

2022 Eletrobras TCFD Report





Eletrobras

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2022 TCFD REPORT

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FOREWORD

In 2022, a milestone year as we celebrated our 60th anniversary, we completed the most important structural change in our history: the capitalization process and the subsequent privatization of the company.

Following the privatization, our new management has further accelerated efforts to embed environmental, social and governance aspects at the core of our strategy and business planning—including, and especially, climate-related issues.

We revised and updated our Strategic Plan so it supports our sustainability developments and commitments, including our target to achieve net zero greenhouse gas emissions by 2030.

Decarbonizing our operations has become a priority for our new management. In July 2023, we announced our decision to dispose of our gas thermal power plant assets. In September, we completed the sale of our Candiota (RS) thermal power plant, disposing of our only remaining coal asset.

In addition to supporting our net-zero target, these initiatives have simplified the group's corporate structure and enhanced our ability to meet environmental and social goals.

Eletrobras' Risk Matrix was additionally revised to make the three ESG pillars a core part of our strategy, firmly embedding climate-related risks into our management approach. As part of this approach, we not only aim to avoid and mitigate risks but also to capture investment and business opportunities from risk events, especially new ways to leverage our renewable, clean generation assets in support of Brazil's ambition to be an even greater energy powerhouse in the global market and a role model for the world.

We present these and other highlights in the following pages of this report, prepared in accordance with recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD).

The aim of this report is to provide clear and concise information about our governance structure, strategy, risk management, and the indicators, metrics and targets we use to track performance.

Our goal is to demonstrate how Eletrobras is shaping itself as an innovative company with the capabilities to actively support efforts against climate change. With 97% of our generation capacity coming from renewable, clean sources, we are well-positioned to take a leading role in this monumental challenge that concerns all of humanity.

Thank you and enjoy the report.

Camila Gualda Sampaio de Araújo
Chief Sustainability Officer
Vice President – Governance, Risk & Compliance



Camila Gualda Sampaio de Araújo, Chief Sustainability Officer and Vice President, Risk & Compliance.
Photo: Eletrobras Archives.

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INTRODUCTION

Eletrobras (Centrais Elétricas Brasileiras S/A) is the leading electric power generation and transmission company in Brazil and one of the largest in South America. Accounting for 23% of Brazil's installed generation capacity—with 97% of that capacity coming from low-emission sources—we have helped to make Brazil's energy mix one of the cleanest in the world.

Our figures in 2022 illustrate Eletrobras' prominent position in Brazil's power sector. With a workforce of 10,020 employees, we are the largest transmission company in Brazil, operating 38.49% of backbone transmission lines within the National Grid. In total, we operate 73,891 kilometers of transmission lines, including 66,942 kilometers of wholly-owned transmission lines and 6,949 kilometers owned via Special Purpose Entities (SPEs).

Private corporation

In 2022, a milestone year as we celebrated our 60th anniversary, we completed a watershed capitalization process in which we issued over 800 million new shares in the market, diluting the Federal Government's stake in Eletrobras from 61.69% to 36.99%.As a result, we became a privately-held company organized as a corporation with a dispersed ownership structure, in which there is no longer a controlling shareholder.

We elected a new Board of Directors and implemented a series of foundational changes to establish a new corporate governance and business model ideally suited for a private corporation. This new model is based on the principles of merit, high performance, safety, and best ESG practices, including action on climate change. These principles permeate our organizational strategy, beginning with our corporate identity (purpose, vision for the future, and core values).



Eletrobras CGT Eletrosul's Londrina-Assis transmission line. Photo: Richard Souza.

About Eletrobras

GENERATION

42,559.35 MW*
installed capacity in 2022, including

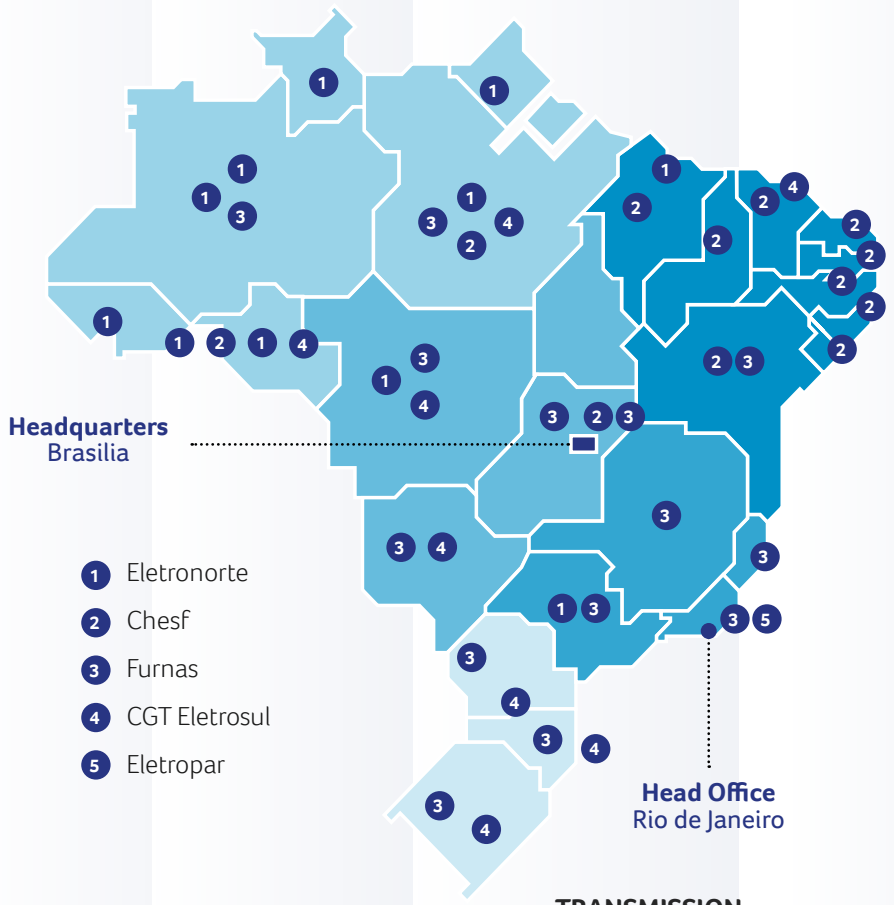
68%
wholly-owned and

2%
jointly owned.

170,268.2 GWh
generated.
approximately 4.8% less than in 2021

101
power plants in operation**:

48 hydro;
43 wind;
9 natural gas and coal;
1 solar.



Approximately
97%
low-emission generation capacity:

94.8% hydro
1.7% wind
<1% solar

Approximately
3%
of power output generated by coal and natural gas-fired power plants.

23%
of Brazil's total capacity***:

49% in the North
25% in the Northeast
19% in the Southeast
4% in the Midwest
3% in the South

TRANSMISSION

73,891 km
of transmission lines (across all voltage levels):
66,942 km of wholly-owned transmission lines and
6.949 km owned via Special Purpose Entities (SPEs)

Eletrobras operates
68,804 km
of transmission lines at voltages higher than **230 kV**, accounting for **38.49%** of total TLs in Brazil

** The information reported for 2022 excludes Eletronuclear and Itaipu and includes our stakes in Special Purpose Entities (SPEs) and affiliates (29,907.63 MW corporate and 12,651.72 MW in SPEs and affiliates).*

*** Includes corporate and jointly owned operations as of 12/31/2022.*

**** The Teles Pires and São Manoel hydropower plants are deemed to be in the North region and the Itumbiara hydropower plant is deemed to be in the Southeast. These three dams are located on the border between regions.*

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About This TCFD Report

This is Eletrobras' third annual report prepared in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). The aim of this report is to provide clear and transparent information about the climate-related risks affecting our operations, as well as the strategies employed and actions taken to manage these risks and deliver sustainable outcomes for stakeholders.

In compiling this report, we drew inputs from our responses to international not-for-profit CDP Global's 2022 questionnaires, which primarily focused on business opportunities stemming from climate change. This report is for the period from January 1 to December 31, 2022.

Further details on our climate-related targets, initiatives and corporate planning, and how they mesh with our ESG strategy, are provided in our 2022 Annual Report, published in April 2023.

Our Annual Report also provides information about how these initiatives support the United Nations Global Compact's Sustainable Development Goals (SDGs) and the Paris Agreement (COP21/2015). Eletrobras actively engages in external forums where we contribute to public discussions on climate change and advocate for initiatives and best practices to accelerate the transition to a low-carbon economy.

We are a signatory or member of the following climate change-related forums, pledges and organizations:

- Brazilian Forum on Climate Change (FBMC)
- Thematic Committee on Energy and Climate Change, Business Council for Sustainable Development (CEBDS)
- Power Sector Forum on the Environment (FMASE)
- Brazilian Association of Energy Companies
- Global Compact Climate Action Platform
- Global Alliance for Sustainable Energy
- Position Paper on Carbon Pricing Mechanisms within the Business for Climate Initiative (IEC)
- Open Letter – Private Sector Support for Carbon Pricing in Brazil, developed by IEC with support from the World Bank's Carbon Pricing Leadership Coalition (CPLC)
- Climate Change Pledge, an initiative that calls on members to develop a unified strategy of action to minimize or offset GHG emissions and expand renewable energy capacity
- International Hydropower Association



We strive to align our operations with environmental protection. Photo: Eletrobras Eletronorte Archives.

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In addition to the Eletrobras Group Greenhouse Gas (GHG) Emissions Inventory, this TCFD Report and our Annual Report, we have also published a separate report on Sustainability Accounting Standards Board (SASB) disclosures since 2020. The TCFD and SASB standards lay out a framework for organizations to report on and address their potential impacts on the environment.

The report is structured around the 11 TCFD-recommended disclosures, across four thematic areas: **governance**, **strategy**, **risk management**, and **metrics and targets**.



Decarbonization and habitat conservation are at the heart of Eletrobras' strategy. Photo: Eletrobras Archives.



CASE STUDIES

Decarbonization is central to Eletrobras Group's strategy. Eletrobras and its subsidiaries are developing a range of renewable energy projects that are making an effective contribution to combating climate change. Throughout this TCFD Report, we present some of the opportunities we have identified and initiatives we have implemented to reduce environmental impacts from our operations. These initiatives are presented as case studies.

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GOVERNANCE

TCFD Governance (A, B)

Corporate governance is the set of values, standards, structures and processes by which an organization is governed and monitored.

The Eletrobras Group has a corporate governance system that aligns with internationally recognized best practices to ensure we create sustainable long-term value within a business environment that supports agile and sound decision-making (following the business judgment rule principle). This system also enables us to track key indicators and performance against goals, and ensures our reporting is transparent and credible.

Ethics, equity, sustainability and accountability are four pillars underpinning our governance structure and permeating our business culture. As a Brazilian publicly traded company, Eletrobras complies with and upholds all applicable laws, regulations, and voluntary commitments. These include guidelines and best practices related to the safe operation of our assets, responsible management of our workforce, and environmental stewardship.

Following our privatization, we have implemented a number of changes to our governance system across the group, beginning with the approval of new bylaws, a new structure of governance bodies, and a revised remuneration strategy for governance body members.

In addition, we reformulated the corporate structure of our main subsidiaries, resulting in them becoming wholly-owned entities.

Following these structuring changes, we revised our Group companies' management model within a holistic approach that enables us to capture synergies, eliminate redundancies and achieve efficiencies.

Employees at the Eletrobras Eletropar Operations Center. Photo: Mariana Eli.



Governance structure

The Board of Directors serves as the primary custodian of Eletrobras' corporate governance system. It is supported by dedicated Internal Audit and corporate governance teams, in alignment with best practices.

Eletrobras' corporate governance structure is illustrated on the following page.

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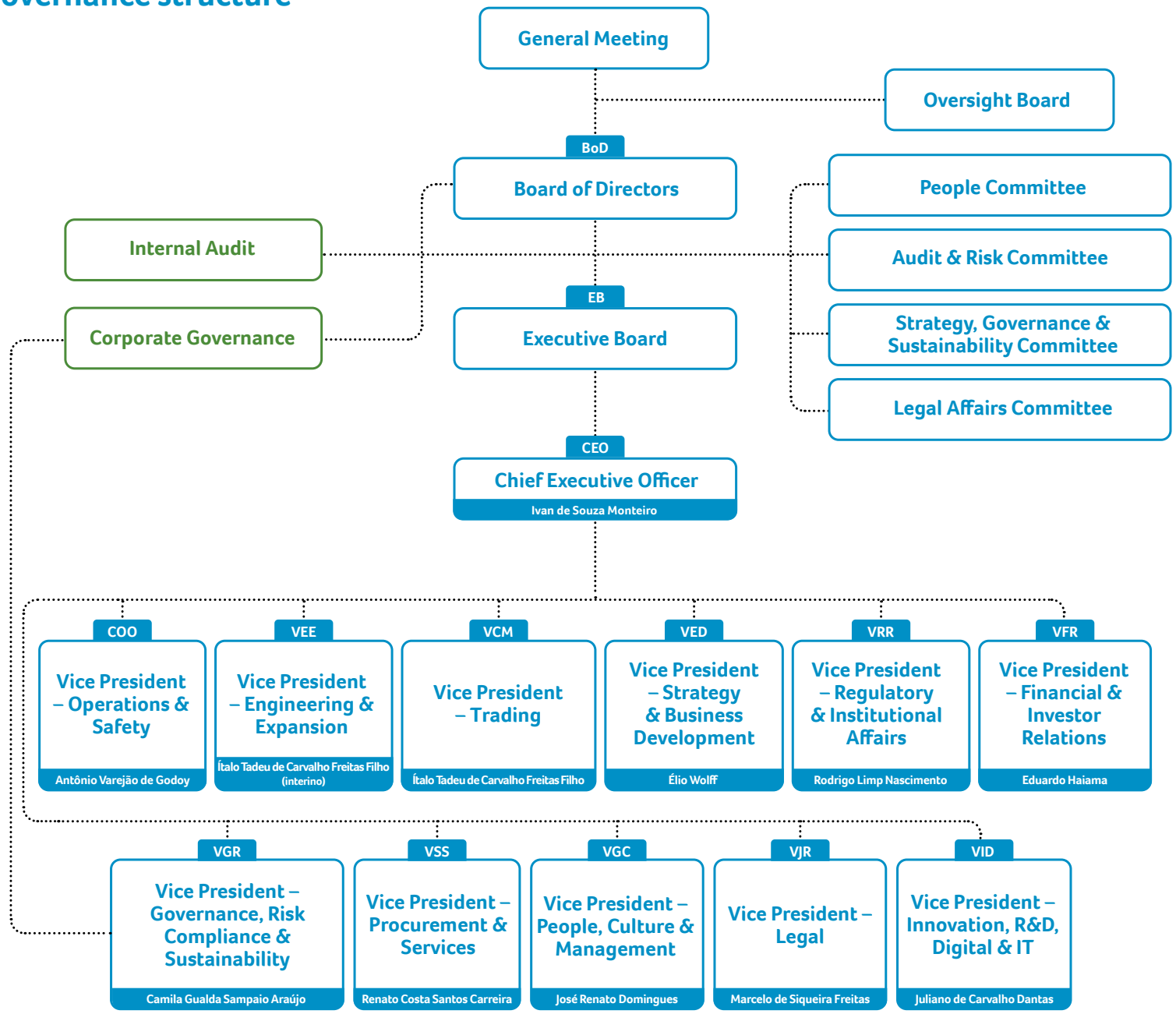
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Governance structure



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Board oversight of climate-related risks and opportunities

Eletrobras' Board of Directors (BD) is our highest governance body. It sets our strategic direction, objectives, goals and corporate identity, and monitors our results. It is also responsible for developing our Strategic Plan – which was reformulated in 2022 – based on an analysis of long-term scenarios and impacts on business performance, emerging opportunities in the power sector, existing potential within the organization, and shareholders' aspirations.

The Board of Directors annually approves Eletrobras' corporate strategy, reviewing and updating guidelines on sustainability, including climate-related risks and opportunities. These matters are discussed within thee Strategy, Governance, and Sustainability Committee (CEGS), an advisory body directly under the Board of Directors.

This committee is tasked with supporting the Board of Directors in designing Eletrobras' corporate sustainability strategy, reviewing policies and regulations related to social and environmental aspects, and evaluating our innovation, research, and development strategy from an ESG perspective. It also oversees the development of our annual report and monitors our performance in indices like the Dow Jones Sustainability Index and the Brazilian stock exchange B3's Corporate Sustainability Index (ISE).

The Committee brings climate-related matters to the attention of the Board of Directors as needed in extraordinary meetings. It also submits a quarterly report describing our performance against climate-related indicators outlined in our Strategic Plan—a publicly available document (see here) that establishes strategic guidelines and performance targets for the company, last updated in 2022 for the period 2023-2027. The data collected and compiled for these meetings with the Board of Directors is available internally through Eletrobras' proprietary data collection tool, called the Sustainability Disclosures System (IGS).

The CEGS is composed of five members: Marisete Fatima Dadald Pereira (coordinator), Carlos Eduardo Rodrigues Pereira, Marcelo Gasparino da Silva, Pedro Batista de Lima Filho and Vicente Falconi Campos.



Overhead view of Eletrobras Furnas' Santo Antônio hydroelectric dam. Photo: Eletrobras Furnas Archives.

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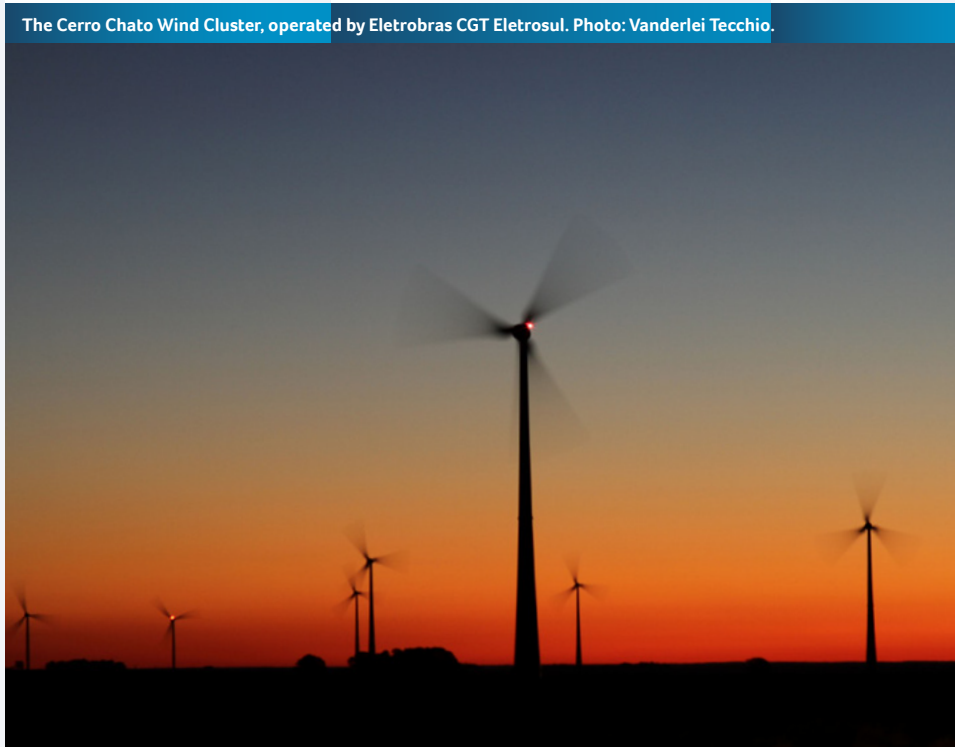
Management's role in assessing and managing climate-related risks and opportunities

Eletrobras' Executive Board is responsible for the day-to-day management of our projects and operations, guided by our Strategic Plan. Within this structure, our newly created Sustainability Department, headed by the Chief Sustainability Officer (CSO), is responsible for overall environmental management.

Their duties include:

- managing annual budgets for climate mitigation activities;
- designing climate-related incentive mechanisms for different audiences, including employees;
- developing and implementing our climate transition plan, and integrating climate-related consdierations into our overall strategy;
- modeling climate scenarios;
- monitoring progress on corporate climate targets set by the Board of Directors; and
- managing engagement with the value chain on climate-related matters.

Eletrobras also has a Committee for Sustainability Management within the Executive Board. Under the supervision of the CEGS, this committee oversees the production of annual reports, TCFD reports, and SASB reports. It is also responsible for providing technical advice on sustainability issues to the CEGS.



The Cerro Chato Wind Cluster, operated by Eletrobras CGT Eletrosul. Photo: Vanderlei Tecchio.

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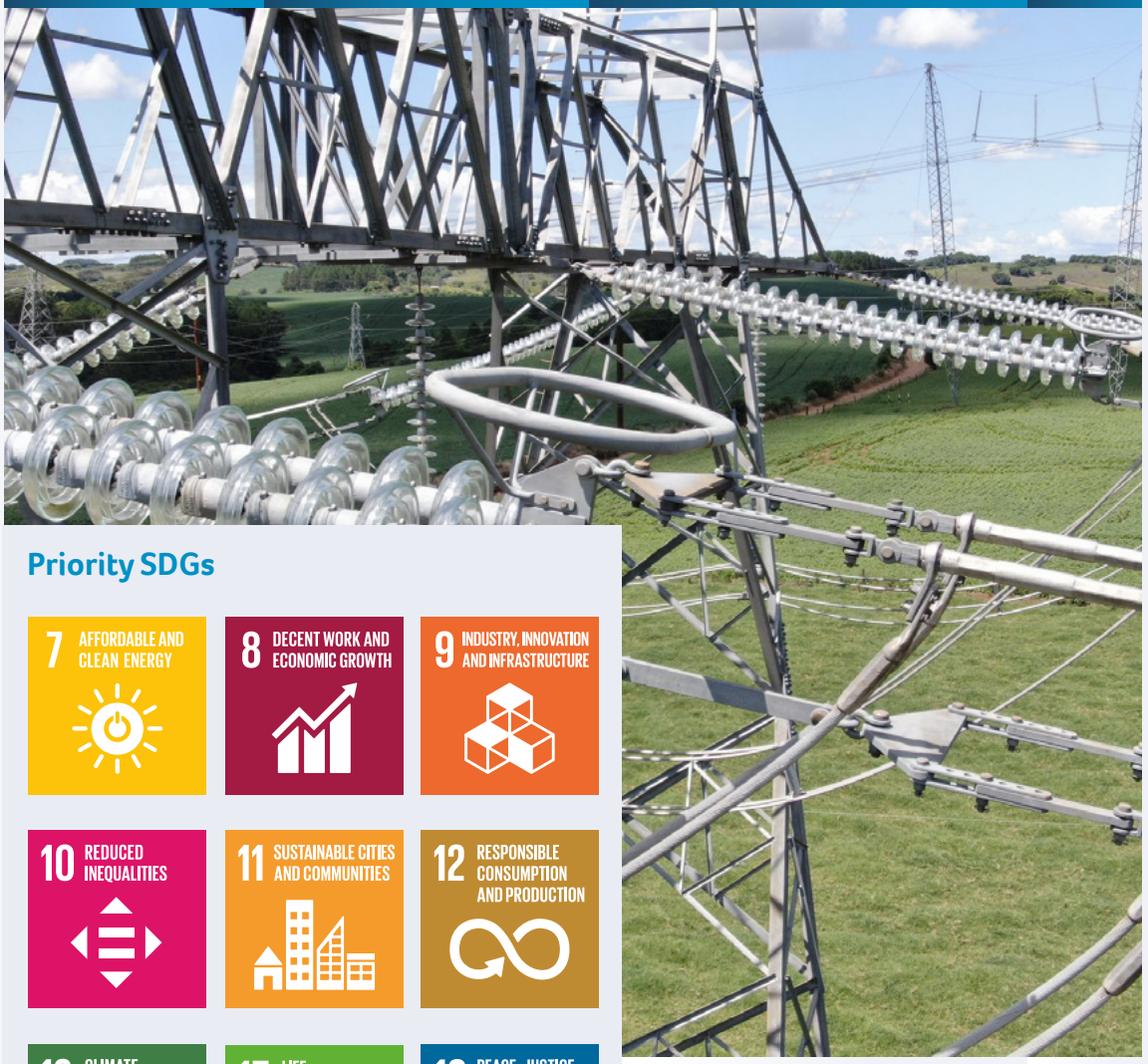
TCFD Strategy (A, B, C)

Eletrobras' strategic plan identifies trends, risks and uncertainties related to Group businesses, including climate change-related matters. The estimates and assumptions informing our strategic plan reflect our expectations about current and future events and financial and non-financial trends over short-term (zero to five years), medium-term (five to ten years), and long-term (ten to 30 years) horizons.

Following our privatization in 2022, we reformulated our strategy to align with the current organizational landscape of the company. As part of this, we developed a new long-term Strategic Plan establishing guidance for business development and for advancing our mission and achieving our vision.

The plan also outlines initiatives and projects supporting our nine priority SDGs within the UN 2030 Agenda.

Eletrobras CGT Eletrosul's Campos Novos-Nova Santa Rita Transmission Line. Photo: Felipe Levati Montagnoli.



Priority SDGs

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The 3 Ds of our new management Model: DIGITALIZATION, DECENTRALIZATION AND DECARBONIZATION

Digitalization

Plant automation improves operating efficiency and can support new adjacent services to the National Grid.

Other innovation fronts within the digitalization lever include:

- Using blockchain tracking systems for renewable energy certification and other environmental attributes.
- Digital energy trading systems, including smart contracts supporting decarbonization solutions.
- Digital project management (BIM/3D) and asset management (Digital Twins/IoT) solutions.

Decarbonization

Investments in low-emission, renewable generation and transmission systems.

- Eletrobras has embarked on its own decarbonization journey and is also helping other organizations in different industries on their journey by supplying clean energy and other solutions to the market.
- We are helping to minimize impacts along the value chain (suppliers, customers, logistics) from indirect GHG emissions.

3 Ds

Our management approach is focused on achieving sustainable growth through decentralization, digitalization and decarbonization

Decentralization

We are advancing decentralization efforts across different fronts:

- **Decentralized operation:** plant operation will be devolved to each subsidiary, freeing up the holding company to focus on corporate management and shared services.
- **Geographic diversification:** improving operating efficiency through strategies tailored to the local conditions surrounding our generation and transmission operations.
- **A focus on clean, renewable energy:** wind, solar and hydro.
- **Global energy cooperation:** developing cross-country, low-emission, clean transmission systems to connect large energy consumers to energy-rich regions.
- Expanding distributed generation in Brazil and advancing R&D in Virtual Power Plants (VPP) and local storage.

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Climate-related risks and opportunities the organization has identified over the short, medium, and long term

Eletrobras takes an active and preventive approach to risk and emergency management, ensuring we operate safely and deliver value and positive results while protecting the health and integrity of our stakeholders and providing transparent information to the market. Our goal is to prevent events from materializing which could adversely affect our strategic objectives.

In 2022 we conducted a review of the Eletrobras Group risk matrix, a structured outline of the risks to which the company is exposed across the three dimensions of ESG—Environmental, Social and Governance.

The specific climate-related issues that could arise in the short, medium, or long term and potentially have a significant financial impact on the organization include drought and carbon pricing.

Drought can lead to reduced revenues for the company due to a decrease in production capacity. Eletrobras relies on hydropower for 95% of the electricity we generate, which is dependent on water availability in the reservoirs of our power plants. This risk is considered medium-term. In the short term, carbon pricing may result in higher direct costs for the organization.

The criteria used to assess which climate-related risks and opportunities could have a material financial impact on the organization are based on the extent of loss they could cause and their influence on our ability to achieve strategic objectives, including their impact on our reputation. An impact is considered critical if it exceeds R$ 279 million, an estimate set by Eletrobras to identify significant issues and relevant risks for its operations.

Impacts directly linked to climate change risks include fines and penalties, loss of competitiveness, credibility, market value, financial revenue, and divestment. We also assess potential events related to Special Purpose Entities (SPEs), including projects like the Belo Monte (PA) and Santo Antônio (RO) hydroelectric plants.

Eletrobras classifies each identified risk as critical, high, medium, low, or minimal depending on the degree of three different types of impact: financial, economic, and reputational.



Eletrobras continuously monitors climate-related risks across all regions where we operate. Photo: CGT Eletrosul archives.

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CASE STUDIES

Renewable Energy Certificates

Eletrobras has identified climate change-related opportunities that can have a positive financial or strategic impact on the organization, including access to emerging markets for Renewable Energy Certificates (RECs).

The I-REC market was first introduced in Brazil in 2011, and has since grown exponentially, especially following the launch of the I-REC Service—a global electricity environmental attribute tracking system—and the changes introduced in the Brazilian GHG Protocol Program, which now accepts RECs as scope 2 GHG offsets.

The Eletrobras Group was one of the first companies in the industry to issue I-RECs, and in 2021 developed a proprietary certificate program, RECFY, via Eletrobras Furnas, which was then rolled out in 2022. The program, which uses blockchain technology, has delivered cost savings of 84% compared to what would have been spent on issuing I-REC certificates. It also mitigates currency exchange risks as certificates are transacted in local currency.

In 2022 Eletrobras Furnas issued approximately 3 million certificates, including 1.7 million RECFYs and 1.4 million I-RECs. These certificates were traded either through auctions organized by Eletrobras with Banco do Brasil as arranger or through bilateral negotiations. Out of this total, 1 million RECFYs were used to certify that the electricity our operations consume is from renewable sources.

Eletrobras Chesf has 98.7% of its installed capacity certified by Instituto Totum to issue I-RECs. This enabled the company to issue 270,010 RECs in 2022, offsetting 100% of its scope 2 greenhouse gas emissions, transmission losses, and internal electricity consumption.

In 2022, Eletrobras CGT Eletrosul and Eletrobras Eletronorte registered their first facilities to issue I-RECs. Eletrobras CGT Eletrosul's Cerro Chato I, II, and III wind farms (RS) were certified by Instituto Totum. In December, the company completed its inaugural issuance. Eletrobras Eletronorte secured registration for its Tucuruí Hydroelectric Plant (PA) to issue I-RECs. This has extended the company's portfolio of products and services and enabled it to capture new customers and partners.

Collectively, in 2022 the Eletrobras Group issued 5,316,684 certificates, with a portion used to offset Group scope 2 greenhouse gas emissions.



A wind turbine on the Casa Nova Wind Farm, owned by Eletrobras Chesf. Photo: Eletrobras Chesf Archives.

**Eletrobras Furnas developed the RECFY platform using distributed ledger/blockchain technology to issue Renewable Energy Certificates (RECs) for companies seeking to certify their use of renewable electricity within scope 2 of the GHG Protocol.*

These certificates confirm that the electricity a company consumes has been renewably sourced, reducing environmental impacts from CO_2 emissions. Each I-REC certificate is equivalent to 1 MWh of renewable electricity generated.

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Climate-related risks and financial impacts

Type of transition risk	Political and legal
Risk	Drought
Sector and/or geographical region	Direct operations
Potential impact	Loss of revenue as a result of reduced generation capacity
Time horizon	Medium term
Likelihood	Probable
Magnitude of impact	Medium-low
Estimated financial impact (R$)	1,810,000,000
Explanation of financial impact	Due to the prevalence of hydropower in Brazil's energy mix, hydroelectric generation companies are exposed to hydrological risk as well as market risks potentially affecting their power purchase agreements
Cost of responding to the risk (R$)	161,000,000
Mitigation and adaptation measures	Our approach to addressing hydrological risks includes participation in Brazil's Electricity Reallocation Mechanism (MRE) for hydroelectric dams and measures such as electricity reserves for hedging purposes. In addition, we have opted into the renegotiation of hydrological risks for wholly-owned hydroelectric plants whose electricity output is sold in the Regulated Contracting Environment (ACR)

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Climate-related risks and financial impacts

Type of transition risk	Market
Risk	Carbon pricing mechanisms
Sector and/or geographical region	Direct operations
Potential impact	Higher direct costs
Time horizon	Short term
Likelihood	Probable
Magnitude of impact	Medium-low
Estimated financial impact (R$)	1,633,092
Explanation of financial impact	The estimated financial implications of this risk relate to the annual cost of carbon taxes based on emissions in 2022. The annual cost of carbon taxes has been calculated based on emissions, power output and financial data for thermal power plants operated by Eletrobras Amazonas GT, Eletrobras CGT Eletrosul, and Eletrobras Furnas, assuming a carbon price of USD 20.00/tCO_2e. The analysis shows that the greatest increase in costs/operating expenses from carbon taxation would be felt by UTE Candiota III (RS) at 45.6%, followed by UTE Mauá 3 (AM) at 42.5%, UTE Aparecida (AM) at 36.1%, and UTE Santa Cruz (RJ) at 11.3%.
Cost of responding to the risk (R$)	216,000,000
Mitigation and adaptation measures	Climate change regulations are among the potential developments in Brazil's current policymaking landscape. Eletrobras could be negatively impacted by new regulations for GHG-intensive industries or activities, or by the adoption of carbon pricing to reduce emissions. To anticipate these shifts, Eletrobras Group companies conduct annual carbon pricing assessments to determine the potential financial impacts on their operations. These studies are conducted internally by our Environmental function. Eletrobras has directed efforts toward modernizing our thermal power plants to improve performance and efficiency and reduce GHG emissions and air pollution.

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Climate-related risks and financial impacts

Type of physical risk	Acute
Risk	Drought
Sector and/or geographical region	Direct operations
Potential impact	Loss of revenue as a result of reduced generation capacity
Time horizon	Medium term
Likelihood	Probable
Magnitude of impact	Medium-low
Estimated financial impact (R$)	1,810,000,000
Explanation of financial impact	Due to the prevalence of hydropower in Brazil's energy mix, hydroelectric generation companies are exposed to hydrological risk as well as market risks potentially affecting their power purchase agreements
Cost of responding to the risk (R$)	161,000,000
Mitigation and adaptation measures	Our approach to addressing hydrological risks includes participation in Brazil's Electricity Reallocation Mechanism (MRE) for hydroelectric dams and measures such as electricity reserves for hedging purposes. In addition, we have opted into the renegotiation of hydrological risks for wholly-owned hydroelectric plants whose electricity output is sold in the Regulated Contracting Environment (ACR)

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Climate-related opportunities and financial impacts

Type of opportunity	Markets
Opportunity	Access to new markets
Sector and/or geographical region	Direct operations
Potential impact	Increased revenues through access to new and emerging markets
Time horizon	Short term
Likelihood	Virtually certain
Magnitude of impact	Average
Estimated financial impact (R$)	2,987,883
Explanation of potential financial impact	The potential financial impact relates to the 5,316,684 renewable energy certificates traded in 2022. Four potential options for using our I-RECs and have been identified: via public auctions (sale), bilateral negotiations, or participation in end beneficiary auctions, or for neutralizing our own emissions (reducing self-consumption).
Implementation cost (R$)	250,000
Implementation strategy	Eletrobras has continued to register its renewable generation assets to issue and sell renewable energy certificates. We estimate we have the potential to sell 100 million certificates per year. The I-REC sales business involves fixed and variable costs, including those incurred in certifying projects with Instituto Totum and joining the I-REC Standard Platform. Other costs include subsequent certification for sale on the SISREC and I-REC platforms.

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Impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Our Strategic Plan takes account of climate-related risks and opportunities and how they affect our business, financial planning and results of operations—especially changes in rainfall patterns and, ultimately, water resource availability. It also underscores Eletrobras' commitment to decarbonize our operations, supporting Brazil's energy transition.

Eletrobras has invested significantly in renewable energy and developing projects, products and services that help to mitigate impacts from our operations on the climate. Our Strategic Plan provides guidelines on achieving sustainable growth across each of our divisions: transmission, generation and trading.

Eletrobras concluded 2022 with 97% low-emission generation capacity (hydro, wind and solar) with an energy intensity of 0.052 tCO_2/MWh, lower than the 0.058 tCO_2/MWh target under our Strategic Plan. Out of Brazil's total low-emission installed capacity, 38% (54.3 GW) is owned or partly owned by Eletrobras through Special Purpose Entities (SPEs).

This has been achieved through projects and initiatives such as our Sustainability 4.0 Program, a set of 12 projects related to the four economic, environmental, social and governance dimensions. This program is being implemented under our Strategic Plan and with oversight from the CEGS committee and the Board of Directors.

It includes initiatives such as our Climate Change Mitigation and Environmental Protection Project and Energy Transition Project. Through these initiatives, we track and report on our GHG emissions in accordance with national and international standards, including the recommendations of the United Nations Intergovernmental Panel on Climate Change (IPCC) and the GHG Protocol. Targets to reduce emissions are outlined in our Strategic Plan.

A Climate Strategy Working Group, under the Environmental Committee, is responsible for compiling our Greenhouse Gas Emissions Inventory, conducting studies and proposing strategies to address emissions.

CASE STUDIES

Eletrobras Furnas investments in electric mobility

In 2022, Eletrobras Furnas launched an Electric Mobility Program to replace gasoline-fueled vehicles with electric vehicles.

Through the program, the company will reduce its emissions of greenhouse gases and pollutants, will also cutting costs on fuel. The outcomes from the initiative are measured in terms of impacts of fossil-fueled vehicles compared to electric vehicle chargers.

We also have a program to expand the use of ethanol, a renewable fuel, in our vehicle fleet. We plan to add new ethanol-fueled vehicles on an incremental basis year on year, totaling 70 vehicles by 2026.

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R&D+I investments

Climate-related risks and opportunities are also addressed in research, development and innovation (R&D+I) initiatives under our Strategic Plan. As part of our efforts to combat global warming, we have launched a number of energy efficiency and energy transition initiatives aimed at decarbonizing generation assets by replacing fossil sources with renewable ones.

We are also strategically investing in research to develop and scale up new energy technologies for a cleaner energy mix. We actively prospect for and assess available sources to diversify our energy mix.

For Eletrobras, new renewable generation technologies are not only a profitable business but a way to reduce exposure to climate risks by lessening our reliance on a specific energy sources, such as hydropower.

Eletrobras' R&D+I projects are managed through our Inova Eletrobras program. Our Strategic Plan includes a specific performance indicator that tracks the percentage of R&D investment going to the energy transition out of our total R&D pipeline.

CASE STUDIES

Opportunities: in-house innovation

Eletrobras Furnas is collaborating with the Brazilian Power Sector Research Center (CEPEL) on a project, called HydroSolar Synergy, that is developing a floating photovoltaic power plant coupled with a hybrid energy storage system on the reservoir of the Itumbiara hydroelectric dam, straddling the border between Minas Gerais and Goiás. This project is at an advanced stage.

Another research project is developing green hydrogen technology for zero-emission power generation. The project, called H2V, is building the technical capabilities to implement and operate a hydrogen production, storage and disposal facility.

Savings through energy efficiency

Eletrobras Chesf is working on two complementarity fronts to implement best practices in energy efficiency: our Solar Microgrids program to offset the electricity consumed at our office and operational facilities through distributed generation microgrids; and our Carbon Neutral program to mitigate an offset GHG emissions.

Within the Solar Microgrids program, in 2022 we commissioned six new distributed generation facilities, adding 2,300 kWca of generation capacity to offset electricity consumption in Alagoas, Ceará, Paraíba, Piauí and Rio Grande do Norte.

In addition, we continued development of our 2,500 kWcc solar microgrid project in Petrolina (PE), as part of a research program to improve our power generation capabilities.

At Eletrobras CGT Eletrosul, a project was launched in 2022 that will retrofit all fluorescent and sodium vapor lamps to LED technology at its headquarters. The project will replace a total of 7,500 light bulbs, delivering estimated energy savings of 440 megawatt-hours (MWh) and cost savings of R$ 166,000 per year.

Our energy savings and energy efficiency initiatives are also supported by education campaigns and technology upgrades based on targets set by Eletrobras.

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Financial revenue

As part of our annual financial planning, we assess opportunities for new revenue streams, acquisitions and divestitures in response to climate-related risks.

One of our key risks of concern is hydrological risk stemming from adverse weather conditions, which can curtail production capacity, potentially hindering the delivery of pre-agreed electricity volumes to the market and leading to financial losses. Where the potential for unfavorable hydrologic conditions is identified, electricity contracting is modulated to create surpluses that can then be settled in the Short-Term Market at more attractive prices.

Another mitigation strategy is renegotiating hydrological risk for hydroelectric plants selling their electricity output in the Regulated Market (ACR). This enables the company to offset generation revenue losses caused by drought.

Eletrobras has prioritized investment in building a low-carbon electricity mix. This priority informs our investment decisions and future funding allocations.

Social and environmental impacts, including climate change, are also considered in purchase decisions, project design, and divestments, taking into account potential exposure to associated physical risks.



A floating solar platform on an Eletrobras Chesf dam reservoir in Sobradinho (BA). Photo: Tatiana Leart.

Strategy resilience

To assess business resilience to climate-related risks and opportunities, Eletrobras conducts studies addressing:

- the river basins hosting hydropower assets that are at the highest climate risk (priority assets);
- the risk of reduced streamflow in the short and medium term (2030 and 2050) in river basins hosting our hydropower dams;
- the potential impact of reduced streamflow on the capacity of priority hydropower plants;
- exposure to physical, regulatory and financial risks related to climate change, to inform decisions on existing assets; and
- the expected impacts from climate change on variables such as streamflow and carbon pricing, to inform business expansion planning.

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RISK MANAGEMENT

TCFD Risk Management (A, B, C)

Eletrobras' approach to managing risk in our operations aims to prevent events from materializing which could have an adverse impact on people, the environment and corporate governance, ultimately affecting our performance against targets and results of operations. Our risk management model covers the three dimensions of ESG and is based on internationally recognized risk management frameworks.



Rebuilding the Eletrobras CGT Eletrosul Nova Santa Rita-Camaquã transmission line tower. Photo: Venância Máximo.

Processes used by the organization to identify, assess, and manage climate-related risks

Eletrobras assesses climate change-related risks in our direct operations as part of our enterprise-wide risk management process.

Risk management activities are guided by our Corporate Risk Management Policy and overseen by our parent company, which provides a high-level vision of risk management results and standardizes risk management methods throughout the organization, including at subsidiaries. Our approach to risk management draws guidance from the COSO 2013 and COSO ERM internal controls frameworks, which are focused on processes to identify key risk events, and ISO 31000, a standard establishing principles and guidance on managing risks.

Eletrobras' risk management model is structured into five stages — identification, assessment, response, monitoring and communication — and three categories of risk — business, ESG and financial, which are consolidated into a corporate risk matrix. Operations teams use the matrix to identify climate risks within their day-to-day processes and activities. Emergency risks are analyzed and addressed using the same approach, but on an expedited basis.

Eletrobras classifies corporate risks based on the magnitude of impact and the likelihood of occurrence. The combination of impact and likelihood yields a risk heat map that allows senior management to determine the degree of risk to inform decision-making. Impacts are also measured in terms of their effects on our ability to achieve strategic goals and how they affect our reputation.

The Executive Board and the Board of Directors assess risks included in the matrix on a quarterly basis. The Audit Committee regularly submits reports on risk assessment results to the Executive Board and the Board of Directors.

The Audit Committee prepares these reports based on information compiled via risk assessment forms completed by risk owners. These forms describe the impacts, significance, causes, likelihood of occurrence and mitigation action for each risk. Risk owners are responsible for monitoring their designated risks. Decisions on action in response to risks are approved by senior management based on risk reports and the risk heat map.

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Risk management model



CASE STUDIES

Eletrobras Eletronorte secures environmental management system certification

In 2022, Eletrobras Eletronorte certified its Curuá-Una hydroelectric dam (PA) to ISO 14001, an international standard on environmental management systems. The facility joins three other plants that have been certified: Tucuruí (PA), Coaracy Nunes (AP) and Samuel (RO). The company is currently taking steps to certify its next facility, the Balbina dam (AM).

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Climate risks

Eletrobras' risk matrix classifies risks into the following categories:

- current regulations;
- emerging regulations;
- technological;
- legal;
- market;
- reputational;
- acute physical; and
- chronic physical.

The measures taken to mitigate these risks include assessments to identify and evaluate where we are vulnerable to climate change.

In our most recent assessment of climate-change risks, the likelihood of occurrence was found to have decreased from high in 2019 to medium in 2022. These assessments have factored in the effectiveness of previous mitigation efforts.

Despite this reduction, climate change risks are still rated as critical given the potential financial losses of nearly R$ 2 billion if they were to materialize.

The overall risk outlook is assessed in terms of potential medium and long-term impacts on our main business divisions *(read more on page 14)*.

Physical risks

Eletrobras is conducting a study, which is expected to conclude in the second half of 2023, to assess the physical risks associated with our hydropower generation assets within two time horizons: the short term, extending up to 2030, and the medium term, reaching until 2050. For each of these horizons, the variables used to appraise the threats are derived from four global climate models from the Coupled Model Intercomparison Project Phase 6 (CMIP6), considered as goal-standard models by the Intergovernmental Panel on Climate Change (IPCC).

The CMIP6 framework combines the Representative Concentration Pathways (RCP) approach, which incorporates scenarios relating to human-caused greenhouse gas concentration in the atmosphere, and the Shared Socioeconomic Pathway (SSP), which additionally takes into account social, economic, and demographic scenarios.

The scenarios used in calculating the likelihood of occurrence of a threat, as disclosed in this report, include the middle-of the-road scenario (SSP2-4.5) and the worst-case scenario (SSP3-7.0).

In the first scenario, socio-economic mitigation and adaptation challenges are considered moderate. Human and technological development does not shift markedly from current patterns, resulting in unbalanced development and high levels of inequality. It is assumed that greenhouse gas emissions will peak in the second half of the 21st century, followed by a sharp decline, reaching approximately half of current levels by 2100.

In the worse-case scenario, regional conflicts push countries to increasingly focus on domestic rather than external issues, leading to reduced international cooperation, including in environmental matters. Furthermore, greenhouse gas emissions continue to rise throughout the 21st century. As a result, global average temperatures are likely to increase by more than 2°C by 2050.

Although the Eletrobras study is still ongoing, preliminary results show similar rainfall patterns in the areas where we operate for both scenarios. The most significant reductions are observed in Spring and Winter. However, there is no apparent linear progression of impact during Autumn and Summer. For the short term, a small reduction is projected, but in contrast, a significant increase is expected in the long term. The current analysis also indicates an overall upward trend in the number of consecutive dry days.

The findings from the study will inform measures to adapt our existing assets and improve the expansion planning of our hydropower plants.

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DROUGHT

Extreme whether events are included in Eletrobras' analysis of climate change-related risks as they can lead to adverse hydrological conditions and damage to our transmission assets.

Drought, for example, is an acute physical risk affecting the company's operations, which can lead to revenue losses as a result of a medium-term reduction in production capacity. The magnitude of impact has been rated as medium to low.

Given the prevalence of hydropower generation in Brazil's power grid, which is centrally managed by the National Grid Operator (ONS), hydropower generators may be exposed to hydrological risk, affecting their power purchase agreements.

MARKET RISK

To inform efforts to mitigate impacts from hydrological risk, Eletrobras conducts quarterly assessments of the likelihood of occurrence of risk events. Where the potential for unfavorable hydrologic conditions is identified, electricity contracting is modulated to create surpluses that can then be settled in the Short-Term Market at more attractive prices.

The financial impact of physical climate change risks, especially drought, is assessed in terms of the resulting reduction in hydroelectric generation capacity and the effects from the Generation Scaling Factor (GSF), a formula that calculates losses as a result of a facility's inability to use its full installed capacity and the need to purchase electricity from other sources at expected electricity prices.

This calculation takes into account the mitigating effect of Brazil's hydrological risk-sharing framework. The Energy Reallocation Mechanism (MRE), as it is called, shares the financial benefits of favorable hydrological conditions as well as the losses incurred under adverse hydrological conditions.

The Eletrobras Group has 72 hydroelectric dams, as well as majority stakes in hydro, thermal, wind and solar Special Purpose Entities (SPEs). Of these, 36 are hydropower facilities. The potential financial impact from the GSF has been estimated at R$ 1.818 billion. This estimate assumes our projected generation output for 2023, without factoring in mitigation measures and trading strategies, which could effectively hedge the company from these risks.

We also take corporate measures such as energy reserves and renegotiating hydrological risk for electricity sold in the Regulated Contracting Environment *(learn more on page 22)*.

Drought is an acute physical risk affecting the company's operations, which can lead to revenue losses as a result of a medium-term reduction in production capacity.

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Regulatory and legal risks

Eletrobras implements industry best practices in modeling and proactively addressing adverse scenarios. As part of these practices, we have modeled the potential impacts from the regulatory risk of carbon taxation in Brazil.

In our modeled carbon tax scenario, there is an increase in the operational costs of our thermal power plants (UTEs), and for this reason we consider the associated regulatory risk to be material.

There are currently bills in Congress that would create a regulated carbon market in Brazil, with electricity generation among the regulated sectors.

This legislation would directly affect how Eletrobras plans its investments and is being factored into our climate change-related strategies, including the development of a science-based net-zero target.

EMERGING REGULATIONS

Eletrobras closely monitors regulatory developments and conducts an annual assessment to measure the impact of new laws and regulations on our activities. This supports effective strategic and action planning to mitigate risks.

In a recent United Nations Climate Change Conference (COP), Brazil committed to reduce its greenhouse gas emissions (GHG) by 37% by 2025 and 50% by 2030, and to achieve net zero by 2050. To achieve these targets, Eletrobras recognizes the need for a carbon pricing framework to be introduced as an incentive for the transition to a cleaner economy.

Eletrobras is ready to contribute as a leading player in renewables, supporting Brazil's climate goals.

Given the uncertainties regarding the approval and content of this emerging legislation, we consider climate-related regulatory risk to be material to our operations.

Regulated carbon market

The Brazilian Emissions Reduction Market (MBRE) is expected to be instituted in Brazil in 2023. In this context, the most significant regulatory risk is related to the possibility of carbon taxes being introduced in the country.

In 2022, Eletrobras completed a Technical Report listing the necessary initiatives for building a new climate strategy for the company in the event that carbon pricing mechanisms are implemented in Brazil.

Since 2013, we have factored internal carbon pricing and conducted annual sensitivity assessments to estimate and assess future financial impacts on our operations. Carbon pricing has also been integrated into our methodology for selecting and prioritizing projects for investment.

In line with our commitment to combat climate change, in 2023 Eletrobras pledged to set science-based targets to achieve net-zero emissions by 2030 *(learn more in Net Zero Commitment, page 38)*.

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Technological risks

Eletrobras' strategy includes ongoing investment in technology and innovation to expand our clean energy capabilities across multiple sources *(learn more on page 21)*. This also helps to mitigate risks from climate change by diversifying our generation sources.

One of our research projects in renewables is working to develop green hydrogen technology for zero-emission power generation. Hydrogen is widely considered a key lever for the transition to a low-carbon economy *(learn more on page 21)*.

Reputational risk

Eletrobras' initiatives to prevent and mitigate climate-related risks, and to transform opportunities into sustainable and profitable ventures, have a positive impact on our reputation, making our company more attractive to investors.

To turn reputational risk into a reputational asset, we have implemented a communication strategy based on transparency and timely disclosure. This approach aims to provide accurate information about our activities to investors and other stakeholders, thus fostering enduring relationships built on trust. Eletrobras has multiple communication channels and actively engages in public discussions where we provide thought leadership on climate change-related issues.

Our fossil-fueled thermal power plants have been identified as a source of reputational risk. To mitigate this risk, we ensure we are compliant with Brazilian industry regulations and have worked to expand our generation capacity using clean and renewable fuels.

Eletrobras' strategy includes ongoing investment in technology and innovation to expand our clean energy capabilities across multiple sources.



Employees at Eletrobras CGT Eletrosul. Photo: Eletrobras CGT Eletrosul archives.

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Employees at the Eletrobras CGT Eletrosul Operations Center. Photo: Eletrobras CGT Eletrosul archives.

Processes for managing climate-related risks for suppliers

Eletrobras' approach to value chain management is guided by our sustainability strategy and takes into consideration the climate-related issues affecting our company. We seek to do business with suppliers whose values align with our commitments on climate change.

As part of our Strategic Plan, we have launched a Sustainable Supplier Management program designed to build supplier relationships grounded in ethical principles, integrity, and corporate sustainability. As part of this program, we have implemented stringent supplier selection criteria that include environmental aspects with the potential to impact our operations, business, and reputation. Our supplier contracts contain clauses requiring compliance with the Eletrobras Group Environmental Policy.

Suppliers are also required to comply with Eletrobras' Supplier Code of Conduct and undergo regular due diligence on social, environmental, and corporate governance aspects, enabling us to identify practices that are inconsistent with our standards. Due diligence assessments also address information related to product life cycles, greenhouse gas emissions, and how they overlap with the Sustainable Development Goals (SDGs). Where we identify practices that do not conform to our standards, we take appropriate action to mitigate potential impacts, including termination of the business relationship.

This due diligence is included among our performance indicators, designated as "Supplier due diligence on ESG aspects." In 2022, we conducted due diligence on 100% of eligible suppliers.

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METRICS AND TARGETS

TCFD Metrics and Targets (A, B, C)

Metrics used to assess climate-related risks and opportunities in line with our strategy and risk management process

Climate-related risks and financial impacts

Type of risk	Transition risk: political and legal	Physical risk: acute
Main climate risk factor	Carbon pricing mechanisms	Drought
Sector and/or geographical region	Brazil	Brazil
Main potential financial impact	Higher direct costs	Loss of revenue as a result of reduced production capacity
Time horizon	Short term	Medium term
Likelihood	Probable	Probable
Magnitude of Impact	Medium-low	Medium-low
Potential financial impact (R$)	1,633,092	1,810,000,000

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Explanation of financial impact	The estimated financial implications of this risk relate to the annual cost of carbon taxes based on emissions in 2022. This cost has been estimated based on emissions, power output and financial data for thermal power plants operated by Eletrobras Amazonas GT, Eletrobras CGT Eletrosul, and Eletrobras Furnas, assuming a carbon price of US$ 20,00/ tCO_2. The analysis shows that the greatest increase in costs/ operating expenses from carbon taxation would be felt by UTE Candiota III (RS) at 45.6%, followed by UTE Mauá 3 (AM) at 42.5%, UTE Aparecida (AM) at 36.1%, and UTE Santa Cruz (RJ) at 11.3%.	The financial impact estimate is based on potential impacts for 2023 before applying any mitigation measures and trading strategies, which could effectively hedge the company from these risks. The R$ 1.818 billion estimate was calculated considering the effect of the Generation Scaling Factor (GSF) on the guaranteed capacity of Eletrobras' hydropower plants. The reduction in guarantee capacity was calculated as the product of guaranteed capacity and the projected GSF for 2023. Subsequently, the product of this GF reduction was determined using the projected market price for year 2023, resulting in the estimated financial impact value.
Cost of responding to the risk (R$)	216,000,000	161,000,000
Mitigation and adaptation measures	- Carbon pricing assessments to determine future financial impacts on our operations. - Modernizing our thermal power plants to improve performance and efficiency and reduce GHG emissions and air pollution: 1) Implementing combined cycle technology at the Santa Cruz thermal power station, adding 175 MW of generation capacity to the National Grid; 2) An upgrade at the Candiota III thermal power station that will improve coal quality and increase the power output from the plant by approximately 10%, while reducing consumption of this fossil fuel. - The cost of our response to this risk is proportional to the amount of effort in implementing these initiatives.	- Energy hedging reserve. In addition, we have opted into the renegotiation of hydrological risks for wholly-owned hydroelectric plants whose electricity output is sold in the Regulated Contracting Environment (ACR). - Renewal of expiring concessions which represented a significant part of the guaranteed capacity in our portfolio, reducing our exposure to hydrological risks, which have been transferred to electric utilities. - The economic amounts estimated for 2023 relate to the cost of opting into the ACR renegotiation scheme. We estimate that at a protection cost of R$ 161 million, we could mitigate the financial impact from R$ 1.818 billion to R$ 1.216 billion, generating a net benefit of R$ 441 million.*

** The protection cost is calculated as the cost of the renegotiated electricity at the price agreed on renegotiation.*

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Climate-related opportunities and financial impacts

Type of opportunity	Markets
Main climate opportunity factor	Access to new markets
Sector and/or geographical region	Brazil
Main potential financial impact	Increased revenues through access to new and emerging markets
Time horizon	Short term
Likelihood	Virtually certain
Magnitude of Impact	Average
Potential financial impact (R$)	2,987,883
Explanation of potential financial impact	The potential financial impact is based on certificates sold in the reporting year (5,316,684 certificates in 2022).
Implementation cost (R$)	250,000
Implementation strategy	Registering renewable generation assets to issue and sell renewable energy certificates via a proprietary platform, and registering all generation assets to issue and sell I-RECs. We estimate we have the potential to sell 100 million certificates per year. The R$ 250,000 figure refers to the fixed and variable costs of certification and the subsequent trading of certificates.

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Metrics used to assess and manage climate-related risks and opportunities in line with our strategy and risk management process

	Risks		Opportunity
Risk/Opportunity	Changes in rainfall patterns	Emerging regulations	Access to new markets
Financial category	Revenue	Expense	Revenue
Climate-related category	Drought	Carbon pricing mechanisms	Adaptation/value creation
Risk	Loss of revenue as a result of reduced production capacity.	Higher direct costs.	Increased revenues through access to new and emerging markets.
Time horizon	Medium term	Short term	Short term
Metric	The calculation measures the effect of hydrological risk on the guaranteed capacity of Eletrobras hydroelectric plants. The reduction in guaranteed capacity was calculated as the product of guaranteed capacity and the projected GSF for 2023.	The annual cost of carbon taxes has been calculated based on emissions, power output and financial data for thermal power plants, assuming a carbon price of USD 20.00/tCO_2e.	New revenue streams from the sale of renewable energy certificates.
Unit of measure	R$	R$	R$
Basis for inclusion	Extreme weather events affect hydrological risk and can lead to reduced generation output, preventing us from meeting our contractual obligations and leading to financial losses and poor operational performance.	The introduction of a regulated carbon market in Brazil, including in the power sector, could affect our operations, leading to higher operating costs.	Eletrobras has the potential to issue and sell more than 100 million renewable energy certificates per year.

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Targets used by the organization to manage climate-related risks and opportunities and performance against targets

Performance indicator	Unit	Climate-related category	Historical			2022 Target	Status in 2022	Ongoing initiatives
			2020	2021	2022			
Emissions intensity (net operating revenue)	tCO_2e/ R$ thousand	GHG Emissions	0.211	0.239	0.166	0.185	Target met	Sustainability 4.0 Program
Scope 1 emissions	thousand tCO_2e	GHG Emissions	4,164	5,943	3,958	5,884	Target met	Sustainability 4.0 Program
Scope 2 GHG emissions (not including transmission losses)	tCO_2e	GHG Emissions	3,788	5,964	1,790	3,713	Target met	Sustainability 4.0 Program
Scope 1 and 2 emissions (not including transmission losses)	tCO_2e	GHG Emissions	4,167,940	5,963,603	3,959,887	4,084,998	Target met	Sustainability 4.0 Program
Emissions intensity (net electricity output)	tCO_2e/ MWh	GHG Emissions	0.038	0.059	0.052	0.058	Target met	Sustainability 4.0 Program
Share of clean energy sources in the Group's generation mix	%	GHG Emissions	97	97	97	>96	Target met	Long-Term Generation Expansion Plan

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Greenhouse gas emissions and related risks

The Eletrobras Group Greenhouse Gas Emissions Inventory follows the 2006 IPCC Guidelines for National Greenhouse Gas Inventories and the guidelines of the Greenhouse Gas Protocol Brazil, an internationally recognized corporate accounting and reporting framework.

In 2022 we published our first inventory in the Public Emissions Register, run by the Brazilian GHG Protocol Program, receiving gold label. Our total emissions in the year were 5,640,060 tCO_2e, down 31.8% year on year. The bulk of emissions are scope 1 (70%), followed by scope 3 (24%) and scope 2 (6%).

Eletrobras has compiled and published inventories on its website since 2009. The complete historical series can be viewed here.

Eletrobras CGT Eletrosul Campo Mourão-Ivaiporã transmission line. Photo: Eletrobras CGT Eletrosul archives.



In 2022 we published our first inventory in the Public Emissions Register, run by the Brazilian GHG Protocol Program, receiving gold label.

Total scope 1, 2 and 3 emissions

Scope	2020	2021	2022
Scope 1 emissions (tCO_2e)	4,164,151	5,955,500	3,958,097
Scope 2 emissions (tCO_2e)	503,305	949,728	313,886
Scope 3 emissions (tCO_2e)	1,378,753	1,383,422	1,368,077

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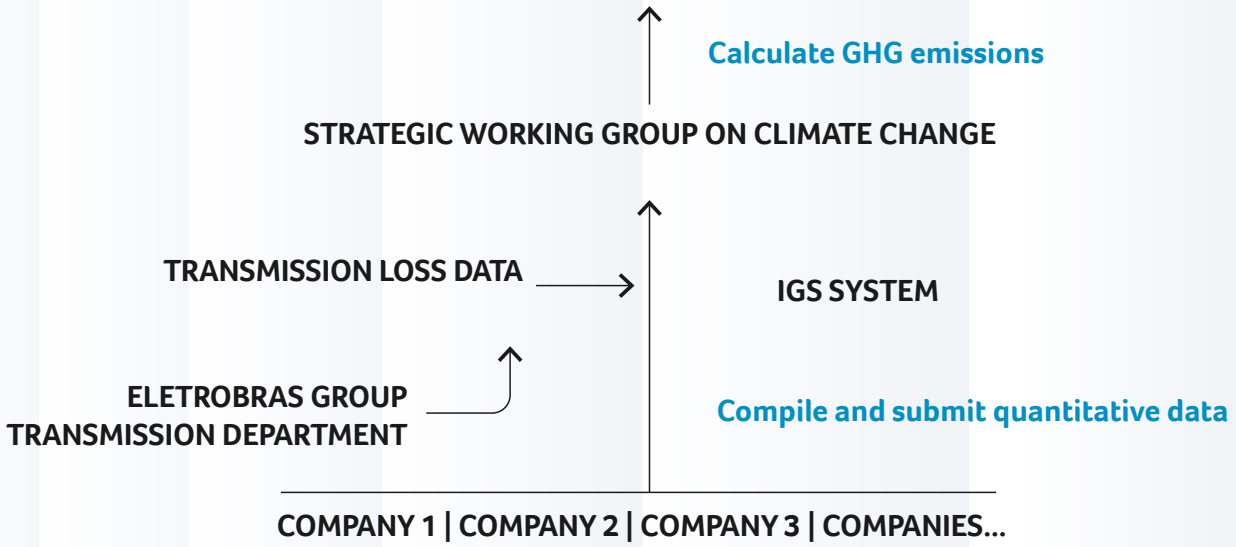
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EMISSION FACTORS	**Scope 1**	**Scope 2**	**Scope 3**	**METHODOLOGY**
• Electricity (MCTI) • Energy content in fuels: BEN (2015) IPCC (2006) MMA (2011)	• Direct point-source emissions (thermal power stations) • Mobile-source emissions • Fugitive emissions (SF_6 refrigerants) • Wastewater; and • Other point sources: **LPG, natural gas and diesel fuel used by generator sets and auxiliary boilers**	• Emissions per unit of purchased electricity • Transmission losses	• Independent power producers (IPPs) • Air travel • Transportation of non-energy products • Transportation of fuels • Employee commuting	• GHG Protocol • IPCC (2006) • Operational control approach
	Gases: CO_2, CH_4, N_2O, SF_6, PFC, HFC			



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Main climate-related targets

Metric	Unit of measure	Target	Alignment with regulatory requirements, market restrictions or other goals	Is the target absolute or based on intensity?	Target year	Baseline year	Targeted reduction from baseline (%)
Energy savings in corporate buildings	% kWh/year	7.62	Energy transition	Absolute	Annual	2022	Target set in 2022
Reduce utility-supplied electricity consumption in administrative activities	%	0.2% reduction per year	Emissions reduction	Absolute	Annual	2021	39
Reduction of fossil fuel combustion by land-vehicle fleets	%	0.2% reduction per year	Emissions reduction	Absolute	Annual	2021	No reduction
Relative emissions intensity (tCO_2e/GWh)*	%	*Net Zero* scope 1, 2 and 3 emissions by 2030	Emissions reduction	Absolute	Annual	2022	Target set in 2022

** Target detailed on the following page.*

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Net Zero Commitment

In 2023 Eletrobras' revised Strategic Plan set a target to achieve net zero GHG emissions by 2030. Our strategy to achieve this target includes three core measures:

- Divestment from thermal power plants;
- Offsetting scope 2 emissions with renewable energy certificates; and
- Offsetting emissions with carbon credits from reforestation initiatives.

Through these measures, we expect to avoid 24 million tCO_2e in emissions by 2030, becoming fully net zero as shown in the charts opposite and on the following page.

Net zero roadmap under our Strategic Plan

GUIDANCE

Achieve net zero—across scopes 1, 2 and 3—by 2030

METRIC

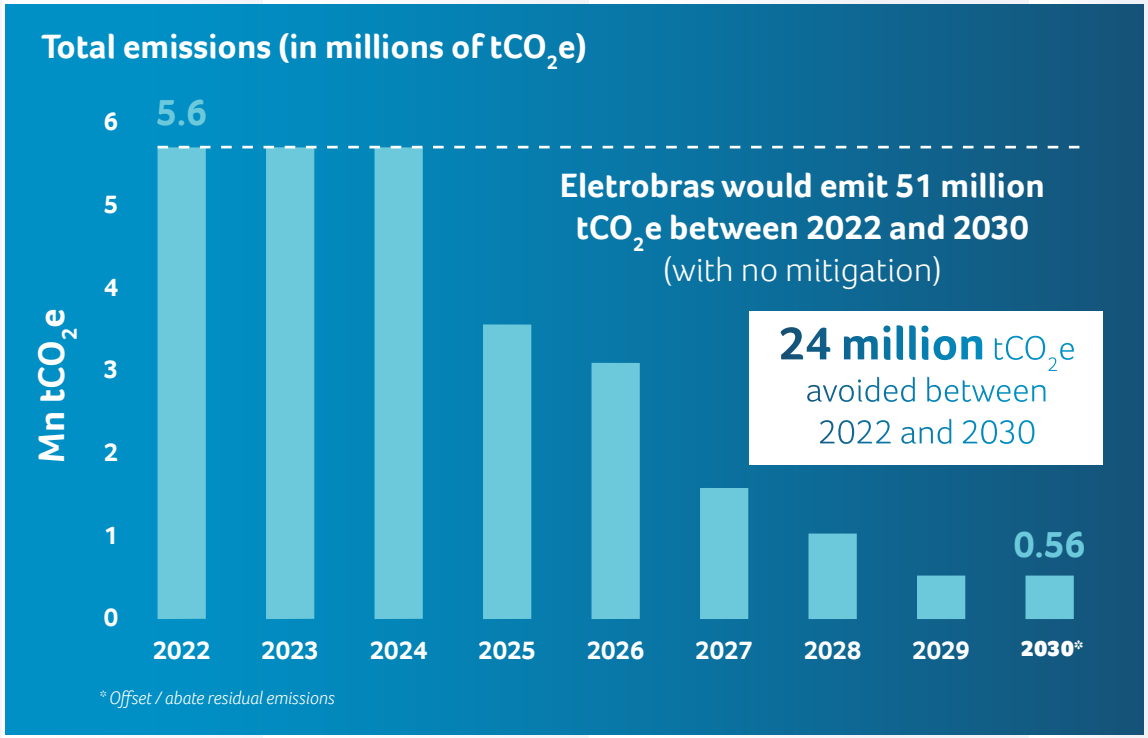
Relative emissions intensity (tCO_2/GWh)

ACTIONS

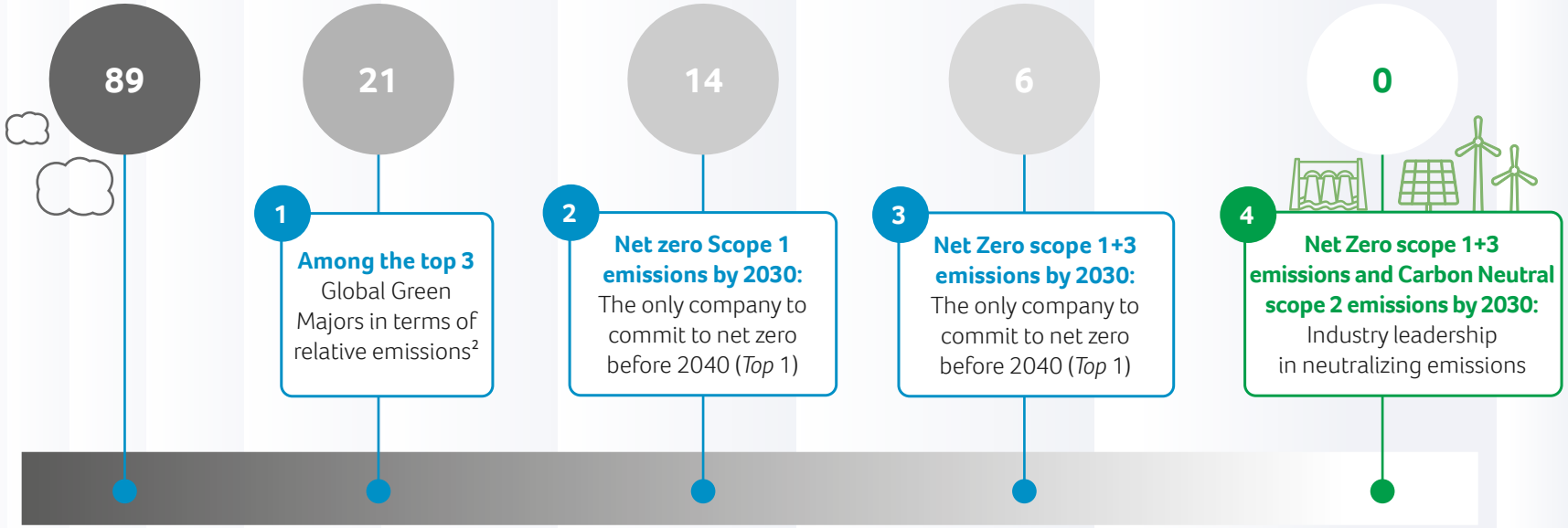
Implement plan to reduce emissions across each source, as well as offsets

VALIDATION

Obtain certification from the Science Based Targets initiative (SBTi) for our proposed emissions reduction roadmap



Projected relative emissions intensity for 2030
(in millions of tCO_2/GWh)*



Current emissions (baseline year: 2022) > Disposal of thermal power plants with contracts expiring up to 2030[1] > Disposal of remaining thermal plants by 2030[3] > End of contracts with IPPs > Emissions offsets (I-RECs/ carbon credits)

[1] Thermal power plants considered: Codajás (AM), Anori (AM), Anamã (AM), Caapiranga (AM), Candiota (RS), Mauá (AM) and Aparecida (AM).
[2] Copel not included in the comparison (no operations outside Brazil and lower renewable capacity than global leaders).
[3] Thermal power plant considered: Santa Cruz (RJ).
** Assuming expected growth in renewable generation (+24 GW).*
Source: Eletrobras DGOA–Emissions 2022

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	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	12
Risk management	a. Describe the organization's processes for identifying and assessing climate-related risks	23
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	c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	23
Metrics and targets	a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	30
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	30
	c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	30

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CREDITS

Eletrobras – Centrais Elétricas Brasileiras S.A. provides several channels for communication with stakeholders.

For communications related to this report, please write to: sustentabilidade@eletrobras.com.

GENERAL COORDINATION
Eletrobras Chief Sustainability Officer

SUSTAINABILITY DISCLOSURES GROUP
Eletrobras Management & Sustainability Team

TECHNICAL SUPPORT
Climate & Biodiversity Team

EDITORIAL GROUP
Communications Department

WRITING, EDITING, TCFD CONSULTING AND DESIGN
grupo report - rpt sustentabilidade

REVISION
Catalisando Conteúdo


Eletrobras