STRATEGIC DECARBONIZATION PLAN YEAR 2024

1 Objective

The objective of a decarbonization plan is to lead an effective transition to a low-carbon economy by significantly reducing greenhouse gas (GHG) emissions and mitigating the impacts of climate change within a specific context, whether at a global, national, regional, or business level.

2 Overview

2.1 Paris Agreement and Global Targets

The Paris Agreement, which replaced the Kyoto Protocol and was signed in 2015, resulted from COP 21 under the United Nations Framework Convention on Climate Change. Its primary objective is to limit the increase in the planet's average temperature to below 2°C above pre-industrial levels. With a goal to pursue efforts to keep the temperature increase to 1.5°C, each member country submitted its Nationally Determined Contributions (NDCs) to reduce emissions and meet the specified target. Brazil's 2015 NDC establishes that the country must:

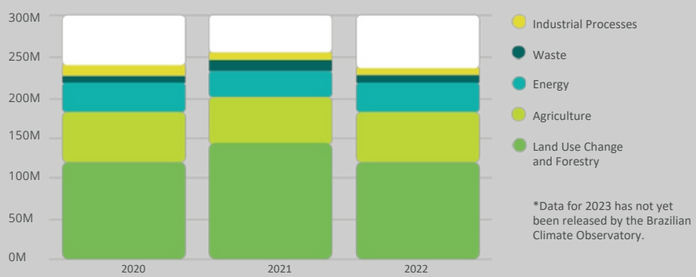
- Reduce its emissions by 37% by 2025 (base year 2005).
- Reduce emissions by 50% by 2030 (base year 2005).
- Achieve indicative climate neutrality (net-zero emissions) by 2050.
- Implement actions for climate change mitigation and adaptation.
- Reduce methane emissions by 50% by 2030.

2.2 Brazilian Sectoral Emissions

Studies show that Brazil is among the top greenhouse gas emitters globally and has been one of the highest polluters since the Industrial Revolution, from 1850 to 2022. The top polluters during this period are the USA, China, Russia, and Indonesia. In Brazil and Indonesia, most emissions stem from deforestation and land use for livestock and agriculture, rather than from burning fossil fuels, which is the primary source of emissions for other major polluters.

Recent data from the Brazilian Climate Observatory indicates that, in 2022, greenhouse gas emissions in Brazil totaled 2.3 billion tons of carbon dioxide equivalent (CO_2 equivalent – a metric used to compare emissions of various greenhouse gases based on their global warming potential), making Brazil one of the planet's largest polluters. The emissions are distributed across the following sources:

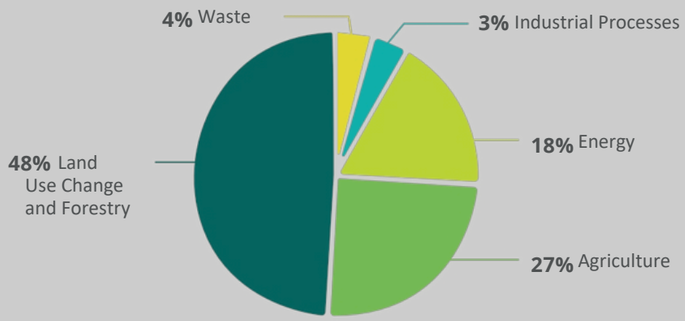
Brazilian Emissions*



*Data for 2023 has not yet been released by the Brazilian Climate Observatory.

Source: Brazilian Climate Observatory.

Percentage of Emissions by Sector in Brazil
Brazil Emissions Profile



Source: Brazilian Climate Observatory.

2.3 Contribution of the Pulp and Paper Sector to Climate Change

The emission of greenhouse gases resulting from human activities is a major contributor to the worsening of climate change, one of today's most pressing environmental issues. Its effects can be mitigated through carbon market mechanisms, integrated and coordinated public policies, and the promotion of innovation and more sustainable new technologies.

The pulp and paper sector in Brazil is supported by a renewable planted forest base of approximately 9 million hectares, which plays a crucial role in removing and storing atmospheric carbon. Through reforestation with production forests (renewable planting and harvesting cycles), it is estimated that there is a carbon stock of about 1.88 billion tons of CO_2 equivalent. Additionally, the sustainable management of 5.9 million hectares of native forest conservation areas accounts for approximately 2.6 billion tons of CO_2 equivalent.

The scale of carbon removals resulting from increases in forest stocks and the ability to maintain these stocks over long periods give forests significant potential to contribute to climate change mitigation, particularly over the coming decades.

Therefore, the sector offers several types of climate benefits, including:

- Carbon removal by natural and production forests.
- Carbon storage in natural and production forests.
- Carbon storage in the soil.
- Emissions avoided through the use of renewable sources such as biomass and biofuels.
- Carbon storage in products.

3 Actions of Irani

Issues related to climate change are integral to Irani's policies and objectives, guiding our goals toward increasingly sustainable development. We have deepened our discussions on the topic and its impact on our operations, establishing new commitments in our Sustainability Policy, such as: "Using resources sustainably, preserving the environment, reducing environmental impacts, and promoting a circular and low-carbon economy," and "Adopting measures and strategies for climate change mitigation and adaptation through projects such as Clean Development Mechanisms and the reduction of greenhouse gas emissions."

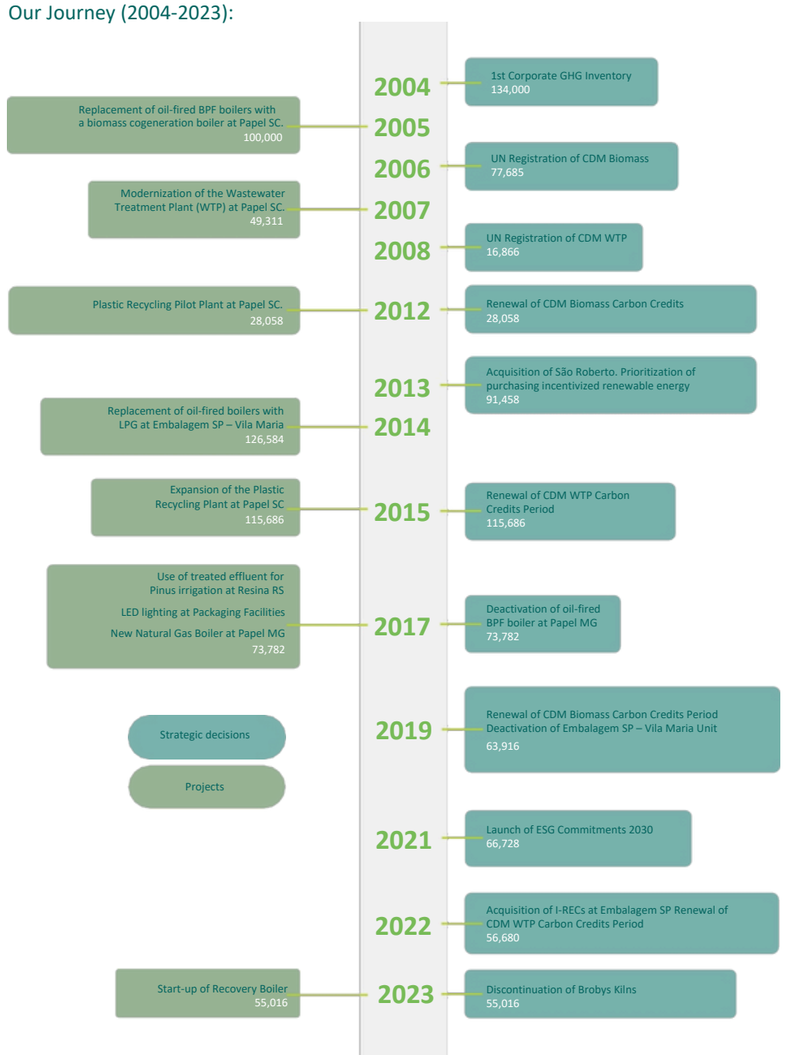
In 2021, Irani set ESG commitments for the period from 2021 to 2030. Some of these commitments are related to climate issues, including:

- Zero non-hazardous waste sent to landfills.
- Achieve 100% renewable energy and become self-sufficient in renewable energy generation.
- Increase the balance between greenhouse gas removals and emissions by 20%.
- Reduce specific water consumption by 30%.

Irani has a history of integrating low-carbon projects and technologies into its industrial operations, allowing the company to account for reductions in greenhouse gas emissions since 2004, when we conducted our first GHG Inventory.

Timeline of Developed Projects
Decarbonization Strategic Plan

By investing in low-carbon projects, we have advanced in reducing our direct and indirect emissions—primarily from energy—over the years. Our Journey (2004-2023):



Source: Irani

4 GHG Inventory

Mitigating climate change and transitioning to a low-carbon economy requires substantial investments in short- and medium-term projects that directly impact emission reductions. The suite of projects under the GAIA Platform will be crucial for this transition, contributing to the reduction of Scope 1 and 2 emissions for the company.

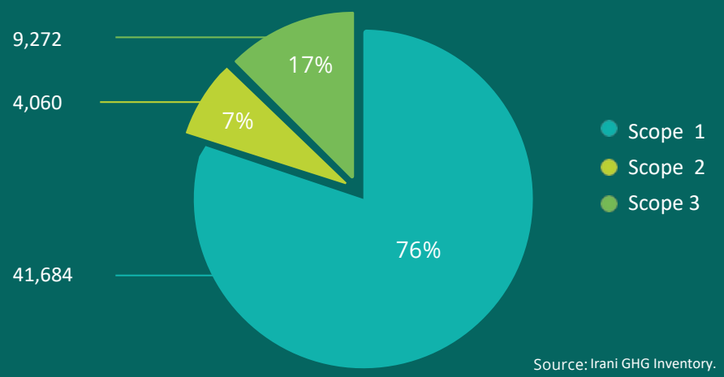
Since 2004, we have been conducting our greenhouse gas inventory. Starting in 2006, we began verifying and certifying this inventory according to the international standard ISO 14,064 for industrial process emissions, based on Scopes 1, 2, and 3 of the GHG Protocol Brazil methodology, as well as accounting for the biogenic carbon removal by forests. Irani has always been a Carbon Positive Balance company, meaning it removes more carbon from the atmosphere than it emits.

Emission Scopes

Source: Adapted to GHG Protocol

- Scope 1 (S1) covers the company's direct emissions, such as those from production processes.
- Scope 2 (S2) includes emissions from the use of energy by the company.
- Scope 3 (S3) pertains to emissions over which the reporting entity has no direct control, such as those emitted by suppliers within a supply chain.

The company's emissions totaled 55,016 tCO_2e in 2023.
Here is the distribution of Irani's GHG emissions by scope for 2023:



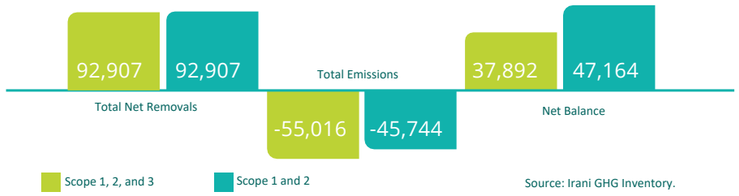
Source: Irani GHG Inventory.

Emission Categories by Scope:

SCOPE 1 CATEGORIES	PERCENTAGE
STATIONARY FUEL	83%
WASTE GENERATED IN OPERATIONS	7%
MOBILE FUEL	7%
INDUSTRIAL	3%
SANITARY EFFLUENT TREATMENT	1%
SCOPE 3 CATEGORIES	**PERCENTAGE**
UPSTREAM TRANSPORTATION AND DISTRIBUTION	76%
EMPLOYEE TRANSPORTATION	16%
BUSINESS TRAVELS	4%
WASTE SENT TO THIRD-PARTY LANDFILLS	3%
FUEL-RELATED ACTIVITIES NOT INCLUDED IN SCOPE 1	1%

The carbon balance is positive, indicating that during the period, we captured more carbon from the atmosphere through forestry activities (planted and native forests) than was emitted by our industrial units.

Balance: Comparative of Emissions and Removals | **2023**



Source: Irani GHG Inventory.

4.1 Carbon Stock

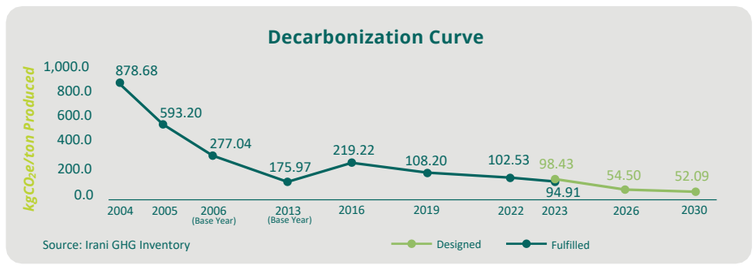
Additionally, we have a total carbon stock (standing timber) of 10,493,211.6 tCO_2e, due to the 32,700 hectares of planted and native forests in the states of Santa Catarina and Rio Grande do Sul.

5 Decarbonization Plan

Irani's actions, investing in low-carbon projects, have enabled the reduction of its direct emissions (Scope 1) and indirect emissions from purchased energy (Scope 2) over the years.

The decarbonization curve in the following chart illustrates this reduction in $kgCO_2e$ per ton produced since 2004, across all of the company's operations.

From 2004 to 2023, we have reduced our emissions per ton of net production by 89%, with opportunities for an additional 45% reduction by 2030 compared to 2023 levels.



Source: Irani GHG Inventory

Mapped Opportunities for Reducing Greenhouse Gas Emissions – Cycle 2022 to 2030

YEAR	7 AFFORDABLE AND CLEAN ENERGY	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION
	100% Renewable Energy and Self-Sufficiency by 2025	Zero disposal of non-hazardous waste in landfills	Increase the Balance Between Greenhouse Gas Removals and Emissions by 20%
2023	Papel SC: Operation of the Chemical Recovery Boiler*	Papel SC: Discontinuation of Broby Kilns Operation, Eliminating Waste Generation*	Florestal SC: Soil Carbon Study for Planted and Native Forests in Santa Catarina and Definition of the Successional Stage for Surplus Native Forest Areas*
2024	Resina RS: Study on Solar Energy Production	Papel SC: Discontinuation of Broby Kilns Operation, Eliminating Waste Generation*	Embalagem SC: Deactivation of Oil-Fired BPF Boiler Definition of Successional Stage and Methodology for Calculating Carbon Removal in Native Forests in the Rio Grande do Sul Base* Continuation of Soil Carbon Study for Planted Forests in Santa Catarina*
2025	Papel MG: Steam and Energy Production through Biomass Boiler Papel MG: Study on Solar Energy Production Papel SC: Repowering of CGH São Luiz*	Embalagem SP: Composting of WTP Sludge	
2026	Papel SC: Repowering of CGH Cristo Rei* Embalagem SP: Study on Solar Energy Production		
2027	Papel SC: Repowering of PCH Flor do Mato* Papel e Embalagem SC: Study on Solar Energy Production	Papel SC: Disposal of Plastic Contaminated with Fiber and Metal Strapping from Paper MP#5	All Units: Study on the Use of Electric Forklifts
2028		All Units: Disposal of Sporadic Waste	All Units: Achieve Zero Scope 2 Emissions Florestal SC: Increase Forest Base by 20%
2029		Papel MG: Sending Boiler Ash for Composting	All Units: Electrify the Light Vehicle Fleet and Use Renewable Fuels for the Heavy Vehicle Fleet
2030	100% Renewable Energy and Self-Sufficient	Waste: Zero Tons of Non-Hazardous Waste Sent to Landfills	32% Positive Balance Difference Between Removals and Emissions

*Approved and/or Ongoing Projects

The ESG target was set based on a set of mapped opportunities that could enhance emission reductions and increase removals, and projects approved by Irani's Board of Directors for the company's expansion, known as the GAIA Platform.

The expansion plan includes projects to be developed between 2021 and 2030. It is guided by a strong commitment to sustainable development across its three pillars: economic, social, and environmental.

Through the opportunities and projects listed in the previous table, it will be possible to achieve a reduction of approximately 52% in Irani's absolute emissions from Scopes 1 and 2 by 2030 compared to 2022 levels. The advancement of studies and application of specific methodologies for the accounting and incorporation of new carbon reservoirs and sinks will enable the company to include these removal sources in the annual balance.

The estimate is that the target will be achieved by 2026, as projected in the following chart.