emissions due to new government mandates in India on ESG disclosures. These regulatory shifts impact market behavior and pose risks in retaining and acquiring clients who prioritize strong ESG performance.	Long Term	Direct operations	Decreased revenues due to reduced demand for products and services
Raw material availability	The increasing focus on electrification and the critical role of copper in the energy transition (e.g., electric vehicles, renewable energy projects) are expected to result in a shortage of this essential raw material, which is the primary conductor in most cables. Copper is particularly difficult to substitute compared to other metals, making the situation more pressing. Companies in the cable industry face a significant risk of supply shortages, not only for copper but also for aluminum, which is already experiencing constraints. Economists predict a copper shortage by 2025, potentially limiting sales due to the unavailability of these key raw materials. The sharp decline in copper and aluminum stock reserves in 2022 underscores the growing strain on the market for both materials.	Short Term	Direct operations	Increased input costs and decreased sales can result from the reduced availability of raw materials, as growing market demand intensifies competition for resources. Scarcity, particularly in critical materials like copper and aluminum, can drive up procurement costs, limit production capabilities, and affect APAR's ability to meet market demand, ultimately impacting revenues.

Description of Transition Risks for APAR

Risks	Description	Time Horizon	Area of Business Impact	Area of Financial Impact
Policy & Regulatory Risk				
CBAM Carbon Tariff: Geo-Political Issues	The Carbon Border Adjustment Mechanism (CBAM) is an environmental policy instrument designed to support the EU climate ambitions of achieving a net reduction of greenhouse gas (GHG) emissions. It is a tariff or tax applied to imported goods based on their carbon footprint, intended to level the playing field for domestic industries that are subject to carbon pricing mechanisms and encourage global efforts to combat climate change. -two categories finished goods -ACSR Conductor -(76141000) and AAAC Conductor -(76149000) from APAR fall under the scope of CBAM. This particularly relevant to aluminium sector , where global commodity pricing would heavily influence the margins and supply chain cost.	Medium Term	Direct operations	Higher costs related to carbon tariffs on imported materials
Plastic & Used Oil Extended Producer Responsibility Compliance Costs	APAR's cable and oil units face growing regulatory pressure under Extended Producer Responsibility (EPR) rules, particularly for managing the end-of-life disposal of materials like plastic insulation and used oil. This requires ensuring proper recycling or disposal, which increases compliance costs and logistical challenges. Importers of used oil must meet recycling targets and file annual returns. Additionally, bans on single-use and non-recyclable plastics further raise compliance costs and risks of penalties, while driving the need to invest in sustainable, alternative materials.	Short term	Direct operations	Managing the disposal and recycling of materials like plastic insulation and used oil will require higher operational costs, and meeting recycling targets adds administrative burdens. Bans on single-use and non-recyclable plastics will further drive-up costs and expose the company to penalties, while necessitating investments in sustainable alternatives, affecting both input costs and margins.

Description of Transition Risks for APAR

Risks	Description	Time Horizon	Area of Business Impact	Area of Financial Impact
Technology Risk				
Transition to renewable sources of energy	Fossil fuel demand is expected to peak before 2030 and decline significantly by 2050, with oil demand projected to drop 48% and coal demand by 25% to 85%, depending on the scenario. This shift is driven by factors like slowing car-parc growth, improved engine efficiency, and electrification. In contrast, renewable energy is set to grow rapidly, providing 45-50% of global power by 2030 and 65-85% by 2050, with solar and wind leading. While renewables could cut power sector emissions by up to 71%, challenges such as supply chain issues and grid infrastructure remain.	Long term	Direct Operations, Logistics	Rise in operational and input costs for companies tied to fossil fuels due to regulatory pressures, carbon taxes, and transitioning to cleaner technologies. Supply chain disruptions in renewable energy components may also increase input costs. On the revenue side, declining fossil fuel demand will reduce earnings for oil and coal sectors, while companies investing in renewables could see new revenue streams, though growth may be slowed by infrastructure and permitting challenges.

Financial Impact of Physical and Transitional Risks

Material physical climate risks (like increased number of heat wave events/heat index days, excess or deficit cumulative rainfall, water Scarcity, localized flooding and cyclones) and transitional risks (like carbon tax, geopolitical risks & other market risks) pose threats to overall operations of APAR which can have visible impacts observed in the profit and loss statements, and the overall financial performance of APAR.

We have tested the impact of material climate related physical and transitional risks on the consolidated profit and loss statements of the organization.

Material Risks

Impact of Water Expense

- Reduced water availability at APAR Industries could significantly impact the cable, oil, and conductor production processes. Water is essential for cooling, processing, and maintaining equipment. It could lead to operational disruptions, reduced production capacity, and increased costs for water procurement and treatment. Additionally, rising temperatures and water scarcity may compromise equipment efficiency, leading to higher maintenance costs and potential downtime, ultimately affecting overall productivity and profitability.
- Reduced water availability at APAR could lead to increased **CapEx** for water recycling and equipment upgrades, along with higher **OpEx** for water procurement, treatment, maintenance, and energy costs, impacting profitability.

Carbon Tariff CBAM

- The Carbon Border Adjustment Mechanism (CBAM) is an EU policy designed to impose a carbon price on imports of certain goods, aligning them with the EU's carbon pricing standards. This measure aims to prevent carbon leakage by ensuring that imported products do not have a competitive advantage due to laxer carbon regulations in their countries of origin.
- For APAR, the Carbon Border Adjustment Mechanism (CBAM) may increase **CapEx** for compliance with stricter carbon standards and **OpEx** for covering the carbon price on imports to the EU.

Material Opportunities

Use of Lower Energy Sources

- With customer and investor's preferences shifting towards a low carbon products, APAR can switch to greener aluminum from primary aluminum which would result in lowering the carbon liability on their CBAM affected products and would also help them to reduce their overall carbon footprint.
- Switching to greener aluminum from primary aluminum will entail higher **CapEx** for new production processes and equipment, while **OpEx** may decrease over time due to reduced carbon liabilities and potential energy savings.

Carbon Products -Green Aluminum

- At APAR, our green aluminum is a low-carbon product crafted using renewable energy and recycled materials. This approach allows us to significantly reduce our carbon footprint and support global sustainability efforts.
- At APAR, our green aluminum's **CapEx** include investments in renewable energy infrastructure and recycling facilities, while **OpEx** encompass the ongoing costs of utilizing renewable energy and maintaining recycling processes.

Aluminum Scrap Processing

- Aluminum scrap processing will become a key driver of both sustainability and profitability for APAR, aligning with circular economy principles. By focusing on recycling, we will reduce reliance on virgin materials, lower production costs, and support global carbon reduction efforts, contributing to a more resource-efficient and sustainable system.
- Our **CapEx** will focus on expanding recycling facilities and renewable energy infrastructure, while **OpEx** will cover energy-efficient processes and recycling operations. This balanced approach will ensure aluminum scrap processing remains both financially sound and environmentally sustainable for APAR.

TCFD Mapping to CDP & IFRS

TCFD pillar	Description	Recommended disclosure	TCFD Mapping to CDP	TCFD Mapping to IFRS	Reference
Governance	Disclose the organization's governance around climate-related risks and opportunities.	a. Describe the board's oversight of climate-related risks and opportunities.	4.1.1, 4.1.2, 4.2	IFRS S2- 6(a)	Board's Oversight, Board's Roles and Responsibilities, Management's Roles and Responsibilities
			4.3, 4.3.1, 4.4, 4.5, 4.5.1, 4.6, 4.6.1		
		b. Management's role in assessing and managing climate related risks and opportunities	2.1	IFRS S2- 6(b)	
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	3.1.1, 5.3.1, 5.3.2	IFRS S2-9(a), IFRS S2-(c)	Our Approach towards Climate Scenario Analysis, Physical Risk Scenario Analysis, Transition Risk Scenario Analysis
		b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	3.1.1, 5.1, 5.1.1, 5.1.2, 5.3.1	IFRS S2-9(b), IFRS S2-(c), IFRS S2-9(d), IFRS S2-15(a), IFRS S2-15(b)	Our Approach towards Climate Scenario Analysis, Physical Risk, Scenario Analysis, Transition Risk Scenario Analysis
		c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	2.2.1, 2.2.2	IFRS S2-9(b), IFRS S2-9(d), IFRS S2-15(a), IFRS S2-15(b), IFRS S2-22(b)	Physical Risk Scenario Analysis, Transition Risk Scenario Analysis

TCFD Mapping to CDP & IFRS

TCFD pillar	Description	Recommended disclosure	TCFD Mapping to CDP	TCFD Mapping to IFRS	Reference
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.	a. Describe the organization's processes for identifying and assessing climate-related risks.	2.2.2	IFRS S2-10(b), IFRS S2-10(c), IFRS S2-10(d), IFRS S2-25(a)	Our Climate Risk Management Framework, Risk Management Committee
		b. Describe the organization's processes for managing climate-related risks.		IFRS S2-25(a)	Our Climate Risks & Mitigation Initiatives
		c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	7.4.1, 7.54.3, 7.55	IFRS S2-25(c)	Prioritizing Climate-related Risks Risk Identification, Climate Risk Assessment Process
Metrics & Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	7.6, 7.7, 7.8, 7.4.1, 7.54.3, 7.55	IFRS S2-33(a), IFRS S2-34(c), IFRS S2-36(b)	Metrics & Targets
		b. Disclose scope 1, scope 2 and, if appropriate, scope 3 greenhouse gas (GHG) emissions and the related risks.	7.53.1, 7.53.2	IFRS S2-34(c), IFRS S2-36(b)	
		c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.		IFRS S2-33(f)	