Climate Related Risk Management Report

– Prepared in accordance to the recommendations of the TCFD

13th April 2022

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Introduction

Purpose

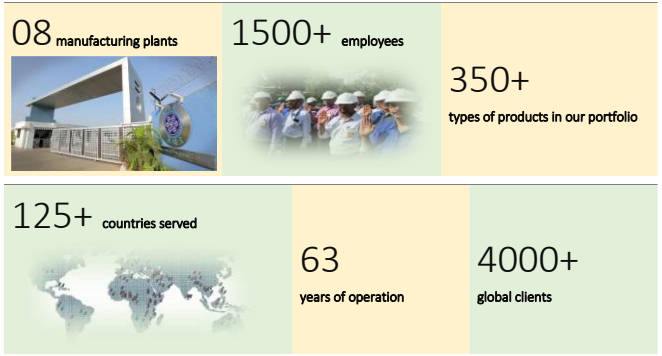
APAR acknowledges that climate change is no longer a distant reality, its repercussions are already being felt by people across the globe today. Over the last year, we have seen terrifying wildfires, extreme flooding and some of the hottest temperatures on record around the world. In India, we have been experiencing increased frequency and severity of cyclones in coastal regions, wildfires in state of Rajasthan, extreme temperatures in north western and central states, floods and cloudbursts in eastern states, unexpected draughts in southern states. The Covid 19 pandemic has made all of us more aware of how helpless human beings are against such global black swan events and the possible next such event will be disaster due to climate change unless we take action to try and reduce the impact.

The manufacturing sector produces a broad range of products that serve a range of markets and industries. This sector is a large energy user and greenhouse gas (GHG) emitter, and faces risks associated with climate change and other sustainability issues. It is linked across entire value chains across almost all other industries, and is a key enabler of the low-carbon economy.

As a responsible company, we not only are trying to manage the climate related risks to our business but we are also consistently trying to reduce the impact that our business contributes to this risk. We have also been partnering with our supply chain (both suppliers and customers) in such initiatives. We are in discussion with leading scientific and engineering institutions in the country to find appropriate technological solutions like circularity in waste management. Against this backdrop, APAR is planning to disclose the Climate Related Risks to CDP voluntarily, and also attempt to come out with its first **Climate Related Risk Management Report** (prepared in accordance to the recommendations of the TCFD).

About APAR Industries

Founded in 1958, APAR has grown into a diversified $1 billion company, and expanded to over 125 countries as a highly trusted manufacturer and supplier of conductors, cables, speciality oils, polymers and lubricants.



APAR nurtures a culture of conservation that emphasizes meticulous monitoring of use of resources and encourages innovations to reduce dependence on natural resources. **We are consistently inspiring our customers & suppliers through discussions and webinars to spread awareness and adopt the sustainable practices to reduce the adverse environmental aspect of our products over their life cycle.**

Many of our plants are situated in places with high solar radiation and high duration of availability of sunlight. We have already started using solar energy and are exploring opportunities for further enhancements.

We are committed to improve our sustainability performance and have set some of our targets in our ESG Report for FY 2020-21. Our next ESG Report FY 2021-22 will elaborate on our performance so far against set targets

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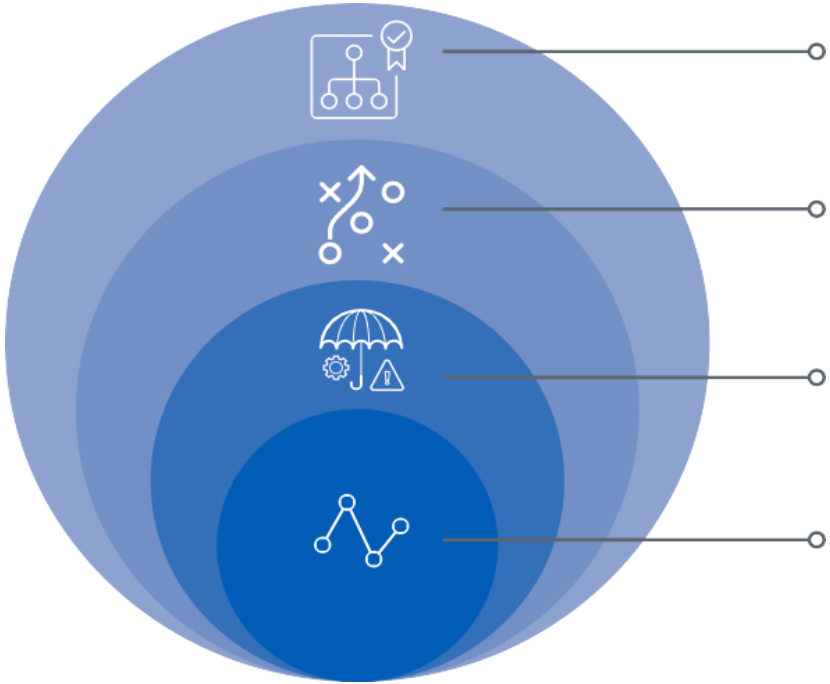
Introduction - Four elements of recommended Climate-Related Financial Disclosures



Governance
The organization's governance around climate-related risks and opportunities.

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning.

Risk Management
The process used by the organization to identify, asses and manage climate-related risks and opportunities.

Metrics & Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Source : Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017)

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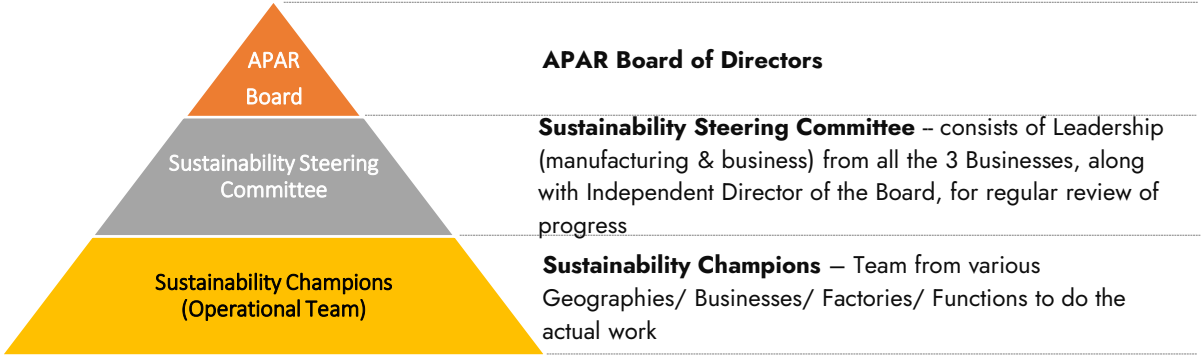
Governance

3 tier Governance Architecture is adopted @ APAR for Climate Risk Management :



Our current Board of Directors consists of six Directors who are eminent individuals with relevant qualifications, professional expertise and extensive experience and they have made outstanding contributions to the industry.

The Board has a combination of independent, executive as well as non- executive directors.

The Directors provide oversight of and reviews climate related risks and opportunities directly.

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Governance

Company risk is managed through our Enterprise Risk Management program, which is an enterprise-wide risk management framework.

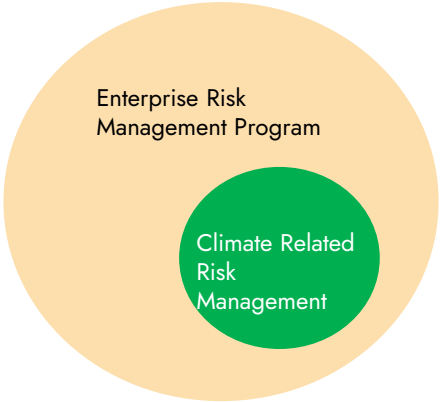
A wide range of risks faced by us, including the physical and transition risks of climate change, are evaluated and the top risks that could materially affect our financial condition or results of operations are typically identified periodically, and on an ongoing basis as and when new relevant risks emerge.

Plans for managing and mitigating material risks, including climate-related and other environmental topics as appropriate, are regularly reported to the Leadership.

Our enterprise risk evaluation processes address a wide array of issues associated with climate change, including but not limited to

- customer requirements/ issues (e.g., need for carbon efficient products to address climate change regulations in different countries, consumer demands, profitability, etc.);
- operational issues (including new climate-related regulations and voluntary actions and norms); and
- supply chain (including weather-related disruptions influenced by climate change).
- resilience building (including water security)

Our Sustainability Steering Committee convenes meeting every month where the progress made by the Sustainability Champions in terms of implementation of climate risk management initiatives are discussed, goals are reset if necessary, budgets are approved or taken up for board approval as the case may be, developments in industry and sustainability related regulations are shared and best practices are discussed. Our decision to voluntarily participate with CDP climate disclosures 2022 was discussed and approved in one such meeting and our decision to come out with this publication was also initiated, discussed. debated and finally taken up for board level approval in another such meeting. The committee has set clear path forward for the journey of sustainability in alignment with the relevant SDGs, with specific focus on SDG 13 Climate Action.



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Strategy

APAR Sustainability Strategy Framework

We analyze and find opportunities to ensure that our sustainability efforts and measurable contributions are in line with climate science, and keeping a rise in global temperatures to well below 2°C with efforts to keep temperatures within 1.5°C as per the Paris Agreement.

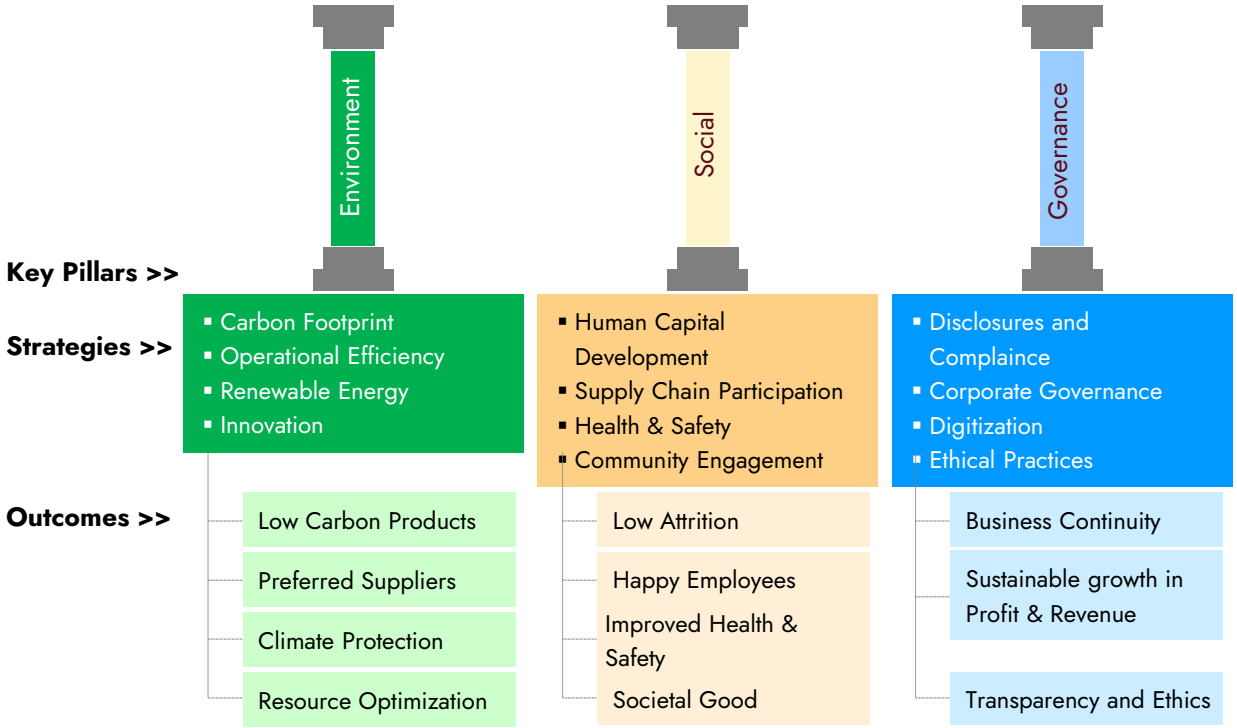
APAR identifies risks at the

a) corporate level and
b) manufacturing levels across 7 plants in India and 1 in UAE

through integrated work processes and group wide risk management, applying the enterprise risk management (ERM) framework using top down and bottom up approaches to anticipate any issues to mitigate their impacts in advance.

They are identified through short –, medium –, and long term timeframes.

The climate related risk management are analyzed through the perspective of (1) physical risk and (2) transition risk and their respective subcategories.



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Strategy – Climate related risks

TRANSITION RISK

Technology

Medium term (03-10 years)

- High carbon intensive raw material
- Keeping pace with demand for low carbon products
- Higher costs from increased energy consumption
- Wide-scale introduction of EVs (Electric Vehicles) will have a reduced demand for lubricants.

Market

Medium term (03-10 years)

- Changes in consumer preferences from high carbon intensive to low carbon products
- Increased cost of raw materials
- Access to financing & insurance increasingly affected by climate & environmental risks

Policy & Legal

Medium & Long term (03-20 years)

- Increased operational costs due to changes in environmental legislation
- Implementation of carbon tax in jurisdictions in which the company operates
- Exposure to litigation
- Enhanced emissions reporting obligations

Reputation

All time frames

- Focus on fossil fuel avoidance
- Change in consumer preferences
- Increased stakeholder concern

PHYSICAL RISK

Acute

Medium & Long term (03-20 years)

- Increased severity of extreme weather events such as cyclones, droughts, and floods

Chronic

Medium & Long term (03-20 years)

- Amplification of cyclone activity over the long term. Most of our factories are located close to the sea and we have seen sudden unexpected cyclonic activities and their frequency as well as impact increasing in the recent past
- Coastal and inland flooding
- Extreme heat and more severe weather/ rainfall can disrupt supply chains
- Rising temperatures will impact work conditions, and increase stress on the health of our shop-floor workforce
- Availability of water could become a challenge

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Strategy – Climate related opportunities

Product & Services

- Customer preference for low carbon products is an opportunity for innovation.
- Manufacture of products that has minimal carbon footprint during usage
- Increase longevity of products

Resiliency

- Participation in renewable energy programs and adoption of energy efficiency measures
- Resource substitution, innovation, and diversification
- Development and deployment of recycling technologies
- Building eco-system of suppliers with good sustainability practices -- resilient supply chain
- Supply security of water through rain water harvesting and aquifer recharge

Energy

- Use of alternate energy sources including wind-solar hybrid
- Use of supportive policy incentives
- Reduction in energy demand through efficient manufacturing & optimization
- Participation in carbon markets
- Innovative power purchase contract structures

Resource Efficiency

- Use of more efficient modes of transport
- Use of more efficient production and distribution processes
- Use of recycling
- Building efficiency improvements
- Reduced water usage and consumption
- New technologies to reduce resource intensity in production

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Strategy – de-carbonization initiatives

Efficiency & Optimization

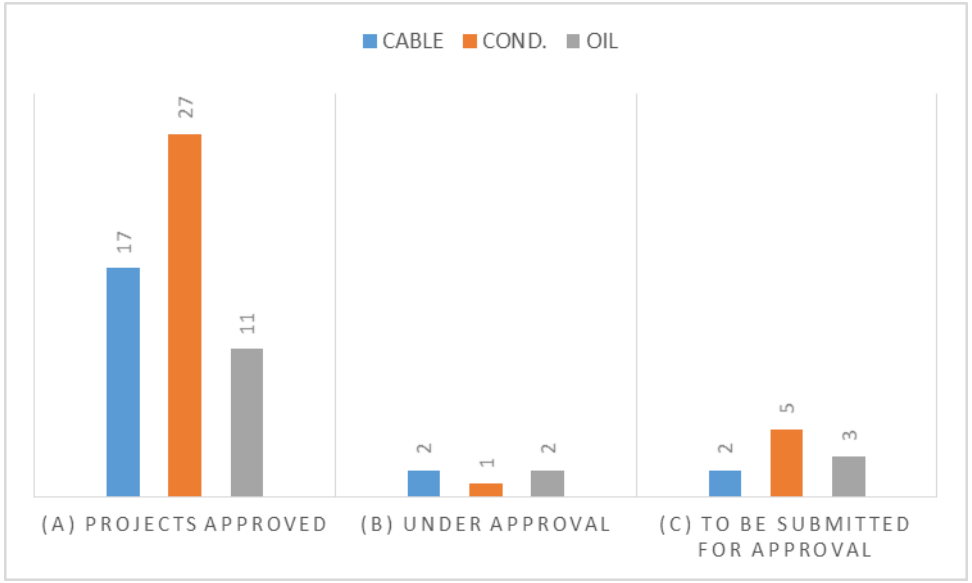
We are building a culture of sustainability in APAR through widespread participation of people from the head office & all the plants. Each of the Sustainability Champions, with the help of their seniors, had identified various projects and are working towards its implementation.

It would help us in not only achieve our sustainability goals but also help in spreading culture through involvement of all the stakeholders – thereby getting into a virtuous cycle of further proposals & implementations.

Our team has done detailed technical and financial feasibility study and identified 70 projects in last 9 months which can potentially reduce carbon emission. We have further classified these into following 3 buckets for ease of tracking & administration :

- Approved projects
- Projects under approval
- Projects to be submitted for approval

The status of various ongoing projects is as follows :



Most of the above projects were identified during Q3-Q4 of FY 21-22. So the real benefit of carbon emission reduction will start accruing in FY 22-23 as we keep on implementing the identified projects.

We have also set an internal target of GHG intensity reduction (scope 1 and scope 2) by 15% across the organization for the FY 2022-23 (considering FY 20-21 as base year).

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Strategy – de-carbonization initiatives

Energy transition

Many of our plants are situated in places with high solar radiation and high duration of availability of sunlight. We have already started using solar energy and are exploring opportunities for further enhancements. We have implemented solar rooftops energy solutions at our plants in Khatalwad & Umbergam (both in Gujarat), Rakholi (Dadra and Nagar Haveli) and Rabale (Navi Mumbai).

We have currently installed capacity of over 4 MWp of Solar Energy across all the plants. The plan is to add further approx. 7 MWp of RE (Renewable Energy).

Additional GHG emission saving is estimated over 10,000 tCO2e/ year on implementation of above.

We have, in the recent past, set up plants closer to the raw material sources thus reducing significant amount of energy requirement. The conductor plants in Orissa are next to aluminium smelters giving us the advantage of using liquid molten aluminium as direct raw material as against the industry practice of procuring aluminium ingots and melting it before use.

Through technology tie-ups, we are manufacturing electrical conductors that have reduced energy losses during usage at our customers' end. These conductors have a useful life of about 35 years on an average. Thus the volume of greenhouse gas emission loss saving potential over the useful life is significant.

We have developed lubricating oils that have a longer usage life thus reducing lesser frequency of replacement and thus saving petroleum based resources. We are in the process of developing plant based lubricating oil that will reduce petroleum resource requirement. This plant based oil will require less direct processing energy too, thus reducing scope 1 carbon emissions.

We are exploring the techno commercial possibility of buying solar- wind hybrid energy in some of our cable plants in Gujarat, using the facility of open access. This will reduce our requirement of grid based electricity in those plants significantly. In this location, wind energy is typically available during evenings and night thus a hybrid solar-wind energy source will be optimally suited for us.

Through better management practices, during FY 2021-22, we have closed one shift operation of our lubricating oil plant in Rabale without affecting the overall production volume. The plant is now operating in two shifts instead of three and production volume has gone up. This action has resulted in significant saving in energy consumption.

In our cable manufacturing plants, we have initiated Industry 4.0 initiatives to improve productivity, thus reducing energy wastage. The initiative is ongoing and we expect to achieve higher specific energy savings in subsequent years.

Solar Panels on White Oil Plant @ Rabale (Navi Mumbai)

Solar Panels on A&I Plant @ Rabale (Navi Mumbai)

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Strategy – de-carbonization initiatives

Re-cycling

APAR understands the importance of re-cycling, and we practice the following :

(1) **Re-cycle**: Our conductor division re-cycles 100% aluminium waste.

100% of the plain copper scrap is directly recycled by the company, and the tinned copper scrap is sold to authorized recyclers for further processing, in our Cable division.

(2) **Re-manufacture:** The waste of GI wire/ aluminium wire or strip which is used as an armouring material for the cable, is directly used as a re-manufacturing armouring material for the new cable.

The waste of copper tape which is used as a screening material for the MV/ HV cables is used as a re-manufacturing material for the new cable.

(3) **Re-use:** We have replaced the packaging wooden drum/ reels with steel/ hybrid (made of steel frame & PP sheet) drums/ reels. These are re-used 6-7 times, before being sold as MS scrap for further rec-cycling.

(4) **Extended Life:** We manufacture high quality cables (with highly improved insulation, incl. cross linking by electron beam radiation), which have extended life span (up to approx. 2 times of normal cable).

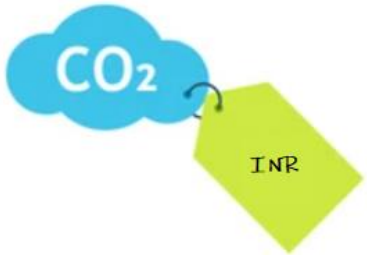
Internal Carbon Pricing

70 carbon emission projects have been identified by our team @ APAR after detailed technical and financial feasibility evaluation during last 3 quarters of FY 2021-22. These are at various stage of detailed evaluation, approval and/ or implementation. This list is steadily growing as we keep on identifying & adding new projects to our list. Thus a pipeline is already in place for next couple of years.

We may reach a stage in future when we exhaust all our financially feasible projects, and there is no project to work upon. To tackle this scenario, we have set up a process for computation of Internal Price of Carbon (ICP), so that it may be used when required in future.

We have done studies of several GHG abatement projects, which were financially not feasible due to higher pay-back period. On the average, **we find that if we apply an ICP of US$ 15 to US$ 20, some of these projects become viable. We will use this ICP if and when required, in future.**

APAR has adopted Shadow Pricing mechanism for computation of ICP.



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Strategy – de-carbonization initiatives

Net Zero Carbon

How early we can achieve Net Zero will depend on several factors, some within our direct control and some on which we do not have control. We will aggressively pursue and implement all necessary actions to reduce the scope 1 and scope 2 carbon footprint. With favorable results like (a) Grid becoming less carbon intensive as a result of India's aggressive renewable energy targets of 450GW by 2030, (b) Green Hydrogen Fuel being available for our use and (c) Natural Gas being made available in all our plant locations, we should be able to achieve Net Zero Carbon status within a reasonable time.

Science Based Target Initiative

We will set an ambitious climate action plan as per SBTi (https://sciencebasedtargets.org/) within two years to set our course towards Paris Agreement goals.

Product Carbon Footprint

While we aspire to achieve carbon neutrality in our direct operations, our major suppliers of raw materials have also pledged to move in the same direction

Hindalco
https://www.teriin.org/press-release/indian-industry-leaders-sign-near-zero-emissions-2050

Vedanta -
https://www.vedantalimited.com/MediaDocuments/Press%20Release-%20on%20ESG%2022%20nd%20Dec.pdf

We are in discussion with other supply chain partners around their carbon reduction plans and are sharing with them the knowledge and experience that we have gained from our own journey of ESG.

We have arranged webinars and workshops on how to manage carbon footprint. We have even suggested certain actions for them and most of our supply chain partners are working towards a leaner carbon ecosystem. With such collective efforts, we would be able to reduce our product carbon footprint significantly.

CDP Climate Change

APAR had voluntarily applied to CDP through 'Self Selected Company Form' for account creation, and participate in CDP Climate Change disclosure 2022.

Since this is the first year of CDP reporting, we will opt for minimum version of CDP questionnaire.

CDP will help APAR as follows :

- it would be a foundation for creating our carbon management and climate resiliency strategies
- help us to act and achieve our sustainability goals
- emerging environmental risks and opportunities are reported, that would otherwise be overlooked
- help us to be prepared for any regulatory and policy changes/ requirements
- get access to best practices followed by manufacturing companies worldwide
- have a competitive edge over others (wining tenders/ orders, be preferred customer/ supplier)

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Risk Management – overview of climate risk management initiatives

Water Security

We have commenced Hydrological & Topological studies of our plants through a leading consultant for water conservation through aquifer recharge. This includes :

- Preparation of watershed map
- Estimation of underground water level, pressure, quality & quantity of water
- Computation of intensity of the water flow through pores or fractures etc.
- Evaluation of water bearing levels of rocks and their capabilities for filtration
- Assessment of intrinsic ability of the rock to either store or resist water

Objective is to give back to the nature through aquifers recharge & thereby maintain water table in the nearby area. This will ensure water security for both APAR and the neighborhood communities.

GHG reduction initiatives

- Improve productivity through streamlining of manufacturing processes
- Optimization of manufacturing equipment for improved efficiency
- Increased usage of renewable energy
- Projects identified by our Sustainability Champions for GHG reduction.

Sustainable Products

High Temperature Low Sag Conductors (HTLS)

- These have higher current carrying capacity (CCC) compared to conventional ACSR or AAAC, and thereby upgrade transmission networks with minimal infrastructural impact.
- These are more energy efficient for power transmission as they generally have lower resistance (lower I2R losses).

Sustainable Products

High performance biodegradable transformer oil

- POWEROIL NE PREMIUM is a high performance Natural Ester based biodegradable Transformer Oil
- The product has superior oxidation stability and stable electrical properties compared to the competing natural ester based products in the market and offer the advantage of lower carbon foot print and improved asset life.

Sustainable Products

Emission Reduction to conform to BS6 norms

- AdBlue – APAR is 1st company in India to obtain a VDA license which is used in the Selective Catalytic Reduction (SCR) system of vehicles to convert the NO2 emissions to nitrogen enabling vehicles to conform to BS6 emission norms.

Sustainable Products

PTFE Additives and PTFE Grease

- PTFE pre-sintered scrap is converted into low molecular type PTFE additives by molecular scissoring using in-house E-beam and ultrahigh speed pulverisers.
- The PTFE micronized powders are used as additives in ink and resin industry and in grease applications for improving anti blocking and extreme pressure additives respectively.

Water Risk Analysis

We manage our water responsibly, including water withdrawal and discharge, and seek continuous improvements in water management through the 3Rs.

All our plants in the Cable & Oil Businesses have Zero Liquid Discharge (ZLD). We ensure that our plants do not discharge any liquid effluent into surface waters, in effect completely eliminating the environmental pollution. We are committed to make effective use of wastewater treatment, recycling, and reuse, thereby contributing to water conservation through reduced intake of fresh water.

We have conducted a Hydrological study for Water Footprint reduction.

We are estimated a saving of 80,000 KL per annum (considering 50% of the total roof top capacity utilization at 4 of our plants)

The detailed process flow is depicted in next page :

ETP plant at Rabale, Navi Mumbai

ETP plant at Rabale, Navi Mumbai

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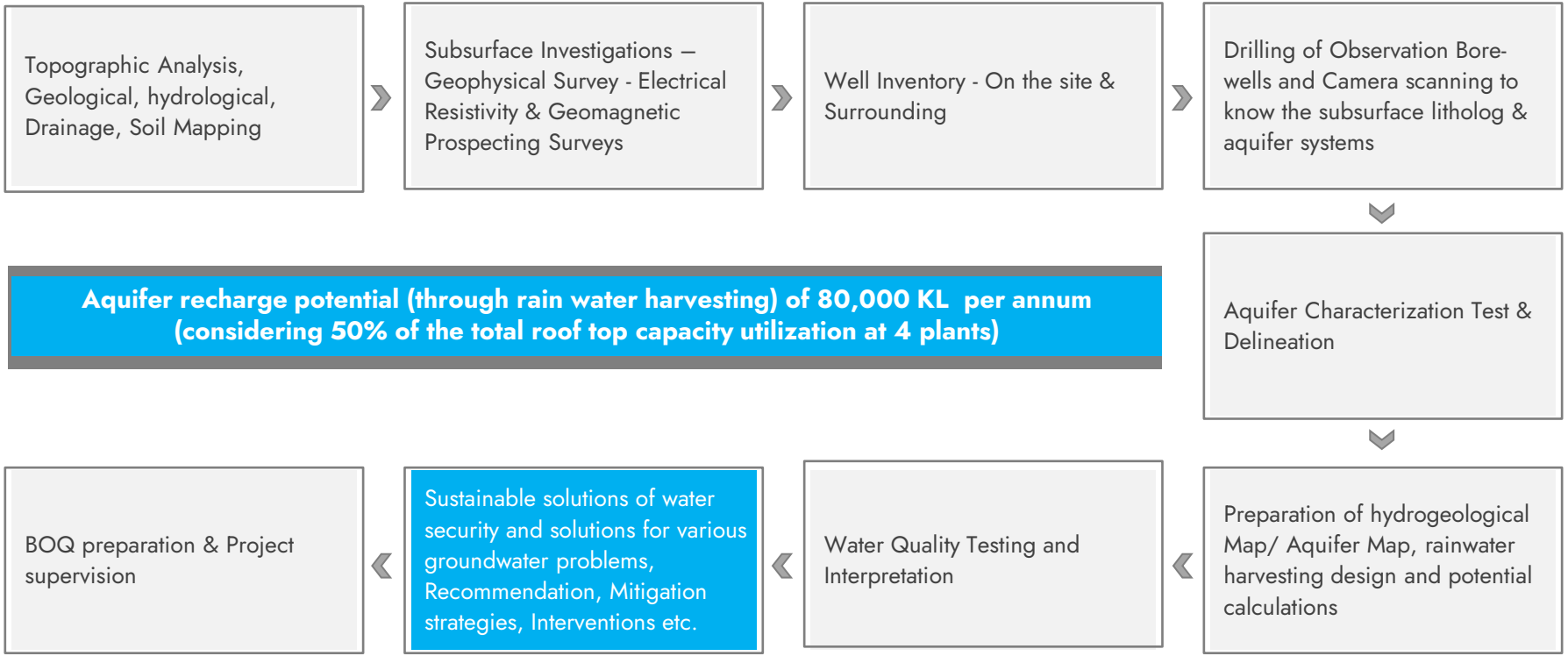
Risk Management



Aquifer recharge potential (through rain water harvesting) of 80,000 KL per annum (considering 50% of the total roof top capacity utilization at 4 plants)

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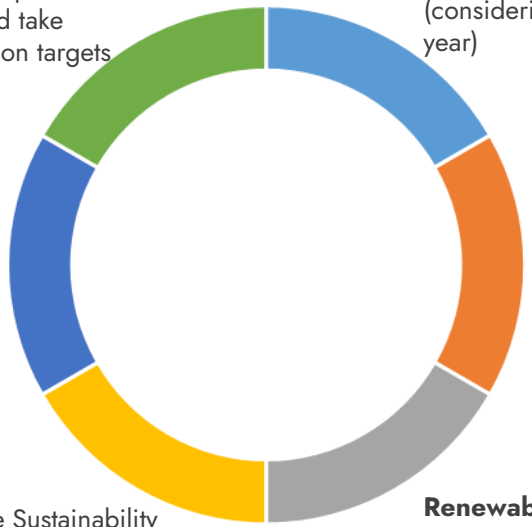
Metrics & Targets

GHG
15% reduction in Scope-1 & Scope-2 GHG intensity across the organization for the FY 2022-23 (considering FY 20-21 as base year)

Product Carbon footprint
Computation of Product Carbon Footprint for major products in our businesses and take aggressive reduction targets



Water
15% reduction in Water footprint across the organization for the FY 2022-23 (considering FY 20-21 as base year)

CDP
Voluntary disclosure of Climate Risks to CDP in FY 2022-23

SDG
Alignment to the Sustainability Development Goals

Renewable Energy
Continuous increase the share of non-fossil-fuel based energy

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Thank you

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