Climate and Nature Notebook

2024

ENGIE Brasil Energia



Climate and Nature Notebook ENGIE Brasil Energia

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Introduction

This Notebook brings together data, analyses, and initiatives from ENGIE Brasil Energia related to its environmental performance, connecting two complementary aspects: climate and nature. Our efforts for mitigating and adapting to climate change and promoting a positive impact on biodiversity already have a long history in Brazil. Thus, this publication – the Company's first in this format – brings together actions that started a few years ago and recent projects, in order to contextualize our activities over time and present the information that makes up our Journeys for Nature and Climate, operationalizing the Climate Transition Plan.

This Notebook is complementary to the Sustainability Report and presents, in more detail, ENGIE Brasil Energia's Journeys for Climate and Nature.

In line with the frameworks proposed by the Task Force on Climate-related Financial Disclosures (TCFD) and the Taskforce on Nature-related Financial Disclosures (TNFD), after the initial presentation, the first chapter addresses Climate and Nature Governance, detailing how ENGIE Brasil Energia structures its policies and guidelines to integrate these issues at all organizational levels.

Next, we present the Climate and Nature Strategy chapter, in which we describe, in detail, the Journeys for Climate and Nature structured by the Company.

The third chapter focuses on Risk and Opportunity Management, detailing the methods used by ENGIE Brasil Energia to identify, assess, prioritize, and monitor dependencies, impacts, risks, and opportunities, ensuring a systematic and integrated approach. Next, we present the Metrics and Targets chapter, which highlights the Company's indicators and commitments to track its progress and guide actions towards a more sustainable future.

In the following chapter, we present Transformative Actions, showcasing successful initiatives in different biomes and territories, such as wildlife rehabilitation projects in the Cerrado, conservation of araucarias in the Atlantic Rain Forest, and preservation of jaguars in the Caatinga. We also highlight our engagement with local communities and *stakeholders*, promoting environmental education and capacity building.

Finally, we conclude this first notebook with Paths to the Future, outlining the strategic priorities for the coming years, reinforcing the commitment to climate change mitigation and adaptation, and expanding partnerships to strengthen a sustainable, just, and inclusive transition.

Message from the Leadership

ENGIE Brasil Energia has been paving the way for a more sustainable future, with a commitment to being a leader in the energy transition and biodiversity protection. In a global context of increasing climate challenges and irreversible biodiversity loss, our mission has never been clearer: to act in an innovative and collaborative manner to mitigate the impacts of climate change and restore the integrity of ecosystems.

The Climate Journey and Nature Journey programs are a reflection of our purpose to be a company increasingly committed to the future of the planet. These two journeys, which go hand in hand, are deeply aligned with our vision of being a leader in renewable energy solutions and building a more resilient and just future for the coming generations.

The Climate Journey reinforces our decarbonization strategy, strengthening our renewable energy solutions. We are committed to reducing greenhouse gas (GHG) emissions both in our direct operations and throughout our value chain, including suppliers and customers. Aware that addressing climate change requires urgent and coordinated action, we are guided by the goals set by the Paris. Agreement to meet our decarbonization targets with transparency and accountability.

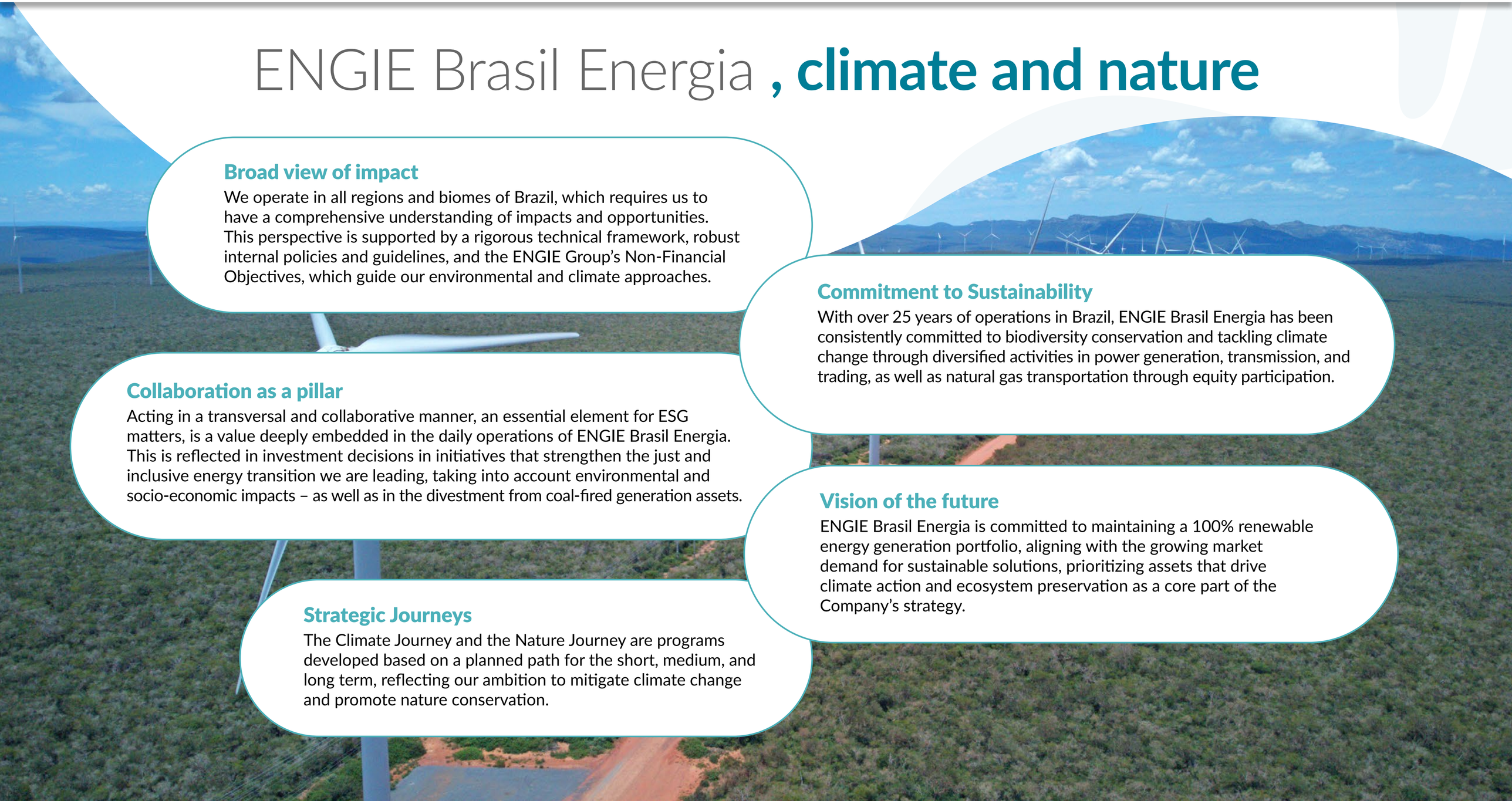
On the other hand, the Nature Journey aims to tackle the accelerated loss of biodiversity, one of the greatest impacts caused by climate change and a risk to humanity. Preserving natural resources is central to the continuity of our business and the prosperity of future generations. The Nature Journey also covers the themes of Water, Forests, and Circular Economy. The implementation of the now strengthened program integrates conservation and restoration practices, aiming to mitigate the impact of our operations and promote the conservation of ecosystems.

These two journeys are more than just business commitments. They reflect our ambition to be a transformative force in a society that is increasingly conscious and demanding with respect to the role of companies in addressing environmental challenges. We believe that by investing in nature conservation and climate change mitigation, we are both fulfilling our environmental responsibility and ensuring the sustainability and competitiveness of our business.



Luciana Nabarrete
Chief People, Processes and Sustainability Officer

ENGIE Brasil Energia , **climate and nature**



Broad view of impact

We operate in all regions and biomes of Brazil, which requires us to have a comprehensive understanding of impacts and opportunities. This perspective is supported by a rigorous technical framework, robust internal policies and guidelines, and the ENGIE Group's Non-Financial Objectives, which guide our environmental and climate approaches.

Commitment to Sustainability

With over 25 years of operations in Brazil, ENGIE Brasil Energia has been consistently committed to biodiversity conservation and tackling climate change through diversified activities in power generation, transmission, and trading, as well as natural gas transportation through equity participation.

Collaboration as a pillar

Acting in a transversal and collaborative manner, an essential element for ESG matters, is a value deeply embedded in the daily operations of ENGIE Brasil Energia. This is reflected in investment decisions in initiatives that strengthen the just and inclusive energy transition we are leading, taking into account environmental and socio-economic impacts – as well as in the divestment from coal-fired generation assets.

Vision of the future

ENGIE Brasil Energia is committed to maintaining a 100% renewable energy generation portfolio, aligning with the growing market demand for sustainable solutions, prioritizing assets that drive climate action and ecosystem preservation as a core part of the Company's strategy.

Strategic Journeys

The Climate Journey and the Nature Journey are programs developed based on a planned path for the short, medium, and long term, reflecting our ambition to mitigate climate change and promote nature conservation.



Climate and Nature Governance

1



The Board of Directors **oversees climate and nature-related agendas**

ENGIE Brasil Energia's governance is structured to ensure that climate and nature-related issues are effectively monitored and overseen at all organizational levels. This integrated structure reflects the Company's commitment to embedding sustainability in its governance, ensuring that policies and actions are aligned with corporate objectives and environmental demands.

POLICIES

ENGIE Brasil Energia's Sustainable Management Policy and the ENGIE Group's Environmental Policy are documents that outline our commitments to sustainability.

SUSTAINABLE MANAGEMENT POLICY

The commitments and values established by the Sustainable Management Policy are disseminated among our stakeholders, enhancing its potential for positive impact. They are also aligned with the ENGIE Group's Non-Financial Objectives, to be achieved globally by 2030, in harmony with the United Nations (UN) 2030 Agenda for Sustainable Development.

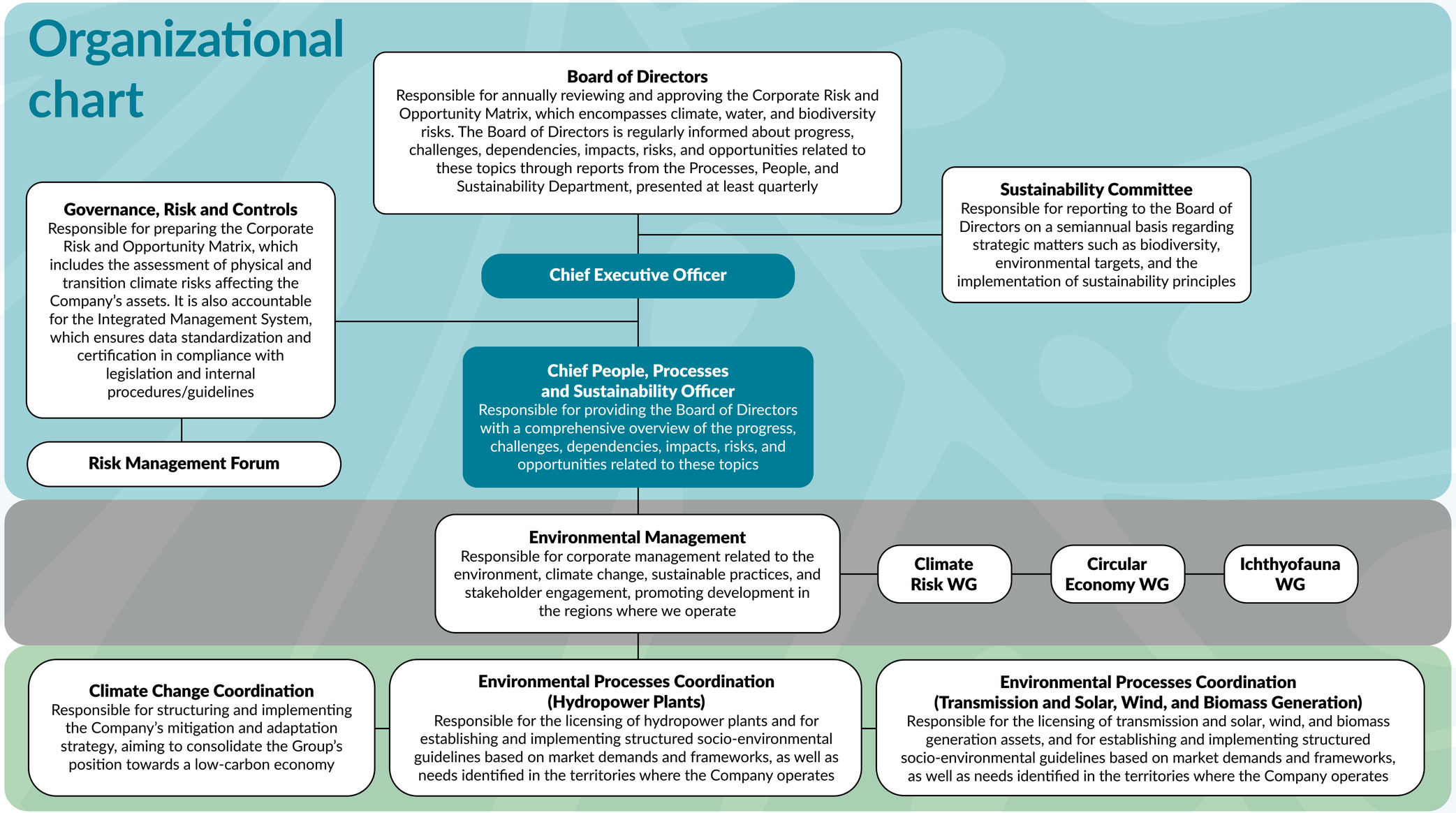
PILLARS OF THE SUSTAINABLE MANAGEMENT POLICY:

- GOVERNANCE
- QUALITY
- ENVIRONMENT AND CLIMATE CHANGES
- OCCUPATIONAL HEALTH AND SAFETY
- SOCIAL RESPONSIBILITY

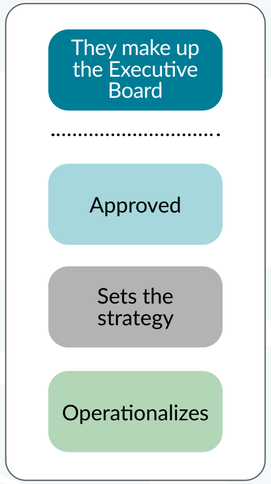
ENVIRONMENTAL POLICY

The ENGIE Group's environmental policy presents the Company's challenges, as well as ambitions, commitments, and objectives in areas such as climate change, biodiversity, water, forests, and the circular economy. The policy is aligned with international principles of environmental preservation and seeks performance that balances financial, economic, and sustainability criteria with the goal of accelerating the transition to a carbon-neutral economy and generating a positive impact on the planet.

Organizational chart



The organizational chart presents the areas and functions directly involved in the Climate and Nature Journeys. The areas responsible for defining the climate and nature strategy are highlighted in gray. In blue, the positions responsible for approval are indicated, while in green, the areas in charge of implementing the journeys are highlighted.



This representation is focused on the areas and functions related to the Climate and Nature Journeys. The complete organizational chart is available in the Sustainability Report.

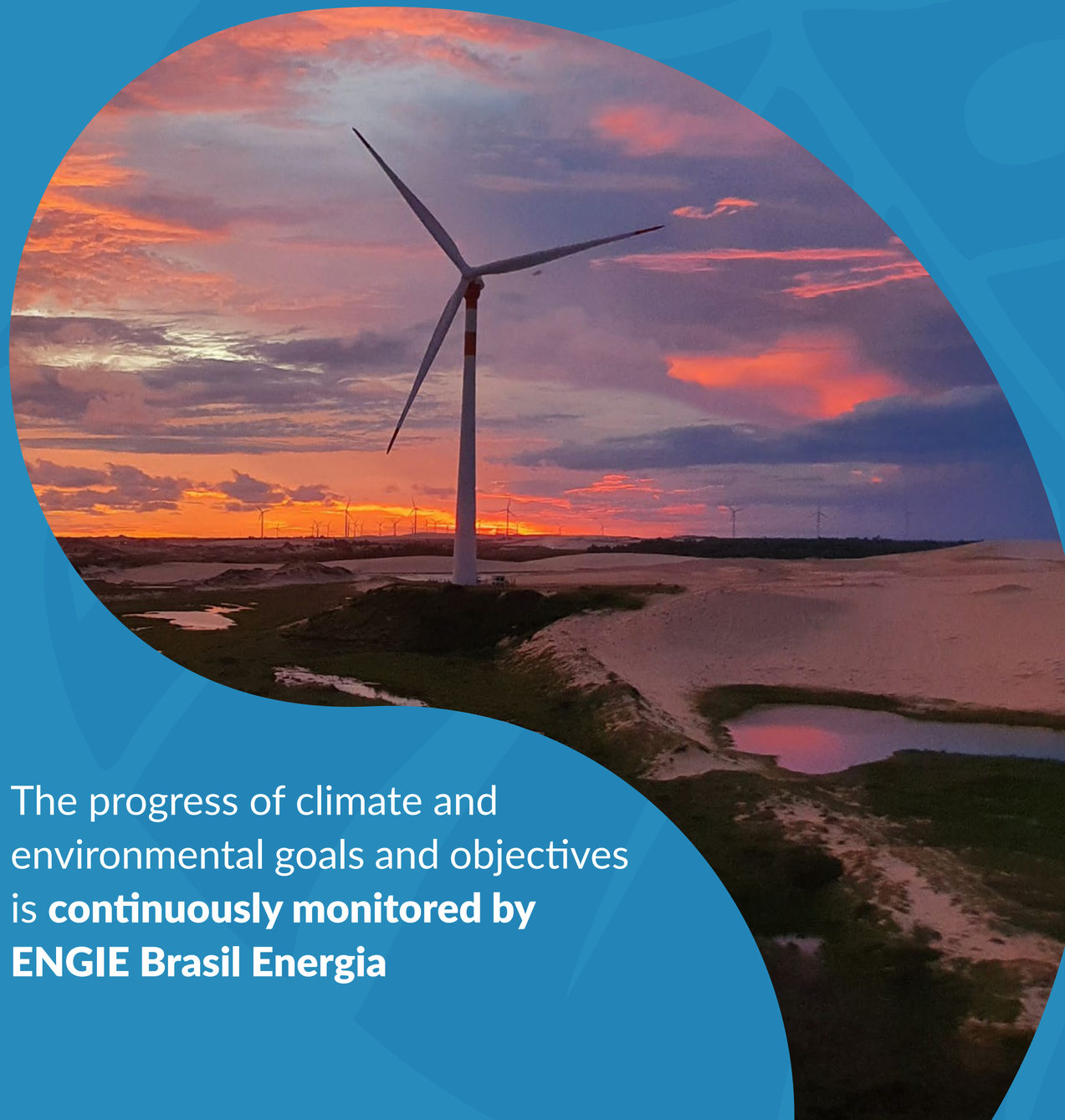
Scenario analysis and strategy

Specific scenario analyses for climate, water, and biodiversity are conducted to ensure that the Company is prepared to handle different scenarios (see more in Risk and Opportunity Management). Regarding water – a crucial resource and of strategic importance for ENGIE Brasil Energia's operations, as hydropower plants accounted for around 72% of the operational capacity in 2024 – these analyses ensure the company's readiness to handle different scenarios of availability and quality, directly influencing the location of assets and water management plans. In the case of climate, the scenarios are also used to align corporate goals and guide adaptation priorities, research, development, and innovation (RD&I). This approach allows ENGIE Brasil Energia's strategies to be regularly reviewed, with special attention given to the Climate Transition Plan, which is continuously evolving and whose aspects are outlined in this document.

In addition, the process of acquisitions, mergers, and divestments assesses environmental and climate impacts, including those related to water, biodiversity, circular economy, stakeholders, human rights, ethics, climate mitigation and adaptation, as well as supplier compliance with ENGIE Brasil Energia's sustainability requirements. These policies follow an approach of risk minimization and opportunity maximization, with an emphasis on the analysis and hierarchical sequence of "Avoid, Reduce, Offset," applied to the management of environmental impacts.

The progress of climate and environmental goals is monitored through programs such as the Journeys for Nature and Climate, which establish specific actions for mitigation and adaptation to climate change. The Sustainability Committee monitors the development of these programs and presents their results to the Board of Directors, ensuring alignment with climate and environmental commitments.

With these integrated processes, ENGIE Brasil Energia consolidates its position as a benchmark in sustainability governance, ensuring that its decisions align with global and local environmental demands.



The progress of climate and environmental goals and objectives is **continuously monitored by ENGIE Brasil Energia**



30%
of the variable compensation of the board is linked to ESG aspects

Compensation Policies
Linked to ESG Goals

ENGIE Brasil Energia strengthens its commitment to sustainability by aligning a portion of variable compensation with ESG goals, both in the short and long term. The Compensation Policy was reviewed in 2024 and establishes the composition of compensation aligned with market criteria, activity complexities, and the strategic objectives set by the Company. This practice integrates the Company's business strategy and encourages the achievement of its environmental commitments.

Compensation **of the Executive Board**

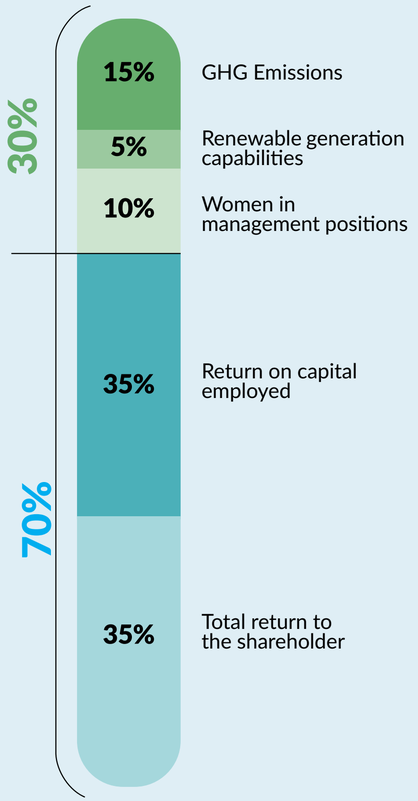
The compensation of the Executive Board, which includes the CEO, consists of a fixed annual portion and a variable portion. The short-term variable compensation is paid annually and is linked to the achievement of collective and individual objectives, as well as the Company's results. The long-term variable compensation is paid at the end of a three-year term and is linked to performance and corporate indicators.

In 2023, 20% of the long-term variable compensation was linked to non-financial criteria, including ESG aspects. **In 2024 and 2025, the target became even more ambitious, with ESG aspects making up 30% of the long-term variable compensation, with 20% linked to environmental issues and 10% to social issues.**

The focus of environmental issues is on reducing the carbon footprint and increasing the capacity for energy generation from renewable sources, which is also linked to the reduction of the water footprint[1]

Regarding the social aspect, the focus is on increasing the number of women in managerial and senior leadership positions and prioritizing health and safety management through the maxim: *"No life at risk, no mind at risk, no asset at risk."*

Long-term variable compensation of the Executive Board



See our targets in the Metrics and Targets chapter.

[1]For comparison, in 2021, ENGIE Brasil Energia consumed 120.7 m^3/MWh of water in a coal-fired thermoelectric plant, 0.0004 m^3/MWh in a wind asset, and 0.0003 m^3/MWh in a solar asset, which demonstrates the strength and effectiveness of the strategies implemented.

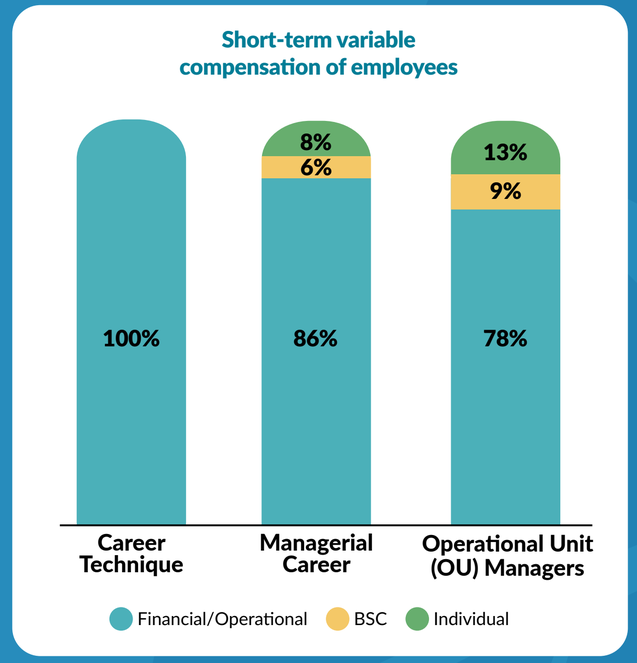
Compensation of employees

The compensation of employees not part of the Executive Board also includes a fixed (annual) portion and a variable portion. Variable compensation is short-term (also annual) and is linked to the Profit Sharing Program (PLR) and Management Bonus.

In 2024, 6% to 9% of the variable compensation was linked to the achievement of Balanced Scorecard (BSC) goals, which encompass aspects such as combating climate change, nature conservation, stakeholder engagement, and socio-environmental responsibility, as well as health and safety, diversity, inclusion, and training. Among the goals, key targets include achieving a carbon emissions intensity that supports the *net zero* emissions strategy by 2045 (0.0302 tCO_2e/MWh) and increasing the percentage of renewable fuel used by the fleet at each asset.

Specifically on the nature theme, ENGIE Brasil Energia has set goals for 2024 aligned with the strategic objective of being positively recognized in ESG in Brazil, such as:

- Compliance with and adherence to TNFD;
- Implementation of conservation initiatives in different biomes;
- Report to CDP Água;
- Implementation of a natural capital management strategy.





Environmental Strategic Guidelines

The operations and activities of ENGIE Brasil Energia are planned and organized based on a rigorous assessment of the use of natural resources, the associated impacts, and the interrelation with the planet and people. The Company's conservation strategy includes key elements such as risk management, the implementation of mitigation and compensation actions for impacts, and stakeholder engagement in the preservation and conservation of natural resources and the climate.

Its activities are guided by institutional policies, corporate guidelines, and voluntary commitments undertaken, always with the aim of maximizing positive impacts and continuously improving environmental performance. The environmental and strategic drivers of the company are presented below:



Promote initatives for the conservation of the biodiversity.



Ensure legal compliance of our assets and projects.



Avoid, reduce, compensate environmental impacts and mitigate socioenvironmental risks.



Control and monitor environmental conditions in our assets.



Incentivize forestry and regeneration of the ecosystems.



Engage stakeholders for conservation of the natural resources.



Potentialize the positive impact on territories where we operate.



Develop partnerships and contribute to public policies in the sector.



Respect the culture of traditional communities.



Valorize ecosystemic services and incentivize solutions based on nature.



Accelerate the Journey for the Climate ensuring climate mitigation, adaptation and resilience.



Create value based on environmental initiatives.

Commitments **to Sustainability**

ENGIE Brasil Energia prioritizes its commitment to the highest international standards of responsible practice, adopting as guidelines the UN Guiding Principles on Business and Human Rights, the Convention on Biological Diversity, and the Paris Agreement. To align with these principles, the company implements policies such as the Human Rights and Environmental policies, ensuring respect for human rights, environmental protection, and integration with traditional communities and indigenous peoples. Initiatives such as the Climate Journey and the Nature Journey consolidate corporate strategies, while annual reports, aligned with international reporting guidelines such as GRI, IFRS, and CSRD, reinforce transparency and accountability.

To operationalize these commitments, structured processes ensure the monitoring, management, and remediation of environmental and social impacts. The Duty of Care Plan identifies and designates responsible parties, prevents risks, and ensures constant monitoring, while programs like Conexão (Connection) strengthen dialog with local and traditional communities. Supplier compliance is ensured through periodic assessments and the application of the Code of Conduct, with continuous monitoring and investigation of complaints by the Ethics Committee. Sustainability indicators, collected periodically and reported annually, reflect the results of these actions, integrating governance, risk management, and transparency.

In addition to internal actions and initiatives, participation in forums and sectoral associations, such as the Brazilian Business Council for Sustainable Development (CEBDS), the UN Global Compact, the Brazil Coalition on Climate, Forests, and Agriculture, and associations in the Brazilian electricity sector, is essential to influence public policies focused on natural resource conservation and combating climate change. In 2024, this engagement was expanded with the adoption of the Net Zero Ambition Movement from the Global Compact and the Brazilian Business Commitment to Biodiversity by CEBDS[2], which includes concrete commitments and goals for environmental preservation. These efforts consolidate the foundation for ENGIE Brasil Energia's corporate strategy focused on climate and nature, a topic that will be further explored in the next chapter.



Initiatives such as **the Climate Journey** and the **Nature Journey** consolidate the corporate strategies.

[2] Further information is available at: https://cebds.org/ibnbio



Climate and Nature Strategy

2

In light of the global challenges intensified by climate change and the accelerated loss of biodiversity, ENGIE Brasil Energia recognizes the need to robustly integrate the dimensions of climate and nature into its operations and strategic planning. Currently, the Company stands out as one of the largest in the electric energy sector, being responsible for approximately 5% of the country's installed capacity. It is composed of 115 power plants with 100% renewable generation and an operational installed capacity of 11.2 GW, 2,700 kilometers of transmission lines, and seven proprietary substations. This portfolio results in a market cap of R$ 29 billion, reflecting ENGIE Brasil Energia's strategic position in the transition to a low-carbon economy.

Aligned with the global purpose of the Group to accelerate the transition to carbon neutrality, ENGIE Brasil Energia promotes innovative and sustainable solutions, balancing economic performance with positive impacts for people and the planet. With a focus on an increasingly cleaner energy matrix, the Company has prioritized investments in renewable energy, consolidating its position as a benchmark in sustainability within the Brazilian electric sector.

From a financial planning perspective, ENGIE Brasil Energia's investments (Capex) and operational expenses (Opex) are aligned with the European Union's sustainable taxonomy guidelines. In the same vein, the Company is preparing to comply with the International Sustainability Standards Board (ISSB) standards which link sustainability information to the financial statements of companies.

The Company implements stringent controls to minimize the environmental impact of its operations and promotes solutions for the decarbonization of clients, including energy contracts with guarantees of origin, renewable energy certificates, and carbon credits. Recognizing the importance of water in its energy matrix, primarily due to the predominance of hydropower plants, ENGIE Brasil Energia actively works on the conservation and sustainable management of water resources.

This chapter explores ENGIE Brasil Energia's strategy to address risks and seize opportunities related to climate and nature, following the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and the Taskforce on Nature-related Financial Disclosures (TNFD). The risks and opportunities associated with each dimension will be addressed, along with the integration of these factors into the Company's financial and strategic planning, as well as the use of scenarios to assess resilience in the face of environmental demands.



Our path in addressing **climate and nature**

ENGIE Brasil Energia conducts a comprehensive analysis of the risks associated with climate and nature, addressing physical impacts, transition risks, and strategies for mitigation and adaptation. This analysis includes detailed climate scenarios that assess the impact on different types of operations within the company — solar, wind, hydro, and transmission — and consider the interconnections between biodiversity and climate change.

Although the approaches to climate and nature are at different stages of development, both are part of an integrated strategy that recognizes their interdependencies.

In this context, the journeys were created to operationalize ENGIE Brasil Energia's Climate Transition Plan, consolidating its strategies related to climate change and biodiversity. These programs are central to translating corporate objectives into practical actions and guide the Company in mitigating impacts, managing risks, and identifying opportunities.

The next topic will detail the initiatives and structures of these journeys, which reinforce ENGIE Brasil Energia's commitment to a structured, data-driven approach, aligned with science, aiming for operational resilience and long-term environmental conservation.

On the next page, we present a timeline of the key actions and initiatives related to climate and nature.



In May 2023, ENGIE Brasil Energia reached a significant milestone by achieving **100% energy generation from renewable sources**, following the disposal of its last coal-fired power plant, the Pampa Sul Power Plant

ENGIE Brasil Energia

ENGIE Brasil Energia Timeline



Climate

2010 /2011

- First year of **carbon credit generation** (CDM/UNFCCC)
- First **GHG Inventory**

2015/2016

- Coal exit **ENGIE global Strategy**

2017/2018

- **First Paraná Climate Seal**
- First **ENGIE REC** sale

2021/2022

- Adherence to the **Action Declaration on Climate Policy** Engagement promoted by Corporate Knights
- Identification of **climate risks and opportunities**
- First **CDP Climate Report**

2023

- Approval of climate mitigation and adaptation targets by the Board:
  - **Reduction of GHG emissions intensity** by 30% by 2025 and 56% by 2030
  - Have **100% of assets** covered by **climate adaptation plans**
- ENGIE Brasil Energia becomes **100% renewable**
- Restructuring of the **Climate Journey**
- Adherence to the **Global Compact**

2024

- Obtaining the **SET label certification**
- Completion of **Climate Change R&D**
- Review of adaptation **plans per asset**
- Adherence to the **Net Zero Ambition Movement** - Global Compact

Nature



2010 /2011

- First Group **Biodiversity Guidelines**

2015/2016

- Start of systematic monitoring of **indicators for protected and conserved springs**
- Structuring of the **"Biodiversity Matrix" Program**

2017/2018

- **Mapping and definition of biodiversity status** in ENGIE Brasil Energia's projects
- ENGIE Group makes a **public commitment to Act4nature**

2021/2022

- Structuring of the corporate **environmental education** and visits program called **"Connection Program"**
- Definition of **biodiversity targets and structuring of the Action Plan** at the Miranda hydropower Plant (Miranda HPP)

2023

- **"Regenera+"** initiative recognized as a **Nature-based Solution** by the IUCN
- Start of the **revision of the "Biodiversity Matrix"** Program to comply with TNFD

2024

- First **CDP Water Report**
- Development of the **jaguar conservation initiative** in Bahia
- Definition of **biodiversity targets and structuring of the Action Plan** for the Bahia Region
- Adherence to the **Brazilian Business Commitment to Biodiversity** by CEBDS
- **"Biodiversity Matrix"** Program renamed **"Nature Journey,"** with its trajectory structured
- Development of the **springs conservation initiative through "Water Planters"** in Rio Grande do Norte



Journey **for the Climate**

Position on Climate Change

ENGIE Brasil Energia believes and recognizes that climate change is already a latent threat, tangibly impacting the planet, and that as a result, the global ecosystem is facing irreversible biodiversity losses, with significant impacts on food chains and the sustainability of natural resources.

Mitigating climate change is an urgent necessity to preserve the health of our planet and the living conditions for future generations. Therefore, the Company is committed to:



- Investing in the expansion of renewable energy generation, supporting the decarbonization of different companies, sectors, and the country.
- Investing in projects that will reduce the Company's GHG emissions and engaging its value chain to do the same, through strategic partnerships;
- 100% of the electricity consumed by the assets and headquarters will continue to come from renewable sources;
- Annually disclose greenhouse gas (GHG) emissions and performance against established decarbonization targets;
- Implement the roadmap outlined in the Climate Journey, which is science-based and aligned to the objectives developed within the ENGIE Group, contributing to the necessary reduction in the efforts to meet the goals of the Paris Agreement.

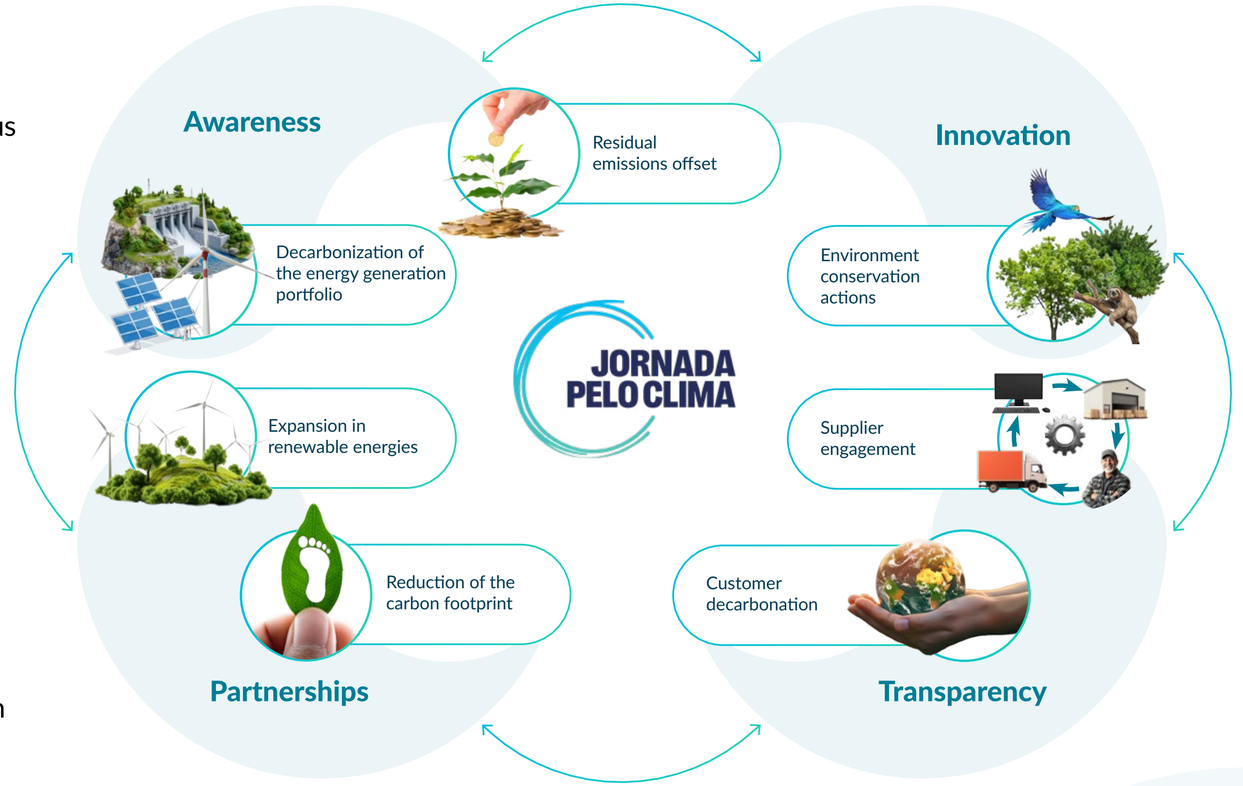


ENGIE Brasil Energia recognizes the urgency of the climate crisis and the need for ambitious and integrated climate action. In line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the Climate Journey has been structured as a strategic program aimed at decarbonizing our operations and strengthening the climate resilience of assets and the value chain.

Awareness

Since 2014, the Company has been investing in the decommissioning and divestment of fossil fuel-based generation assets[3], demonstrating ENGIE Brasil Energia's determination to eliminate fossil fuels from its energy matrix. In addition, ENGIE Brasil Energia is expanding its renewable generation capacity through ongoing investments in wind and solar projects, such as the construction of the Serra do Assuruá Wind Complex and the Assú Sol Photovoltaic Complex.

The acquisition in 2024 of five photovoltaic sets in operation in Minas Gerais, Bahia, and Ceará, totaling 545 MWac (661 MWp), also contributed to the increase in the share of renewable sources in its portfolio.



Innovation

At the same time, ENGIE Brasil Energia is heavily investing in technological innovation to accelerate the transition to a low-carbon economy. In recent years, the Company has allocated significant resources to research and development projects. Between 2020 and 2024, more than R$ 12 million were spent on projects that directly or indirectly support energy efficiency and the reduction of greenhouse gas emissions. Among them are initiatives that include the optimization of photovoltaic plants, the development of advanced technologies for wind turbines, and fault monitoring systems.

Transparency: Supplier Engagement

In 2024, ENGIE Brasil Energia implemented the Supplier Decarbonization Program, aiming to engage its value chain in adopting sustainable practices and reducing GHG emissions. A more detailed description of the program is presented in Chapter 5.

Transparency: Decarbonization of customers

Also noteworthy is Energy Place, a digital platform created in 2020 by ENGIE Brasil Energia, which functions as an energy e-commerce. Through it, customers can quote and purchase short-term and long-term energy. In addition, it is possible to track information, contractual performance, and quickly download documents in an intuitive manner.

[3] Closure of the Alegrete Thermoelectric Power Plant (fuel oil) in 2014, decommissioning of the Charqueadas Power Plant (coal) in 2016, sale of the William Arjona Thermoelectric Power Plant (gas) in 2019, sale of the Jorge Lacerda Thermoelectric Power Plant (coal) in 2021, and sale of the Pampa Sul Thermoelectric Power Plant (coal) in 2023. In addition to the divestments in fossil generation assets, ENGIE Brasil Energia also sold the Lages Cogeneration Unit in 2024, which was powered by wood, a combustion process associated with the emission of particulate matter, sulfur oxides, and methane.

Objectives of the Climate Journey

- Investing in the expansion of renewable energy generation, supporting the decarbonization of different companies, sectors, and the country.
- 10- Investing in projects that will reduce the Company's GHG emissions and engaging its value chain to do the same, through strategic partnerships.
- Investing in projects with Nature-Based Solutions
- Implementing the roadmap outlined in the Climate Journey, which is science-based and the objectives developed within the ENGIE Group, contributing to the efforts for the necessary reductions required to to meet the goals of the Paris Agreement.
- Strengthening the climate resilience of assets.
- Annually disclosing greenhouse gas (GHG) emissions and performance against established decarbonization targets.

The Climate Journey is supported **by three fundamental pillars:**

Management

It integrates climate governance, risk and opportunity management, and the incorporation of climate action into the Company's strategy and decision-making processes.

Mitigation

It involves the reduction of greenhouse gas (GHG) emissions, with a focus on decarbonizing our operations and value chain, investing in renewable energy, and promoting energy efficiency.

Adaptation

It includes measures to increase the resilience of the Company's assets and the regions where it operates, in the face of the impacts of climate change, such as extreme events and water scarcity.

Pillars of **the Climate Journey**

MANAGEMENT

Inventory, engage, and raise awareness

- GHG inventory;
- Qualification and training;
- Internal and external reports, such as CDP, DJSI and GRI;
- Public commitments and adherences;
- Regulatory monitoring, especially of the regulated carbon market;
- Internal and external communications.

Highlights

- Development of a GHG inventory since 2010, certified by a third party. In 2022, a *screening* of Scope 3 indirect emissions was conducted to ensure that all applicable emission categories are accounted for;
- Automation of the GHG inventory, with efficient and integrated control and management of emissions;
- Evolution over the years in the scores obtained in the CDP, Dow Jones, ISE, and IC02 questionnaires (see more on page 28);
- Adherence to the Global Compact in 2023 and the Net Zero Ambition Movement in 2024;
- Inclusion in the Bovespa iCO2 index in 2021, which includes companies that conduct inventory, certification, and public disclosure of their emissions;
- Launch of the Supplier Decarbonization Program in 2024, with suppliers responsible for more than 80% of the supply chain emissions being invited.
  The program was recognized and awarded during COP29 by the United Nations Global Compact - Brazil Network, in the "Guardians for the Climate" category;
- Development of a module for accounting GHG emissions and evaluating potential decarbonization projects on the Descarbonize platform, available to suppliers participating in the Supplier Decarbonization Program;
- The recognitions received by Clima Paraná Seal since 2018;
- Publication by ENGIE Group of the Fair Transition Policy.

MITIGATION

Reduce, eliminate, compensate and innovate

- Definition and monitoring of commitments and goals;
- Identification of opportunities to reduce emissions;
- Compensation of residual GHG emissions.
- Expansion of the Carbon Credit portfolio offering;
- Monitoring, transition, and management of projects under the UNFCCC (United Nations Framework Convention on Climate Change) mechanisms;
- Promotion of biodiversity conservation actions.

Highlights

- Aligned with the ENGIE Group's global goals of achieving carbon neutrality by 2045, ENGIE Brasil Energia has set intermediate targets for 2025 and 2030, in accordance with the Science Based Targets initiative (SBTi). These efforts resulted in a 61% reduction in total GHG emissions in 2024 compared to the previous year. The reduction was primarily due to the sale of the last coal-powered asset in the first half of 2023 – Pampa Sul Thermoelectric Plant.
- Since 2023, 100% of the electricity consumed by ENGIE Brasil Energia comes from renewable energy sources. As a result, the Company's indirect Scope 2 emissions are eliminated. This practice is planned for the following years;
- Carbon credit emissions between 2020 and 2024: 956.7 $ktCO_2$;
- Renewable energy certificate (I-RECs) emissions between 2020 and 2024: 7,880 GWh;
- Renewable energy certificate (ENGIE-RECs) emissions between 2020 and 2024: 16,314 GWh.

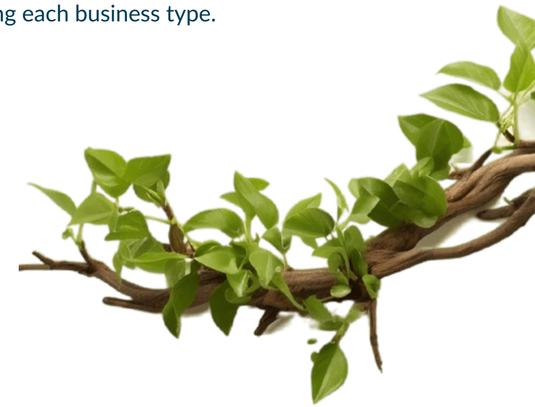
ADAPTATION

Map and address risks and opportunities

- Identification, quantification, valuation, and management of risks and opportunities;
- Plans for adapting to identified vulnerabilities;
- Promotion of the implementation of Nature-Based Solutions;
- Analysis of climate requirements in new business projects;
- Monitoring of climate events and modeling of future projections;
- Alignment with TCFD and IFRS 2, among other *frameworks* on the topic.

Highlights

- In 2024, the climate risks and opportunities of ENGIE Brasil Energia were reviewed, with the valuation of risks deemed critical for assets representing each business type.

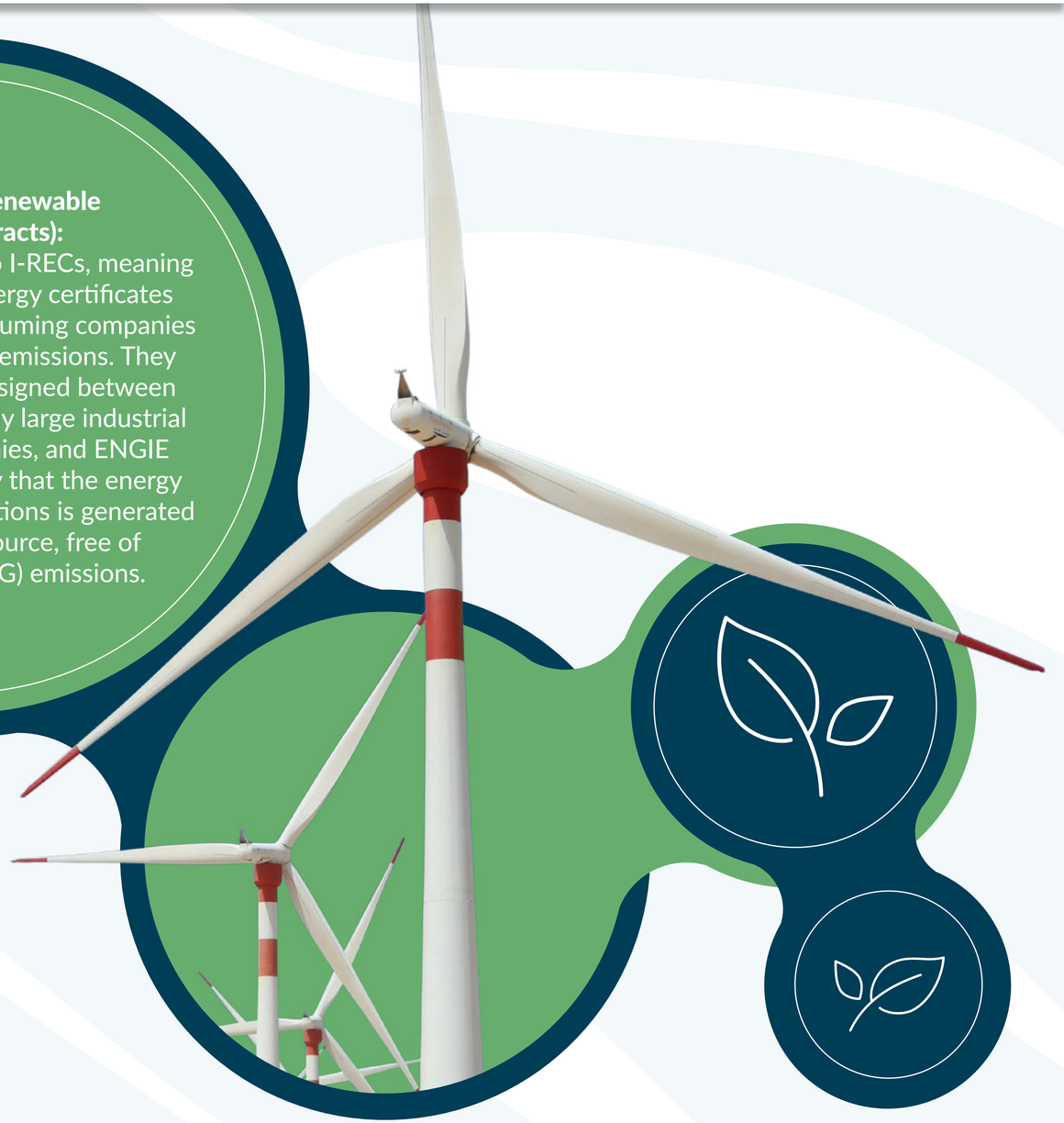


The Company also supports the decarbonization of customers by offering, in addition to renewable energy, solutions such as:

Carbon credits: allow the offset of direct and indirect GHG scopes 1,2 and 3 emissions including those for periods prior to the current yearof the GHG inventory.

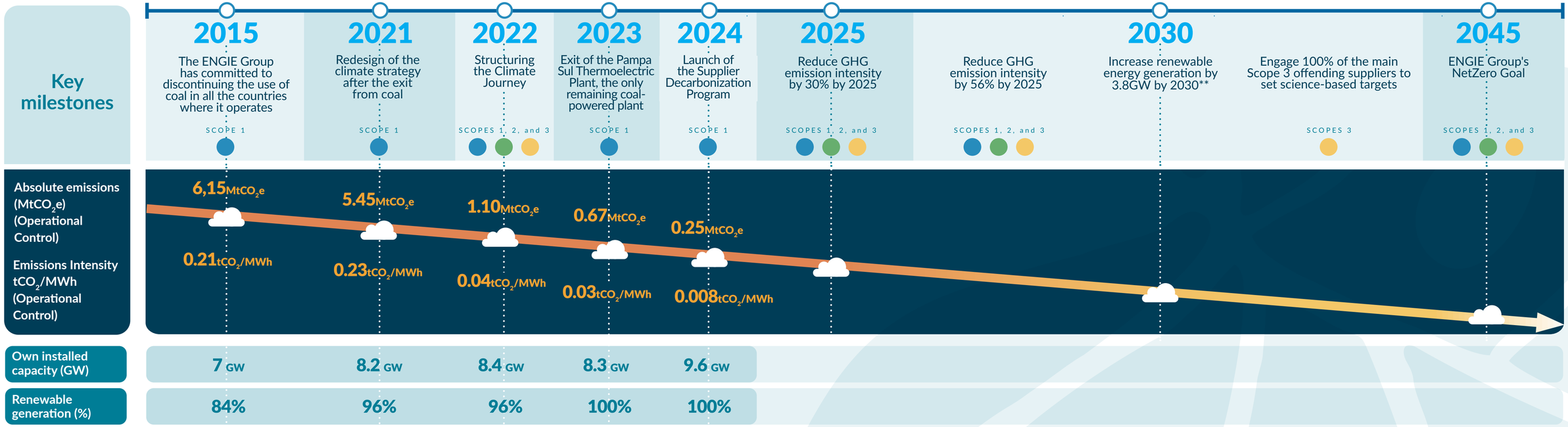
Renewable energy certificates (I-RECs): certify that electricity consumption is from renewable sources, with no GHG emissions. The certificate is internationally recognized and can be used to offset Scope 2 emissions.

ENGIE-RECs (Renewable Energy Contracts): they function similarly to I-RECs, meaning they are renewable energy certificates that can be used by consuming companies to offset their Scope 2 emissions. They are linked to contracts signed between free consumers, primarily large industrial or commercial companies, and ENGIE Brasil Energia, to certify that the energy consumed in their operations is generated from a renewable source, free of greenhouse gas (GHG) emissions.



Summary of climate strategy

The infographic shows the short, medium, and long-term emission reduction targets, as well as the key milestones in the Climate Journey.



Absolute emissions (MtCO2e) and intensity emissions (tCO2e/MWh) cover scopes 1, 2, and 3, with scope 2 considered under the 'Purchase Choice' approach of the GHG Protocol. It is important to note that the values from 2015 to 2023 include the operations of the coal-fired power plants.

Actions

SCOPE 1

- Significant reduction in emissions due to the exit of fossil fuel-powered plants[1]
- Gradual replacement of gasoline with ethanol in the light vehicle fleet of assets and the headquarters
- Implementation of electric vehicles in the fleet (pilot)
- Assessment of replacing diesel generators with ethanol generators
- Assessment of replacing combustion-powered brush cutters with battery-operated models
- Use of refrigerant gases with a lower global warming potential (GWP) in air conditioning equipment and assessment of the reduction in consumption and fugitive emissions
- Assessment of equipment that eliminates the use of SF_6 or uses gases with a lower GWP
- Assessment of carbon removal projects in forested areas
- Assessment of methane capture in hydropower reservoir storage
- Adoption of practices that reduce the need for brush clearance during the construction of transmission lines, such as cable deployment by drones.

SCOPE 2

- Consumption of 100% renewable energy since 2023 through the acquisition of IRECs, eliminating Scope 2 emissions
- Assessment of energy efficiency at the headquarters, leading to a reduction in electricity consumption.

SCOPE 3

- Screening of Scope 3 emissions aimed at ensuring that all applicable emission categories are accounted for
- Assessment of ESG practices of all suppliers and promotion of training, capacity-building, and the distribution of informational materials on climate change
- Supplier Decarbonization Program, aimed at supporting suppliers responsible for more than 90% of ENGIE Brasil Energia's supply chain emissions in the development of GHG inventories and setting science-aligned targets
- Gradual increase in the accuracy of supplier emissions due to the combination of the GHG Protocol methodology called Supplier-Specific (data from suppliers) with the Spend-Based Data methodology and the replacement of the Quantis emission factors database with the US-EPA database.

[1]Thermoelectric plants: Alegrete (fuel oil) in 2014, Charqueadas (coal) in 2016, William Arjona (gas) in 2019, Jorge Lacerda (coal) in 2021, and Pampa Sul (coal) in 2023.

Journey for **Nature**

ENGIE Brasil Energia recognizes the crucial importance of nature for society and the global economy and considers sustainability a central and fundamental aspect of its operations. Its commitment to nature is reflected in the Sustainable Management Policy and the Environmental Policy, which includes the areas of biodiversity, forests, water, circular economy, and climate, covering its own operations as well as those of suppliers and partners. Both policies are endorsed by the Board of Directors.

In line with the TNFD recommendations, the Company launched the Nature Journey, a strategic program aimed at promoting the restoration and conservation of natural ecosystems, with the goal of reversing Nature loss.

The Nature Journey program adopts a territorial implementation approach, tailoring actions to the specific characteristics of each Brazilian biome and incorporating the knowledge and culture of local and indigenous communities. Thus, the conservation model is structured around five conservation domains, implemented through execution mechanisms. See on the next page.

Biodiversity conservation model

Bases of the biodiversity **strategy**



Means of implementation

- Measurement of impacts/pressure on biodiversity in ecosystems/territories
- Economic valorization of local biodiversity
- Partnerships for biomes conservation
- Management of risks and opportunities relating to the biodiversity of territories
- Promoting the conservation of biodiversity in the value chain
- Research, development and innovation

The five domains

The Journey For Nature is structured around five main domains recommended by the TNFD:

- **Land:**
  Forests, savannas, deserts, and other terrestrial ecosystems.
- **Fresh Water:**
  Rivers, lakes, and other freshwater ecosystems.
- **Oceans:**
  Marine and coastal ecosystems.
- **Atmosphere:**
  Atmospheric systems and their influence on biodiversity.
- **Society:**
  Interactions between people, businesses, and institutions with nature.

Learn more about the methodology in the Annexes.

Means **of execution**

To achieve its objectives, The Journey For Nature relies on six main means of implementation:

IMPACT MEASUREMENT • Rigorous assessment of the Company's activities' impacts on biodiversity, aiming to avoid, minimize, and offset negative effects, as well as enhance positive impacts.

RISK AND OPPORTUNITY MANAGEMENT • Identification and management of nature-related risks and opportunities in the territories where the company operates, using tools such as the Environmental Risk Matrix.

ECONOMIC VALUATION OF BIODIVERSITY • Implementation of mechanisms to economically value local biodiversity, including payments for ecosystem services, ecotourism, bioprospecting, and carbon and biodiversity credits.

PROMOTION OF CONSERVATION IN THE VALUE CHAIN • Engagement of suppliers and customers in sustainable practices that contribute to biodiversity conservation.

PARTNERSHIPS FOR CONSERVATION • Establishment of strategic partnerships with public and private institutions to strengthen conservation efforts.

RESEARCH, DEVELOPMENT, AND INNOVATION • Investment in research and innovation to develop solutions and technologies that promote biodiversity conservation and sustainability.



Complementary studies

ENGIE Brasil Energia's strategy also takes into account social impact, extending the identification and mitigation of impacts to traditional communities.

In Goiás, for example, extensive work is being carried out to complement the impact studies of the Cana Brava Hydropower Plant on the Avá-Canoeiro Indigenous Land, as outlined in the Work Plan proposed by ENGIE Brasil Energia and validated by the National Indian Foundation (Funai).

Throughout the studies, field campaigns were conducted, focusing on the socioeconomic, physical, and biotic environments, to collect data, considering sampling during both dry and rainy periods. Additionally, both Indigenous and non-Indigenous professionals working in the territory were interviewed by anthropologists specialized in the ethnicity and who speak the Avá indigenous language. The supplementary studies were submitted to Funai and, after their validation by the Foundation, they will be presented to the Avá for approval. As a result, discussions with the Indigenous community continue to progress, with free, prior, and informed consultation processes, fully respecting Indigenous rights and the guidelines of Convention 169 of the International Labor Organization. The next steps aim to define, in collaboration with the Indigenous Community, socio-environmental actions to be carried out, focusing on the interfaces between the reservoir and the indigenous land, the knowledge of this people, of these people and the rediscovery and reclamation of their ethnic heritage.

ENGIE Brasil Energia adopts a territorial approach for the implementation of the program, adapting its actions to the specific characteristics of each Brazilian biome and **incorporating the knowledge and culture of local and indigenous communities**



Indexes

In 2024, ENGIE Brasil Energia achieved, for the second consecutive year, the "A-" rating in the Climate Change module of the CDP questionnaire. In addition, the Company received an A rating in the Water Security module, reported for the first time by ENGIE Brasil Energia, securing a place on the CDP "A List".

The performance achieved in both areas demonstrates that the company continuously invests in adopting the best market practices, being recognized as a global leader in the fight against climate change and water security.

Check the table on the right-hand side for ENGIE Brasil Energia's performance in various sustainability indices over the past few years.

Evolution of the scores obtained in the Paraná Seal and the CDP, Dow Jones, ISE, and IC02 questionnaires

Questionnaire	Criteria	2022	2023	2024
CDP Climate	General note	B	A-	A-
CDP Water	General note			A[1]
ICO2 of B3	Entry into the portfolio	Yes	Yes	Yes
DJSI	General note	61	77	85[2]
	Enviromental category	62	78	85
ISE	General note	78.22	88.64	✳[3]
	Enviromental category	87.96	93.13	✳[3]
	Climate change category	71.40	85.70	✳[3]
Paraná Climate Seal[4]	General note	A	A	A

[1]First year of reporting [2]Entry into the Emerging Markets Portfolio [3]Awaiting disclosure [4]Participating units: Salto Osório Hydropower Plant (UHSO), Salto Santiago Hydropower Plant (UHSS), and Gralha Azul Transmission Company (TEGA, since 2023).



Management of dependencies, impacts, risks, and opportunities

3

Dependencies and **impacts**

The relationship between organizations and nature is marked by dependencies and impacts, which consequently give rise to risks and opportunities. In the context of the Company's operations, the interface with ecosystem services occurs at various levels of dependency and impact, depending on the characteristics of the operations and the territories in which they are located. In line with the recommendations of the TNFD, the World Business Council for Sustainable Development (WBCSD) Energy Pathway, and the ENGIE Group, we have conducted a detailed analysis of these dependencies and impacts, recognizing that the health of natural systems is essential for the continuity and resilience of our business. The following tables present the impacts and dependencies of ENGIE Brasil Energia's business, organized by business type, including upstream impacts in the value chain and the level of impact/dependency.

Business dependencies

	Generation				Transmission
Changes in land, water and ocean use					
Use of terrestrial ecosystems	Very High	Very High	High	Very High	Medium
Use of freshwater ecosystems	✕	Low	✕	✕	✕
Use of marine ecosystems	✕	Medium	✕	✕	✕
Exploitation of natural resources					
Water use	Very High	✕	✕	✕	✕
Use of other resources	✕	✕	Medium	High	✕
Climate Change					
Greenhouse Gas Emissions (GHG)	Medium	✕	✕	Medium	High
Pollution					
Air pollutants other than GHGs	✕	✕	✕	High	✕
Water pollutants	High	Low	Low	High	Low
Soil pollutants	High	Low	Low	✕	✕
Solid waste	✕	Low	Low	High	Low
Invasive and other species					
Disruption	Medium	Medium	✕	High	✕
Biological alterations/interferences	High	✕	✕	High	✕

Business impacts

	Upstream	Generation				Transmission
Direct physical inputs						
Fibers and other materials	✕	✕	✕	✕	High	✕
Underground water	High	Medium	✕	Low	Medium	✕
Surface water	High	High	✕	Low	Medium	✕
Enablers/production processes						
Maintenance of water flow	High	High	✕	✕	Medium	✕
Water quality	✕	Low	✕	✕	Low	✕
Direct impact mitigation						
Bioremediation	✕	Low	✕	✕	Low	✕
Filtration	✕	Low	✕	✕	Low	✕
Protection against disrupters						
Climate regulation	High	High	High	High	Low	✕
Flood and storm protection	High	Medium	Medium	Medium	Medium	High
Mass stabilization and erosion control	Medium	High	Medium	Medium	Low	High

Value chain

- Mining

Direct operations

- Hydropower
- Wind
- Photovoltaics
- Biomass
- Transmission Line

Impact level

- Very High
- High
- Medium
- Low
- ✕ Not avaliable

Source: Adapted from the World Business Council for Sustainable Development (WBCSD)

Risks and **Opportunities**

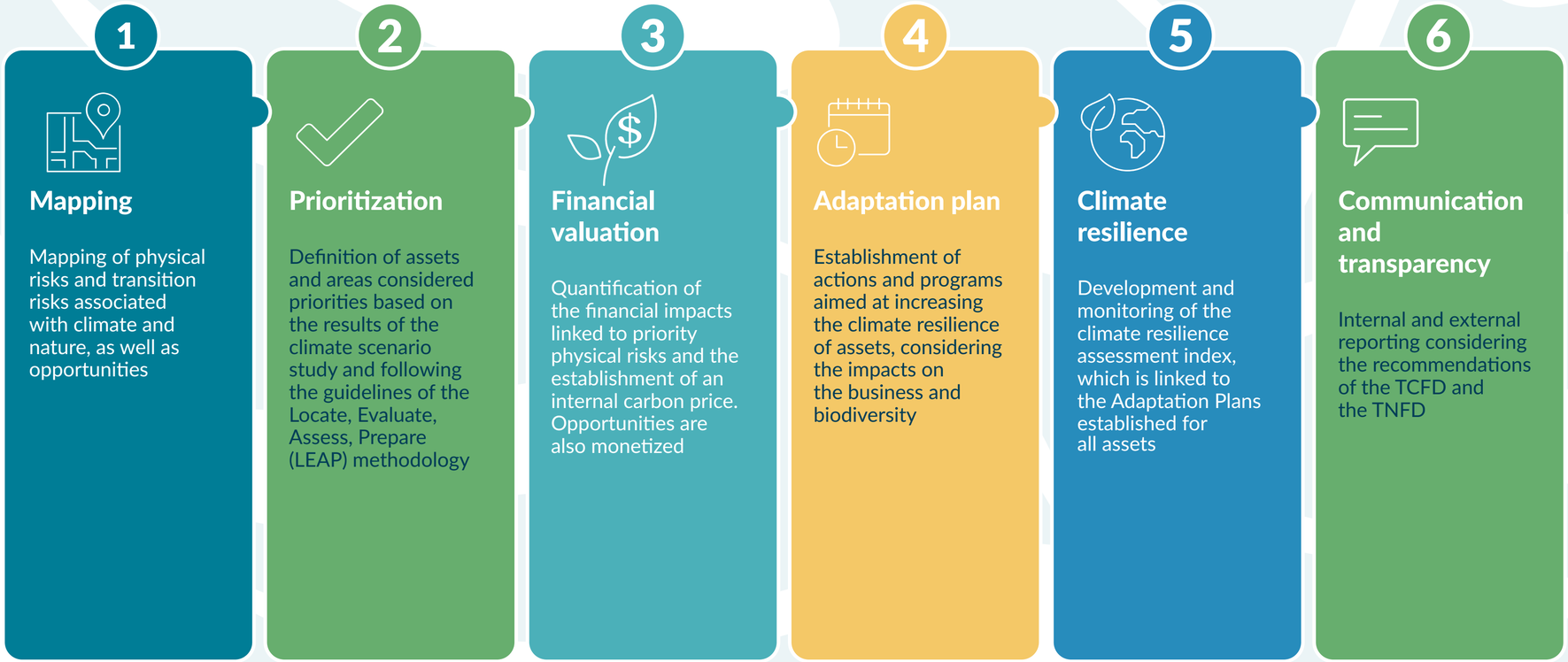
Arising from dependencies and impacts, climate and biodiversity risks are highly relevant to the business and underscore the need for an integrated approach to manage the interconnections between climate and nature.

ENGIE Brasil Energia's risk management follows the principles and guidelines of the global risk management framework proposed by the ENGIE Group (Enterprise Risk Management – ERM), which assesses the likelihood and impact of risks in categories such as environmental licensing, biodiversity damage, and impacts on local communities. It also assesses physical climate risks and transition risks to a low-carbon economy.

The process is integrated and multidisciplinary, involving the Environmental and Climate, Legal, Business Risks, Portfolio Management, Regulatory, and asset teams, among other areas.

In this section, the steps that make up the risk and opportunity management process at ENGIE Brasil Energia will be presented. In the Annex section, it is possible to view the tools used and how they assist in mapping and assessing dependencies and impacts, both in direct operations and in the value chain, starting from the development phase of a new business.

Steps that make up the **management of climate and nature-related risks and opportunities**



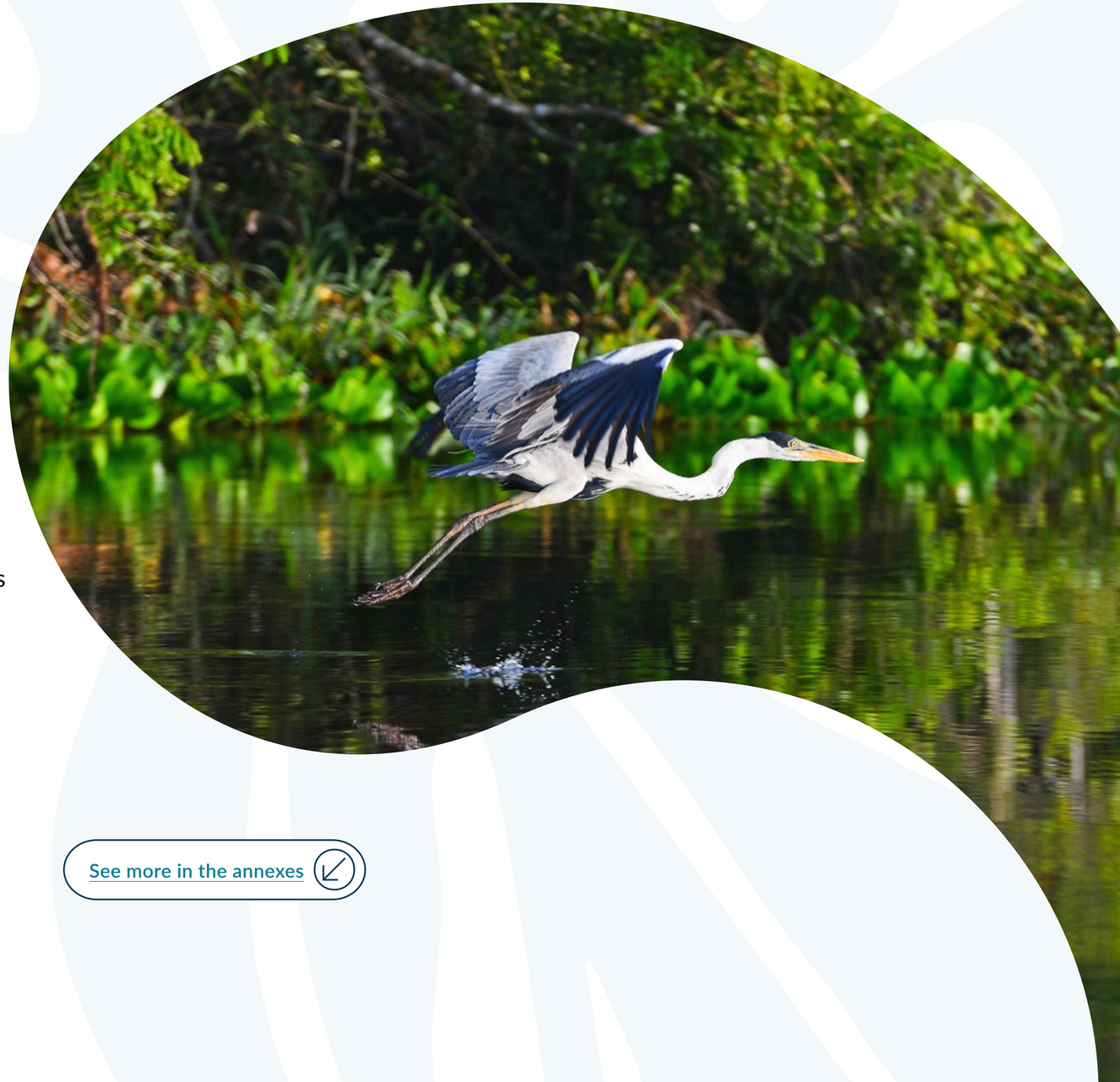
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Mapping and **evaluation**

ENGIE Brasil Energia adopts a robust and integrated approach to identify and assess risks related to climate, nature, and socio-environmental aspects. The risk analysis is based on the risk identification methodology developed by the ENGIE Group, with the indicators adapted to represent the local reality of different regions in Brazil.

Aligned with the recommendations of the TCFD and TNFD, the methodology combines specialized tools and strategic management practices to ensure a comprehensive analysis at all stages of the business cycle, starting with a scenario analysis of extreme weather events[1]. The list of all risks and opportunities with potential impact on the Company is presented in the Annexes section.

The work is coordinated by a Working Group (WG), composed of members from different areas, including planning, operations, maintenance, corporate risks, and environmental management. The members meet at least quarterly, with climate experts and consultants invited to contribute and support the analyses.



See more in the annexes

[1]The scenario analysis considers the Shared Socioeconomic Pathways (SSP) scenarios proposed by the Intergovernmental Panel on Climate Change (IPCC). They are presented in the Annexess.

1
Mapping and **evaluation**

Learn more in the annex on page 61

In 2024, during the risk and opportunity review process, 17 risks and 11 opportunities with potential impact on ENGIE Brasil Energia's business, nature, and society were identified.

The following presents the main risks and opportunities identified. The detailed assessments of physical and transition risks are presented in the Annexes section.

List of risks **and opportunities identified**

Hazard category	Nature of the hazard	Risk Factor	Risk Description
Physical risks	**Physical**	Landslides	The increase in the frequency and intensity of extreme daily accumulated rainfall may lead to a rise in the occurrence of landslides. The materialization of this risk can lead to both financial and non-financial impacts for the organization, ranging from damage to assets to potential conflicts with the community.
		Water scarcity	The increase in the frequency and intensity of drought may generate financial and non-financial impacts for the organization, ranging from reduced electricity generation to potential conflicts with the community.
		Wildfires	The increased risk of forest fires may cause financial and non-financial impacts for the organization, including significant damage to infrastructure and presenting risks to human safety. It may also lead to the displacement of animals and an increase in their presence in the assets and the community.
		Flooding	The increase in the frequency and intensity of extreme daily accumulated rainfall may lead to a rise in the occurrence of flooding. The materialization of this risk can lead to both financial and non-financial impacts for the organization, ranging from damage to assets to potential conflicts with the community.
		Heat Waves	The increasing frequency and intensity of heatwaves can result in both financial and non-financial impacts for the organization, including significant damage to infrastructure and risks to human health and safety. Thermal stress in the workplace occurs when employees are exposed to extreme temperatures, which can lead to serious health issues such as dehydration, heat exhaustion, cramps, and, in severe cases, heatstroke. In addition, there may be an increase in the presence of venomous animals.
		Wind storms	Extreme wind events are characterized by exceptionally strong and persistent winds that can cause financial and non-financial impacts for the organization, including significant damage to infrastructure and risks to human health and safety.

1 Mapping and **evaluation**

Learn more in the annex on page 61

List of risks **and opportunities identified**

Hazard category	Nature of the hazard	Risk Factor	Risk Description
Transition Risks	**Market**	Market loss	Increased competition in the renewable energy sector with lower-cost technologies and/or higher operational capacity.
	Current Political and Legal	Increase in costs associated with insurance coverage or limitations on insurance coverage	The growing financial impact of climate change is increasing insurers' risk perception, which is reflected in higher insurance premiums or restricted coverage by insurers.
	Emerging Political and Legal	Establishment of GHG emission pricing – Carbon pricing	Decarbonization policies, such as carbon pricing and emissions regulations, can impact the financial viability of ENGIE Brasil Energia's assets, including the implementation of the Brazilian Emissions Trading System, established in December 2024 by Law 15.042.
	Reputation	Pressure from customers and investors regarding the exposure of the corporation's assets to climate change and impacts on nature	Change in the perception of the impacts related to the exposure of an asset to climate risks and real or perceived impacts on nature.
	Technological	Implementation of technologies to achieve GHG emission reduction targets and/or reduce impacts on nature	Risks associated with the substitution of products or services to reduce impact on nature and/or dependence on nature. For example, the conversion of assets to hydrogen or divestments in solar power plants due to the relationship between generation and the area cleared.
	Responsibility	Evolution, update, and application of regulations in the operation of assets	They arise directly or indirectly from lawsuits as laws, regulations, and case law related to an organization's preparedness for actions against nature evolve. For example, changes in the threat level of a particular species.

1 Mapping and **evaluation**

Learn more in the annex on page 61

List of risks **and opportunities identified**

Hazard category	Nature of the hazard	Risk Factor	Risk Description
Opportunities	**Markets**	Increase in customer demand in the ACL associated with renewable energy generation	With growing awareness of the environmental impacts of carbon emissions, many companies are seeking more eco-friendly alternatives for their energy needs. This is driving a growing demand for renewable energy in the Free Energy Market, where customers have the freedom to choose their suppliers. Renewable energy companies can capitalize on this opportunity by offering green energy supply contracts sourced from solar, wind, and hydroelectric power. By meeting the growing demand for clean energy, renewable energy companies not only expand their market but also make a significant contribution to the decarbonization of the economy and the fight against climate change.
	Products and Services	Growth in demand for new transmission projects due to the increased demand for electricity to adapt to climate change and the expansion of renewable energy generation units	The increase in electricity demand due to climate change drives the growth of transmission projects. With higher temperatures, electrical grids need to be expanded and modernized to ensure a reliable energy supply and maintain quality of life conditions, which are also linked to the adaptive capacity of the population. New transmission projects connect renewable sources to urban centers, supporting the growing demand for electricity in a resilient and low-carbon way.
	Products and Services	Technological and regulatory evolution of the electricity sector enabling the exploration of ancillary services and/or energy storage from intermittent sources	Aligned with the modernization of the electricity sector and the development of technologies within the energy transition, the reduction in the cost of batteries or other energy storage technologies for renewable sources will enable the exploration of new markets when combined with regular advancements in the use of ancillary services and energy storage. Additionally, regulatory advancements should be considered for the inclusion of hydropower plants as capacity providers for the electrical grid.
	Products and Services	Implementation and/or operation of new low-carbon energy generation technologies (e.g., *offshore* wind)	A renewable energy company can capitalize on the climate opportunity of deploying and operating new low-carbon energy generation technologies, such as *offshore* wind energy and green hydrogen plants. These initiatives not only drive the transition to a lower GHG-emission energy matrix but also offer the opportunity to develop associated infrastructure and establish strategic partnerships to foster innovation and the sustainable expansion of businesses, including the implementation of hybrid projects.
	Resilience	Access to sustainable investments and financing options to enable decarbonization projects	For a renewable energy company, access to sustainable investments and financing options is crucial to drive decarbonization projects. This involves securing resources to develop and expand wind farms, install solar energy systems, invest in energy storage technologies, and modernize transmission infrastructure to facilitate the integration of renewable sources into the electrical grid. These investments can be made possible through green financing, sustainable bonds, and partnerships with investors focused on positive environmental impact. By accessing these resources, the company not only advances its decarbonization mission but also strengthens its position as a leader in providing sustainable energy solutions.



2 Prioritization

In the climate context, based on scenario analysis, we identify the assets most exposed to significant impacts, both financially and in terms of loss of life, due to extreme weather events. For such assets, a more detailed financial valuation is conducted (the 2024 results are presented in step 3). It is important to highlight that adaptation plans are developed for all assets, whether considered priority or not (as will be seen in step 4), due to the relevance of the issue for ENGIE Brasil Energia.

Regarding transition risks, the Company adopts an internal carbon price when analyzing new investments in power generation assets, taking into account the existence of a carbon market in the country.

2

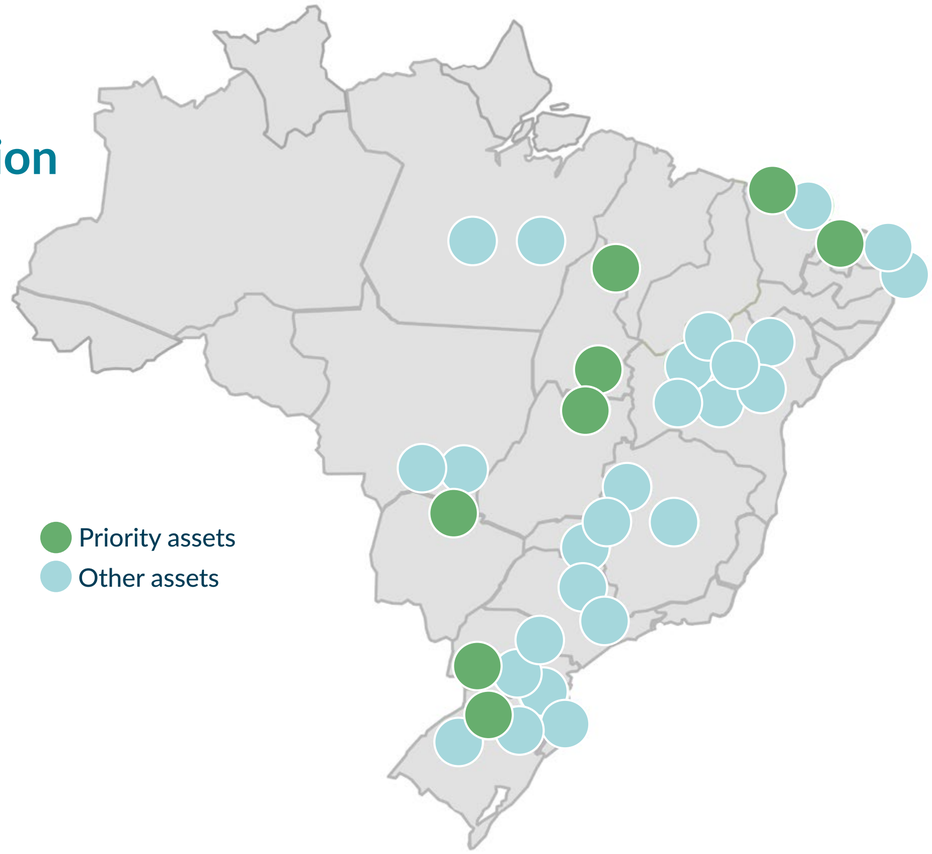
Prioritization

In the context of nature, ENGIE Brasil Energia uses geolocation tools combined with various databases to identify areas of greater relevance in terms of dependencies and impacts on biodiversity and society. Throughout 2024, in line with the expectations and criteria of the ENGIE Group, the identification and designation of priority areas were reviewed, taking into account criteria related to water availability and socio-environmental factors. In this way, assets with higher risk in relation to their interface with nature, as well as business dependency and impact, are considered priorities.

Prioritization guides strategic decision-making in the environmental management of assets, supports the assessment of action effectiveness, and enables the customization of investments, allowing for synergy between legal obligations and the conservation of targets and priority areas. Action plans are structured with a focus on priority assets, as positive impacts can be maximized. Areas or sites considered non-priority also establish voluntary initiatives based on the premises of the Jornada pela Natureza (Journey for Nature) program. See more in Chapter 2 - Climate and Nature Strategy.

The review of priority areas, initiated in 2024, complies with the LEAP methodology developed by TNFD and takes into account four pillars (biological importance, ecosystem integrity, sectoral impact, and social impact) and ten indicators. In 2024, 100% of the operational assets were assessed, with nine of them classified as high priority, in relation to the total. All of these assets have an ongoing action plan, which, based on the environmental licensing processes and the analysis of dependencies and impacts, defines actions to mitigate negative impacts and opportunities to promote positive impacts.

Assets by degree of prioritization



PILLARS FOR ANALYSIS OF PRIORITY AREAS

Pillar	Analysis
Biological importance	Assessment of the interface with nature
Ecosystem integrity	Assessment of the ecological footprint, with an analysis of the area's integrity considering both static and dynamic impacts
Sectorial Impact	Assessment of the dependence and impact promoted by the type of business
Social Impact	Assessment of the interface with traditional communities

COVERAGE IN HECTARES

Total area in operation	299,195
Priority area	110,439
Area with action plan in progress	110,439



3 Financial valuation

ENGIE Brasil Energia conducts a financial assessment of climate risks classified as priority. The calculation methodology takes into account aspects such as monitoring costs, costs for replacing equipment and infrastructure, and insurance coverage for damages caused by natural events.

In 2024, the physical climate risks inherent[1] to assets deemed critical for each business type of ENGIE were assessed. The analysis was supported by a team of external specialists, the corporate risk department, and representatives from the operational assets.

In the context of nature, the financial assessment of impacts will be structured with the aim of integrating the trajectories of climate and biodiversity. With the evolution of guidelines and methodologies, such as those proposed by TNFD, this strategy will guide a more comprehensive and effective analysis.

The table below presents the estimated range of values for the SSP5-8.5 (catastrophic) scenario for 2030 and 2050:

ESTIMATED COSTS IN R$ MILLION

	Water Scarcity		Wildfire		Flooding		Wind storms		Landslide	
	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050
Reference solar asset	NA	NA	80-400	82-410	75-375	84-420	165-832	168-840	NA	NA
Reference wind asset	NA	NA	530-2,600	545-2,700	NA	NA	505-2,500	515-2,570	NA	NA
Reference water asset	750-2,000	990-1,700	NA	NA	110-860	125-960	NA	NA	27-600	30-670
Reference Transmission Line	NA	NA	5-141	5-142	3-34	3-36	NA	NA	1-17	1-18

[1] Inherent risks refer to the risks existing before any mitigation or adaptation actions.



Annually, Adaptation Plans are defined for each asset, considering the analysis of substantial risks[1]. Such plans are considered an important tool for adopting measures and defining the annual budgets of assets, connecting risk management to corporate governance and strategic planning. They include a list of measures and actions required to prevent and strengthen assets in relation to natural and extreme climate events.

Although the asset structures are designed to withstand the most extreme situations, including those with a very low probability of occurrence, various scenarios are tested to assess the degree of resilience against the most critical and catastrophic situations.

In 2024, Adaptation Plans were developed for all assets, considering the mapping of material physical climate risks, potential financial impact, which adaptation actions are already planned, and which ones should be implemented in the coming years.

[1] A substantial impact is one that represents a variation of 5% or more in the accumulated Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) or in the Current Operating Revenue compared to the medium-term plan (MTP).



Climate

Through the climate resilience index, ENGIE Brasil Energia identifies and compares the level of resilience to climate change of each asset individually.

The index is composed of indicators of probability, impact level, and adaptation measures, and is calculated for each climate threat. It can range from 0 to 1, with 1 representing the level of resilience considered satisfactory. This indicator is one of the tools that assist in the development and/or review of the actions that make up the Adaptation Plans developed for each asset. The index is in the process of being reviewed in 2025.

Nature

Regarding nature, the focus on resilience will be carried out as the stages of the Journey for Nature are implemented.



Communication and **transparency**

Climate and nature

Dialog with stakeholders, such as NGOs, regulatory bodies, local communities, investors, and suppliers, is central to the risk management process. This interaction allows the incorporation of different perspectives, helping to identify mutually beneficial opportunities and directing efforts toward priority areas.

Training on climate and nature-related issues

ENGIE Brasil Energia promotes training and capacity-building actions with the goal of engaging and deepening the knowledge of its stakeholders, managers, and employees on climate and nature-related issues.

How the **dialogue with *stakeholders*** occurs







Local communities	Suppliers	Executive Board and Board of Directors
• The Social Communication and Environmental Education Programs, carried out within the context of environmental licensing, are structured under the Conexão Program and provide systematic guidelines for integrating climate and nature approaches. • For operational assets, every two years, meetings called 'Dialogs with Stakeholders' are held, which are voluntary engagement actions. The public is invited to share their perceptions, both negative and positive, regarding the impacts of the asset on their communities, including social, environmental, and climate aspects. It is a moment of active listening, which is then translated into individual action plans for each asset. At the end of the meetings, ENGIE Brasil Energia presents basic concepts related to Climate Change and Nature, focusing on biodiversity, water conservation, and circular economy. • The Company also organizes lectures and events for the external public during Environmental Week, which takes place at the operational assets. • For assets under development, dialog with stakeholders is implemented in a systematic and continuous manner, due to the nature and intensity of the activities. Particularly due to assets in regions near quilombola communities, the hearings are conducted in a structured manner in line with current legislation. • In some regions, through the Project Monitoring Committees (CAE), which include representatives from ENGIE Brasil Energia, the local community, government authorities, and civil society, the compliance with legal and environmental requirements by the assets is transparently assessed, as well as the evaluation and mitigation of socio-environmental impacts. These meetings ensure a continuous and efficient channel for dialog between all parties involved. • The conduct of emergency drills around hydroelectric generation assets is a mandatory engagement action, supported by the local Civil Defense. In these events, the community participates in simulated exercises using the sound alert system, aiming to recognize evacuation signals for escape routes and meeting points.	• In 2024, among the actions of the Supplier Decarbonization Program, there were training sessions on the following topics: 'Introduction to Climate Change and GHG Inventory'; 'Carbon Market'; 'Climate Risks and Opportunities'. On average, more than half of the invited companies participated in the events. • Within the scope of the ESG Project, promoted by the Procurement department of ENGIE with support from the Environmental department, the topics of the lectures in 2024 were: 'Environment and Climate Change: The Role of Nature in Corporate Sustainability' and 'Challenges and Opportunities Related to Climate Change'. More than 80 companies attended the lectures.	• Since 2022, the Executive Board and the Board of Directors have conducted annual training sessions on Climate Change, organized by entities specialized in high-level management training. The training sessions were supported by the Brazilian Institute of Corporate Governance - IBGC. • In 2024, the topic covered was 'Risk and Opportunity Management,' which included a special module on 'Climate Risks.' In 2022 and 2023, the topics were, respectively, 'Climate Change and the Role of Boards' and 'Carbon Market.'

6 Communication and **transparency**

How the **dialog with stakeholders** occurs







Employees	Investors	Regulatory agencies and civil society
• In addition to lectures by climate change and nature conservation specialists at the Sustainable Management Meetings held at the assets, employees have access to *online* training through the e-learning training program.. Topics covered: 'Introduction to Biodiversity,' 'Carbon Emission Accounting,' and 'Stakeholder Engagement.' • In 2024, training sessions called 'Climate Wall' and 'Biodiversity Wall' were held. Both consist of collaborative *workshops* based on a card game, which allow participants, through an interactive approach, to understand the causes and consequences of climate change and the impacts of human activities on ecosystems. • The murals were held in both online and in-person formats and together, they had the participation of 372 and 309employees, respectively, throughout 2024.	• A Communication with investors prioritizes transparency, with detailed information on financial and non-financial results, including the management of environmental risks and opportunities, as well as climate and environmental performance, reported at least quarterly. • A more detailed analysis is presented annually in the Sustainability Report. • The Company also reports data to *rating* agencies such as CDP and Dow Jones.	• ENGIE Brasil Energia actively participates in discussions on regulatory frameworks in the energy sector and collaborates with civil society organizations in debates on climate, biodiversity, and social impacts. See more in the Sustainability Report.

Sustainable Energy Transition – SET label

The SET label is a certification developed by the ENGIE Group to certify that the processes involved in the development, implementation, and operation of renewable energy projects (solar and wind) are carried out in a rigorous and sustainable manner. The label aims to confirm the quality and excellence of the processes, share best practices, and demonstrate a commitment to continuous improvement. For the certification, which is conducted by a third-party auditing team – Bureau Veritas – it is necessary to demonstrate compliance with nine commitments across three pillars (Community, Nature, and Climate).
In 2024, ENGIE Brasil Energia received its first SET label certification, confirming the quality, technical rigor, and effectiveness of its processes.

Commitments and pillars

COMMUNITY

1 Implement a tailored and evolving stakeholder management strategy for each project.

2 Provide an annual assessment of the positive impacts of renewable energy projects to local authorities.

3 Raise employee awareness about the challenges of community ownership and integration of the projects into local communities.

NATURE

4 Conduct a preliminary environmental impact study for each project, validated by a third party formally committed to an independent approach.

5 Share the knowledge gained about biodiversity at our sites and contribute to the global effort to expand understanding of biodiversity.

6 Raise awareness among employees and communities where the projects are located about issues related to biodiversity.

CLIMATE

7 Assess the climate footprint and positive impact of each project.

8 Engage our value chain and participate in the development of the recycling industry.

9 Raise awareness about climate issues among employees and communities located near the projects.

What we do with the results

The process of managing climate and nature-related risks and opportunities enables ENGIE Brasil Energia to:

- Develop action plans for assets, considering priority risks and aiming to increase resilience, both for climate and nature
- Establish strategic and financial planning
- Seek strategic partnerships in operational territories for the protection and conservation of nature, ultimately contributing to the mitigation of climate change
- Define indicators and goals, as well as develop capabilities.





Climate and Nature metrics and targets

4

Metrics and goals are important tools for measuring and tracking our progress in our Climate and Nature Journeys, aiming to expand the impact and reach of our actions. We are committed to transparently reporting our commitments and the progress of results related to our metrics and indicators. The Sustainability Report annually presents the results of the targets managed by ENGIE Brasil Energia, as well as the indicators recommended by the Global Reporting Initiative (GRI).

In this chapter, we will present a summary of the main targets and metrics established within the context of the Climate and Nature Journeys. They have been organized into three major themes: greenhouse gas emissions, areas under water stress, and land use.

Commitments

To better manage the targets set for 2030, ENGIE Brasil Energia establishes annual and intermediate commitments. See below the commitments for 2024:

- Performance in sustainability indices: maintain or improve performance compared to the previous year in indices such as CDP and Dow Jones.
- Water transparency: expand the reporting of water-related aspects in ESG assessments, such as CDP.
- Water consumption reduction: reduce freshwater consumption per energy produced by approximately 70% by 2030 compared to 2019, reaching 0.1 m^3/MWh.
- Implementation of new conservation projects in biomes that do not yet have voluntary environmental initiatives.
- Environmental compliance: not receiving significant monetary[1] sanctions due to non-compliance with legal requirements or related to impacts.



[1]Significant monetary sanctions for the Company are those with amounts greater than US$ 10,000.

Greenhouse gas emissions

ENGIE Brasil Energia contributes to the achievement of the Group ENGIE's goals, its Parent Company[1]. To this end, it has set targets for reducing greenhouse gas emissions intensity for the years 2025 and 2030.

To achieve its mitigation targets, the Company adopts actions such as replacing fossil fuels with renewables in its vehicle fleet and consuming 100% renewable energy, among others. As part of its Journey for the Climate, aiming to reduce Scope 3 emissions, the Supplier Decarbonization Program was created, with the main objective of providing support and guidance to suppliers in establishing their own carbon neutrality trajectory.

Learn more in the Sustainability Report and the Greenhouse Gas Emissions Inventory.

Among the goals established by ENGIE Brasil Energia in its Journey for the Climate until 2030 are:

ENGIE Brasil Energia contributes to the **achievement of its Parent Company's goals**[1]. To this end, it has set targets **for reducing greenhouse gas emissions intensity by 30% in 2025 and 56% in 2030** compared to 2021. **Status in 2024:** A reduction of 84%, both in the operational control approach and in the equity stake approach.

Supplier engagement: **Engage 100% of suppliers** responsible for at least **80% of Scope 3 emissions** to set science-based targets **by 2030**. **Status in 2024:** 10%.

Have **100% of assets** covered by **climate adaptation plans** by 2030. **Status in 2024:** 98%.

Conduct two training sessions (applicable to employees, the Board of Directors, and the Board of Trustees) on **climate change** per year. **Status in 2024:** 100%.

Increase **renewable energy generation by 3.8 GW by 2030**. **Status in 2024:** 11.2%.

[1]The ENGIE Group has short-term targets certified by the SBTi and a goal to reduce absolute emissions by 90% by 2045, self-designated as Net Zero.

Water

Water management is one of the key focus areas of ENGIE Brasil Energia's Environmental Policy, given the essential nature of the resource not only for its operations but also for society and the planet. As outlined in the ENGIE Group's Non-Financial Objectives, the Company aims to become increasingly efficient in water use and works to reduce freshwater consumption per energy produced by approximately 70%, using 2019 as the reference year, reaching 0.1 m^3/kWh by 2030. This target is defined independently of the territory in which the Company's assets operate.

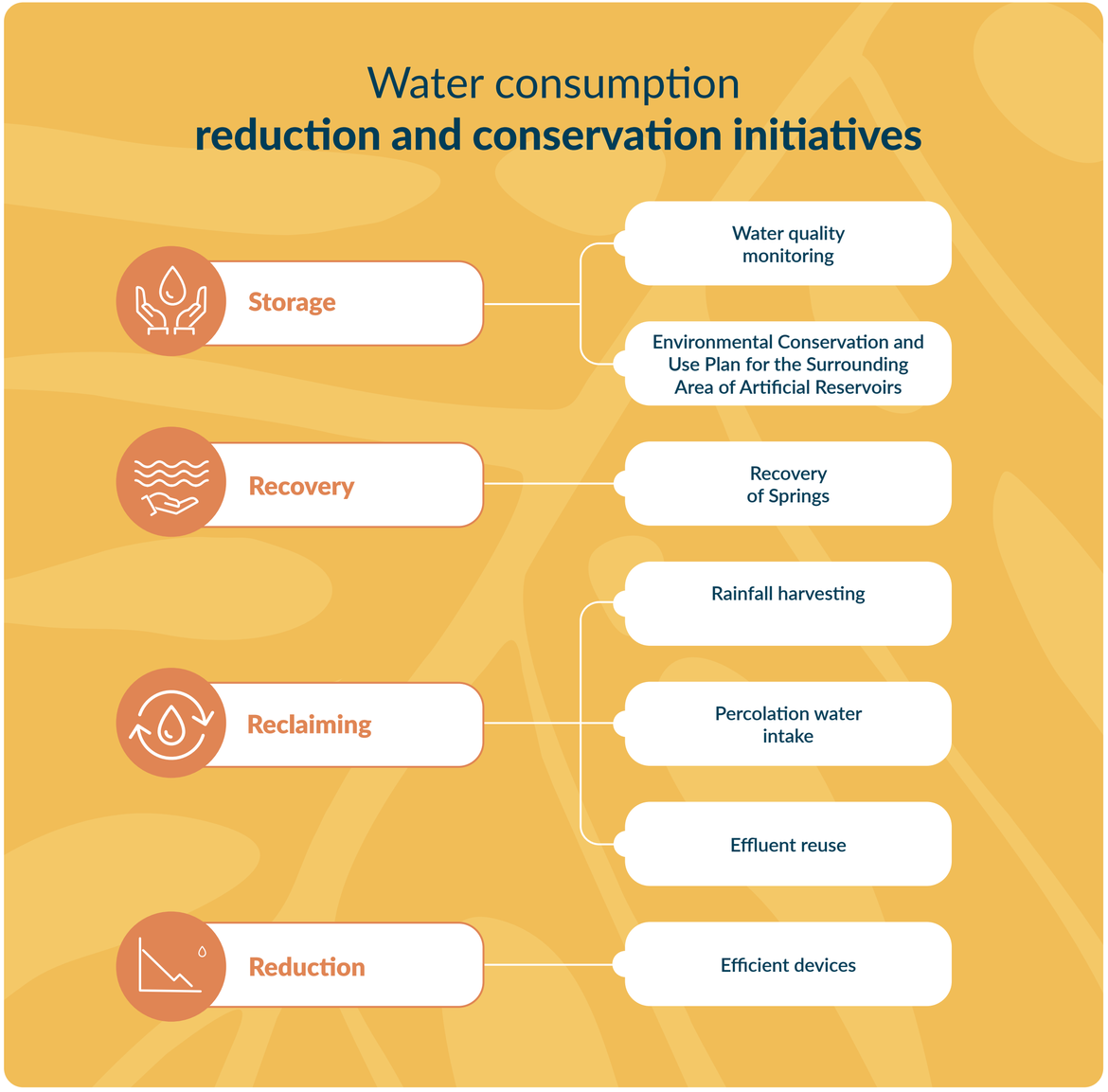
The Aqueduct Water Risk Atlas, a tool developed by the World Resources Institute (WRI) and widely used to assess water stress, drought, and flood risks in 189 countries, is applied annually to ENGIE Brasil Energia's assets. In the analysis conducted in 2025, the results indicate that none of the Company's operational assets are located in areas classified as high or very high water stress.

The Company's projects with the highest risk classification, categorized as medium-high risk, are the Floresta Photovoltaic Complex (RN) and the Sol do Futuro Photovoltaic Complex (CE). In both cases, there is no direct use of water in their production processes.

However, considering the addition of an activity in arid and semi-arid regions, along with the Aqueduct's indicative classification, ENGIE Brasil Energia continues to implement ongoing initiatives for the protection and conservation of water resources, especially in regions such as those of the previously mentioned plants, as well as in areas facing water rationing or where communities highlight water issues as a priority.

The assessment based on the Aqueduct is conducted annually for 100% of the operational assets and is also considered in the context of the evaluation of priority sites. New projects are also subjected to this analysis during their due diligence and acquisition process.

Learn more about water management in ENGIE Brasil Energia's Sustainability Report.



Soil use

The Company is responsible for all territories arising from energy concession contracts, as well as its properties, land leased from third parties, and those under administrative easement. By the end of 2024, this area covered 299.2 thousand hectares, where monitoring, restoration, and regulation of land use and occupation are implemented. Of this total, 29,531 hectares corresponded to Permanent Preservation Areas, Legal Reserves, and other forms of mandatory conservation.

Conservation of flora

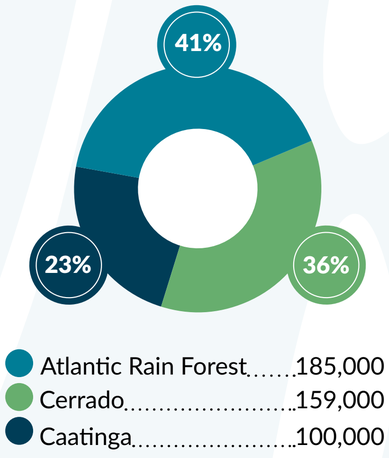
ENGIE Brasil Energia maintains eight forestry nurseries across seven Brazilian states, which contribute to the conservation of local biomes through the production of seedlings of native plant species. Its total annual production capacity is approximately 444 thousand seedlings.

The forestry nurseries supply seedlings of native species from three of the six Brazilian biomes for planting, both in the Company's areas and those of third parties, through donations to schools and local communities.

In regions where the Company does not have its own nurseries, seedlings are supplied through local partners.

These donations are usually made during educational activities, such as events organized in schools or community spaces. The seedlings are also used for the protection of water springs, as well as for the recovery of Permanent Preservation Areas (APPs) and Conservation Units in the regions near the assets.

Annual seedling production capacity, by biome



Atlantic Rain Forest	185,000
Cerrado	159,000
Caatinga	100,000



Legal Reserves and other mandatory conservation areas **total 29,531 hectares**

Over 6 million seedlings have already been planted/donated



Transformative Actions

5



Currently, our portfolio includes over **100 assets** across **14 states** and more than **350 municipalities** in Brazil

Our arrival in a territory marks the beginning of a long-term relationship with the local community, typically lasting between 30 and 50 years. For this reason, what emerges from our interactions with the communities sets the tone for what needs to be developed around each project. Currently, our portfolio includes over 100 assets, spread across 14 states and more than 350 municipalities in Brazil. Our areas of operation encompass diverse biomes, traditional communities, conservation units, and regions with springs, wetlands, or flooded areas, along with a rich variety of fauna and flora. To effectively embrace the scale of this diversity, unique solutions are sometimes required.

To grasp the particularities of each territory, communication channels and active listening are essential. Every two years, we carry out a structured process of active listening with the communities across all our operations, supported by specialized advisory services and the participation of our local teams. In these dialogs, the main topics, concerns, and needs raised by residents, local associations, representatives of civil society and government, and other stakeholders are gathered. The projects and programs we execute, sponsor, or support aim to align our guidelines with the results of these consultations, the communities' aspirations, and the territories' potential.

In order to reach not only the communities surrounding our assets but also the other groups with whom we interact, some initiatives focused on climate and nature are also directed towards our employees and suppliers. We believe that addressing these issues comprehensively multiplies similar actions in other spheres and enhances results.

We invite the reader to take a journey through the Brazilian biomes as we present some of these initiatives, starting on page 52. The energy we produce will guide this expedition through transformative actions by ENGIE Brasil Energia from north to south of the country. Each of these initiatives fulfills at least one of our macro objectives by acting on ecosystems, communities, or corporately: reduce, avoid, and transform – the corresponding *tags* accompany the stock titles.



Innovation

ENGIE Brasil Energia believes that innovation is key to accelerating the transition to a carbon-neutral world and contributing to the preservation and conservation of nature, aligning with the means of implementing our Journeys, guided by the TNFD and TCFD. For this reason, we promote innovation through internal programs across our units and teams, and externally, through partnerships with various players in the innovation ecosystem, such as universities, startups, and research institutions.

In the last five years, the Company has allocated significant resources to ANEEL's Research and Development projects. Over R$ 107 million have been spent on projects related to energy efficiency, alternative energy generation sources, improving the quality, safety, and reliability of electrical systems/services, as well as the conservation of Brazilian biodiversity and the impacts of climate change on the Brazilian electricity sector.

In the following pages, you can find a detailed overview of projects directly associated with the impacts of climate change on the Brazilian electricity sector. Additionally, projects related to the conservation of Brazilian biodiversity, specifically focused on invasive species (golden mussel in reservoirs), protection of fish fauna, and monitoring species in hydroelectric plant reservoirs through Environmental DNA techniques.

Projects related to **climate and nature in the electricity sector**

Impacts of climate change and land use on the Brazilian electricity sector

Biome
All Brazilian biomes

Period
2022 – Completed in 2024

Partner universities
Fluminense Federal University
Federal University of Paraná
Federal University of Itajubá
Federal University of Pampa and
University of São Paulo

Objective

Identify, quantify, and model the impact of extreme weather events (droughts, floods, storms, etc.) in projections up to 2100, with application to the generation, transmission, and distribution of electricity in Brazil. Additionally, assess how regions with significant land use changes (such as deforestation, urbanization, or agricultural practices) alter the hydrological cycle in areas with hydroelectric assets.

Achievements

- Improvements in long-term climate forecasting;
- Support in defining strategies related to the occurrence of extreme events that may impact the Company's operations and society.

Differentials

This project has a portfolio of subprojects on the topic of the impacts of climate change and land use on the Brazilian electricity sector. The development of software products for energy generation companies, and/or methods, techniques, and regionalization of climate projection models are considered key differentiators of the project.

The invasion of the golden mussel (*Limnoperna fortunei*) in the reservoirs of the Hydropower Plants of the Upper Uruguay River: side effects and biological control mechanisms

Biome
Atlantic Rain Forest

Period
2018 – Completed in 2023

Partner university
Federal University of Santa Catarina

Objective

Develop control and eradication measures for this invasive species, focusing on the use of preventive biological control methods.

Achievements

- R$5 million in investment (RD&I Cooperative);
- 1 Technical Report produced to share the information discussed during the technical-scientific events held;
- 5 hydropower plants involved in the project: Itá HPP, Machadinho HPP, Foz de Chapecó HPP, Barra Grande HPP, and Campos Novos HPP.

Differentials

The project aimed to understand the the dynamics of species development in the reservoirs, as well as the associated impact. In addition, potential biological predators were assessed, including testing a specific biological product used in Europe. In this context, the use of preventive biological control methods was evaluated in order to reduce the use of chemicals—applied for removing individuals in industrial software settings for energy generation companies, and/or methods, techniques, and the regionalization of climate projection models, are considered distinguishing features of the project.

Development and application of genetic tools for monitoring fish fauna in hydropower plant reservoirs

Biome
Cerrado

Period
2020 (ongoing)

Partner university
ATGC Genética Ambiental Ltda. (a company incubated at Federal University of Paraná)

Objective

Develop genetic/molecular tools using next-generation sequencing and apply them to environmental monitoring and the analysis of the genetic structure of the fish fauna in the reservoir of the São Salvador Hydropower Plant (TO).

Achievements

A total of 1,280 samples were analyzed, resulting in the identification of 103 fish species without the need for capture or direct interference with the animals, representing a significant advancement over traditional biodiversity monitoring techniques.

Differentials

Monitoring non-invasive fish species, without the need to capture or physically interfere with the organisms. This is especially relevant for the 103 fish species identified, as the methodology avoids stress or death of the animals, unlike traditional methods. In addition, the high degree of sensitivity of the state-of-the-art techniques employed allows for the tracking of rare or hard-to-capture species, ensuring greater accuracy and efficiency in the survey of aquatic biodiversity.

Fish Fauna Protection: Development of Control Techniques and Studies on the *Pimelodus maculatus* species in the Suction Pipe

Biome
Atlantic Rain Forest

Period
2019 – Completed in 2023

Partner university
Federal University of Santa Catarina

Objective

Development and implementation of technologies to prevent and monitor the entry of fish into the suction pipe of the generating unit;

Achievements

- Species research – studies regarding the target *Pimelodus maculatus* species were satisfactory. The focus on the species made it possible to understand its behavioral dynamics downstream of the Power Plant;
- Monitoring the presence of fish in the suction pipe with Sonar and Artificial Intelligence – with an efficiency of over 80% so far;
- Installation of a repulsion barrier – After four efficiency tests;
- The ability to reduce fish entry was 91%, contributing to the conservation of local fishery resources.

Differentials

The analyses allowed for the identification of indicators that can anticipate situations with a higher probability of fish presence, either through prior monitoring or real-time fish detection by sonar, as well as proposing mitigatory measures, using molecular data to build future scenarios in genetic variability of the *Pimelodus maculatus*. The validation of these data aims to obtain reliable information for guiding energy dispatch with the least possible interference in the fish community downstream of the Machadinho HPP.

INNOVATION **CHALLENGE**

REDUCE AVOID TRANSFORM

The Innovation Challenge – Journey for the Climate is an internal initiative of ENGIE Brasil Energia for engaging employees in proposals of effective actions to combat climate change.

In the form of a competition, the Challenge has two award categories: Climate Friends, which seeks solutions for improvements in greenhouse gas (GHG) emission management, and Emission Reducer, for proposals aimed at reducing GHG emissions.

The competition includes training sessions, technical consultations, and Q&A rounds with the Environmental team. Once the registration period is closed, the best ideas are evaluated and awarded.

The initiative, aligned with the Company's Net Zero commitment for 2045, has already seen 70 ideas proposed, over 30 Operational Units involved in the initiatives, and more than ten assets responsible for the enrollment of ideas.

The award-winning solutions involved business travel data collection, fuel substitution, and the repurposing of fire extinguishers in the Climate Friends category. In the Emission Reducer category, the award-winning solutions were related to encouraging emission reductions in contracted companies, installation of an ethanol-powered generator, and reducing energy consumption in administrative buildings.

SUPPLIER DECARBONIZATION **PROGRAM** REDUCE

As part of the Journey for the Climate, the initiative aims to reduce greenhouse gas (GHG) emissions in ENGIE Brasil Energia's supply chain, focusing on the suppliers responsible for over 90% of the Company's supply chain emissions (Scope 3). Launched in 2024, the program comprises five main stages: 1) supplier selection; 2) maturity assessment; 3) GHG data collection; 4) training sessions; and 5) KPI monitoring. By offering tools such as the Descarbonize platform, ENGIE Brasil Energia supports suppliers in structuring their inventories and setting decarbonization targets, generating operational and financial benefits.

The program contributes to emission reduction, aligning with the Sustainable Development Goals and the Paris Agreement, strengthens governance, and promotes innovation by integrating digital solutions into the initiative. A clear example that the energy transition must be just and inclusive, and that absolutely no one can be left behind. The program was recognized and awarded during COP29 by the United Nations Global Compact – Brazil Network, in the "Guardians for the Climate" category.

ESG EVALUATION OF **SUPPLIERS**

TRANSFORM

Applied to the Company's suppliers, the ESG Questionnaire collects data to map risks and assess the maturity of goods and service providers in areas such as environment, climate change, health and safety, governance, and social responsibility. Based on the responses, a score is generated and used to monitor and support the development of the companies that supply ENGIE Brasil Energia. For suppliers providing services on the Company's premises, meeting minimum requirements in the Health and Safety category is mandatory to ensure service eligibility. The Questionnaire has been answered annually since 2023.

The initiative, aligned with the Company's **Net Zero** commitment for 2045, has already seen **70 ideas proposed,** over **30 Operational Units** involved in the initiatives, and **more than ten assets** with submitted ideas



CONNECTION TRANSFORM

The Conexão Program has already reached more than 1.5 million people through its two main areas of focus: Environmental Education and Visits to the Company's Projects. Based on the guidelines of the National Environmental Education Management Plan (Pangea) from Ibama and the Sustainable Development Goals (SDGs), the initiative works with local communities to encourage participation in the development of environmental public policies and critical reflection on the potential impacts that the project may generate. Fostering the integration of diverse knowledge for collective action, our Environmental Education projects also promote training actions related to wildlife management, fishery resources, the protection and restoration of degraded areas, water resource management, and the prevention and control of forest fires. The Visit Program, in turn, is an opportunity for direct interaction with local communities, where ENGIE Brasil Energia opens its doors to present its areas of operation and reinforces its commitment to sustainability, with a focus on climate change and nature.

PROTECTION AND RESTORATION OF SPRINGS

AVOID TRANSFORM

Protection and Restoration of Springs is a corporate initiative aimed at protecting and restoring springs located around all of its assets, with an emphasis on areas experiencing water stress.
With more than 2,600 springs already protected, the Company adopts specific guidelines for water management, aligned with its Environmental Policy. The initiative seeks to ensure water quality and availability, promote the restoration of areas where the springs are located, and conserve local biodiversity. Through environmental education activities, it also encourages awareness and community engagement in the preservation of spring ecosystems.

CLIMATE AND BIODIVERSITY WALL

TRANSFORM

The training sessions are conducted by multipliers from ENGIE Brasil Energia, who are trained in the Climate & Biodiversity Fresk methodology. The goal is to train employees, fostering engagement and providing basic knowledge about climate and biodiversity. In 2024, over 900 hours of training were conducted, promoting discussions and raising awareness about climate change, its causes and effects, and its impacts on biodiversity.

TRAINING FOR SUPPLIERS TRANSFORM

The training, held annually, aims to promote engagement and raise awareness among ENGIE Brasil Energia's suppliers about the environment and climate change. The last cycle of the initiative, held between November and December 2024, included sessions directed at companies in the wind, solar, biomass, hydroelectric, and transmission sectors. The goal is to share essential information and emphasize the importance of mitigating environmental and climate impacts in the operations of the value chain.

ARAUCARIA CONSERVATION TRANSFORM

Biome: **Atlantic Rain Forest**

The initiative aims to restore degraded areas and generate income through the planting of araucarias and other native species, alongside training rural producers and agricultural professionals. In partnership with Embrapa Florestas, the project established an active germplasm bank for the genetic conservation of the araucaria (*Araucaria angustifolia*) and develops technological models for forest restoration on small rural properties. To generate income for local communities while the araucarias are not bearing fruit, the initiative promotes the cultivation of yerba mate and beekeeping for honey production, in a mixed-cropping model. This initiative is being evaluated by the IUCN as a Nature-Based Solution. Since its inception, more than 70,000 araucaria seeds have been collected, and over 25,000 seedlings have been planted. The investment already exceeds R$743 thousand.

REGENERA+

REDUCE AVOID TRANSFORM

Biome: **Atlantic Rain Forest**

An initiative by ENGIE Brasil Energia in partnership with Sebrae Rio Grande do Sul, Regenera+ focuses on the implementation of regenerative agriculture practices on rural properties surrounding the Passo Fundo Hydropower Plant reservoir, in the municipality of Entre Rios do Sul (RS). The goal is to improve the resilience, efficiency, and sustainability of the properties by eliminating the use of chemicals, minimizing production costs, and reducing carbon emissions. In its first implementation, the project covered 533.64 hectares, resulting in a 32.06% reduction in production costs and the removal of over 1,000 tons of CO_2e. In addition to strengthening the culture of innovation and regional development, the monitoring of socio-environmental indicators on the properties revealed a 50% improvement in the evaluated criteria starting from the second year of Regenera+.

In 2024, Regenera+ was recognized by the IUCN as one of ENGIE's Nature-Based Solutions, as published on the IUCN France website.

MELIPOMAR AVOID TRANSFORM

Biome: **Atlantic Rain Forest**

The Melipomar Project is an initiative carried out in the central-southern region of Paraná, near ENGIE Brasil Energia's Gralha Azul Transmission System, aimed at promoting the conservation of native stingless bees, which are essential for pollination and biodiversity conservation. Through environmental education activities and interactive games in schools, the project teaches the diversity of bees, their ecological functions, and how meliponiculture can contribute to their preservation. By installing bee colonies in schools and training students and teachers, the initiative also fosters income generation, opening up opportunities for the commercialization of products, such as honey and pollen, as well as ecological tourism. Melipomar, which received investments of over R$ 200,000, has already installed 18 bee colonies across ten schools, trained more than 100 people to become bee guardians, and impacted over 3,000 people with environmental information.

70,000 araucaria seeds have been collected, and more than **25,000 seedlings have been planted.** The investment has already exceeded **R$ 743,000**, and an additional **R$ 186,000** is planned for 2025





Since 2020, more than **50 animals**, including anteaters, macaws, and maned wolves, **have been rehabilitated**.

ASAS AND **TAMANDUASAS**

AVOID TRANSFORM

Biome: **Cerrado**

The wildlife rehabilitation projects ASAS and TamanduASAS are conducted in the Jacob Private Natural Heritage Reserve (RPPN), a 358-hectare Cerrado area managed by ENGIE Brasil Energia at the Miranda Hydropower Plant, in Nova Ponte (MG). In partnership with the State Forestry Institute (IEF) and the Public Prosecutor's Office of Minas Gerais, the RPPN receives animals that are victims of trafficking, road accidents, illegal captivity, or other environmental crimes, and supports the restoration of their health for release into the wild. Since 2020, more than 50 animals, including anteaters, macaws, and maned wolves, have been rehabilitated.

The TamanduASAS project, in partnership with the Nobilis NGO and IEF, formed a new partnership in 2022 with UNB, Smithsonian, and Medtronic to implement heart monitors on the giant anteaters received at the Jacob Reserve, with the goal of obtaining data on the health and physiology of the species. This initiative will help understand stress caused by transportation, changes in enclosures, and the release process, supporting more effective actions in the management of this species. The results obtained here will contribute to species management actions at the national level.

BIODIVERSITY TARGET MAPPING

REDUCE AVOID

Biome: **Caatinga**

Through a mapping tool for biodiversity-related data and information, it has been applied in the territories where the Company's assets are located. In 2023 and 2024, it was applied in the Caatinga biome. The analysis of areas and target species for conservation, around the Campo Largo Wind Farm and the Umburanas Wind Farm, both in Bahia, not only identified potential partners but also highlighted the jaguar as a target species for conservation, this leading to the creation of the jaguar conservation project.

JAGUAR **CONSERVATION**

AVOID TRANSFORM

Biome: **Caatinga**

The main goal of the project is to protect jaguars and pumas in the Caatinga regions, with a special focus on the area of the Boqueirão da Onça National Park in the State of Bahia, one of the last refuges for these species in the biome. Since 2012, the Amigos da Onça Program, run by the Pró-Carnívoros Institute, has been working on monitoring these feline populations, combating poaching, and managing conflicts with local producers. With this initiative, ENGIE Brasil Energia aims to strengthen the conservation of these species beyond the boundaries of its assets and integrate joint strategies with ICMBio to ensure the protection of local wildlife.

FAUNA BOOK OF **SANTO AGOSTINHO** WIND FARM

AVOID TRANSFORM

Biome: **Caatinga**

The Fauna Identification Guide of the Santo Agostinho Wind Complex, or Fauna Book, was created to share the knowledge gained during the implementation of the wind complex in the municipalities of Lajes and Pedro Avelino, in the state of Rio Grande do Norte. ENGIE Brasil Energia, committed to biodiversity conservation, used the Wildlife Rescue and Monitoring Program to enhance the understanding of the local biome. The guide presents the recorded wildlife species with clear language and photographs taken in the region itself. The publication promotes access to knowledge, cultural ownership by the community, and strengthens environmental awareness.

With an initial investment of **R$ 120,000**, the **Plantadores de Água Project** aims to gather information about the conservation status of springs in Rio Grande do Norte and combat water scarcity



PLANTADORES **DE ÁGUA (WATER PLANTERS)**

AVOID TRANSFORM

Biome: **Caatinga**

Plantadores de Água project is a partnership with the government of the state of Rio Grande do Norte to protect and restore existing springs in the state. The initial focuses will be the Coité spring in the municipality of Coronel João Pessoa and the Cacimba spring in Luís Gomes. With an initial investment of R$ 120,000, the project aims to gather information about the conservation status of springs in Rio Grande do Norte, as well as combat water scarcity by promoting the conservation of springs in the Apodi/Mossoró River hydrographic basin. The planned actions include cleaning and fencing the areas, planting seedlings, local monitoring, and environmental education activities. The expected environmental outcomes are improved water quality, increased vegetation cover, soil conservation, and regulation of the hydrological cycle.

This initiative is connected to the previously mentioned Spring Protection and Conservation Program.

SOLID AND RECYCLABLE WASTE SCREENING CENTER

TRANSFORM

Biome: **Caatinga**

The sustainable waste management in the municipality of Trairi, in Ceará, is supported by ENGIE Brasil Energia through the Solid and Recyclable Waste Sorting Center, inaugurated in 2021. The space implemented by the Company aims to ensure the proper disposal of recyclable waste generated in the city and to organize the work of waste pickers, who previously operated at the local dump. In addition to providing infrastructure, ENGIE Brasil Energia supports the training of waste pickers and raises public awareness through educational campaigns and training programs. In partnership with the Caatinga Association, the company also strengthens the Sol Nascente Association—the first formal waste pickers' organization in the region—and contributes to the expansion of selective waste collection in Trairi.

QUILOMBOLA ACTION PLAN

TRANSFORM

Biome: **Caatinga**

ENGIE Brasil Energia's Quilombola Action Plan (PAC) aims to strengthen quilombola communities living near its assets through initiatives that promote the recognition and autonomy of these populations. In 2024, the Bela Vista Piató community, located in the municipality of Assú (RN), received training focused on quilombola rights, fundraising, and project development. For three months, participants were trained with tools for autonomous development, using a practical and contextualized methodology. The initiative aimed to provide knowledge and strengthen the community's organization and advocacy efforts, offering resources to help them act more effectively in preserving their rights and pursuing sustainability.

ENGIE Brasil Energia supports **sustainable partnerships** that promote community awareness through **environmental education and educational campaigns**





Paths to the Future

Paths **to the Future**

Our next steps

Transforming people's relationship with energy for a sustainable world is ENGIE Group's Vision—one that ENGIE Brasil Energia also puts into practice daily through its interactions with communities, meetings with investors, negotiations with customers and suppliers, and internally with our employees, who, in the latest climate survey, expressed pride in the Company's ESG initiatives. This transformation involves the clear understanding that we all share the same planet, and that responsibility for its care cannot be compartmentalized.

To embrace this is to take the lead in effective actions that will ensure long-term sustainability—by honoring commitments, reaching targets, and upholding active listening and dialog as core principles. In this first edition of the Climate and Nature Notebook, we shared the story we have been building over more than 25 years in Brazil.

For the sustainable world we desire, we believe and invest in education. Our quarterly reports to the market include a dedicated section on ESG, with updates from our Sustainability Committee, so we can continue our mission to inform and educate the market. It is education and environmental awareness that will enable Brazil to fully embrace its *status* as a global energy powerhouse, a fact still unknown to a large part of the population. ENGIE Brasil Energia has the structure and capabilities to continue on this path with the country, maintaining leadership in climate action and biodiversity protection, while working to accelerate a fair and inclusive energy transition.









We believe in and invest in education for a **sustainable world**



Annexes

ANNEX 1

Tools for identifying, **assessing, and managing risks and opportunities**

Name	Description	Phase	Direct operations	Upstream and downstream value chain
Analysis of geospatial information	Used during the development of new businesses, this technology enables mapping of socio-environmental constraints and adjusting projects to minimize impacts on protected areas and sensitive ecosystems.	• New business development	✓	
CIRA	A tool developed by the climate science team at ENGIE Lab CRIGEN — ENGIE's R&D center, focused on green gases, new energy uses, and emerging technologies, leading projects, pilots, and innovative offerings to accelerate the energy transition — to help users understand the risks and potential impacts of climate change on their assets and activities. The data in the tool comes from in-depth studies and climate models developed through internal and external collaborations (especially with the Pierre-Simon Laplace Institute) to build projections for various climate indicators that impact the assets and activities of the ENGIE Group.	• New business development • Deployment • Operation	✓	✓
AdaptaBrasil MCTI	The tool provides an overview of the current situation and projections on the impacts of climate change at the regional level. With detailed information on vulnerabilities, climate threats, and exposure, AdaptaBrasil MCTI primarily supports the assessment of risks associated with the value chain.	• Deployment • Operation	✓	✓
DeClic	A tool used to assess the impact of ENGIE Group operations on the Decarbonization of Customers (DeClic). Through this tool, greenhouse gas emissions avoided are estimated based on the energy purchased from the Company, compared to the energy acquired from the National Interconnected System, which relies on fossil fuel sources. The calculation of avoided emissions results from the difference between the emission factor of the grid (the country's energy mix) and the emission factor of the asset operated and/or owned by the ENGIE Group.	• New business development • Operation	✓	✓
ESG *Check List*	Applied to new businesses by ENGIE Brasil Energia as a guideline of the ENGIE Group, whether projects in the pre-implementation, implementation, or operational phase. The methodology applied through the forms seeks to assess socio-environmental and climate impacts, considering criteria aligned with the Group's Environmental Policy, as well as its non-financial objectives.	• New business development • Deployment • Operation	✓	✓
ESG Matrix	The ESG Matrix (ENGIE Group's Corporate Social Responsibility Matrix) is a strategic tool that the Company uses to assess and prioritize socio-environmental and economic issues based on stakeholder expectations and the positive impact these issues may have. This matrix is part of ENGIE Brasil Energia's dual materiality analysis, which identifies the most relevant ESG (environmental, social, and governance) topics for the company and their significant impacts. The results from certain tools are considered in the ESG Matrix, such as those from WRI Aqueduct, DeClic, and CIRA.	• New business development • Deployment	✓	
WRI Aqueduct	Assesses the water vulnerabilities of assets, classifying the risks into different levels (very high, high, medium, low, and very low). This tool is essential for identifying areas with greater susceptibility to water stress.	• New business development • Operation	✓	

ANNEX 2

Identification and analysis of **physical and transition climate** risks

The Shared Socioeconomic Pathways (SSP) scenarios proposed by the Intergovernmental Panel on Climate Change (IPCC) are considered in the climate risk analysis by ENGIE Brasil Energia, namely:

BUSINESS AS USUAL SCENARIO:
SSP2-4.5 (formerly RCP 4.5)

The SSP2-4.5 scenario, previously called RCP 4.5, reflects a world where human and technological developments maintain their current characteristics, with greenhouse gas emissions gradually decreasing in the second half of the century.

PESSIMISTIC SCENARIO:
SSP4-7.0 (formerly RCP 7.0)

In this scenario, GHG emissions continue to grow due to a significant reliance on fossil fuels, especially in developing countries. The lack of international cooperation and significant global inequalities hinder the implementation of effective mitigation policies. This scenario reflects a future where GHG emissions remain high, contributing to significant global warming and severe climate impacts.

CATASTROPHIC SCENARIO:
SSP5-8.5 (formerly RCP 8.5)

The SSP5 scenario represents a pessimistic trajectory, with increasing emissions and a global energy model dependent on fossil fuels. This choice allows for assessing the resilience of the company's assets under different levels of global warming and impacts, such as extreme climate events.

The analyses are regionalized for the Brazilian context through the ClimateScale tool, which uses statistical downscaling techniques of the CMIP5 and CMIP6 models, coordinated by the World Climate Research Programme (WCRP), to project physical risks, selecting those that best represent the climate of the regions where the assets are located.



ANNEX 3

Risk mapping

Physical risks

Risk Factor

Landslides

The increase in the frequency and intensity of extreme daily accumulated precipitation can lead to a higher occurrence of landslides. The materialization of this risk can lead to both financial and non-financial impacts for the organization, ranging from damage to assets to potential conflicts with the community.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	2050	2030	2050	2030	2050	2030	2050
Business as usual (BAU) scenario	82	84	0	0	0	0	18	16
Catastrophic	78	83	0	0	4	3	17	14

Mitigation strategy

- Monitoring and control of erosion processes on roads and assets
- Continuous improvements in drainage systems on access roads and in the industrial yard
- Planning and implementation of alternative routes and/or elevated and resilient infrastructure (bridges or walkways) to mitigate interruptions caused by flooding
- Construction of containment barriers and proper drainage
- Creation and implementation of vegetation restoration and/or maintenance programs, such as ecological corridors, prioritizing critical areas
- Implementation of an environmental education program
- Water quality monitoring.

Impacts

On business

Damage to infrastructure and/or disruption of access routes; Reduction in electricity generation.

In Nature

Loss of biodiversity; Increase in erosive processes; Deterioration of water quality with increased sedimentation.

In Society

Difficulty/problems accessing roads/ highways/routes; Loss of assets due to landslides; Interruption of essential services, such as water and energy supply, etc.

Monitoring and Indicators

- Indicator of seedlings planted and donated
- Indicator of seedlings produced in ENGIE's forestry nurseries
- Number of people benefited by the environmental education program
- Reservoir Water Quality Indexes
- Routine inspections of slope drainage systems and monitoring of installed instrumentation
- Inspection of the bridge headwalls and critical culverts on the access road
- Meteorological indicators collected: temperature, precipitation, wind speed, and irradiance.

Risk mapping

Physical risks

Risk Factor

Water scarcity

The increase in the frequency and intensity of drought events may generate financial and non-financial impacts for the organization, ranging from reduced electricity generation to potential conflicts with the community.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	2050	2030	2050	2030	2050	2030	2050
Business as usual (BAU) scenario	100	100	0	0	0	0	0	0
Catastrophic	100	100	0	0	0	0	0	0

Mitigation strategy

- Establish advanced monitoring systems for upstream intake structures of hydropower reservoirs, enabling early detection of changes in flow rates
- Actively participate in Basin Committees and create committees with the local population to establish partnerships in water resource management
- Develop biodiversity conservation programs, with a focus on ichthyofauna
- Implement the Ichthyfauna and Ichthyoplankton Monitoring Program
- Monitor the water quality of reservoirs
- Implement an aquatic fauna monitoring system
- Control erosive processes
- Map and protect springs
- Apply the environmental education program.

Impacts

On business

Interruption of operation due to unexpected shutdown; Reduction in electricity generation.

In Nature

Loss of biodiversity; Increase in erosion processes; Reduction in water availability; Water use conflicts with local *stakeholders*; Deterioration of water quality (accumulation of organic matter).

In Society

Interruption or reduction of water supply; Conflicts over water use; Loss of revenue from activities carried out in the reservoirs (multiple water uses); Migrations.

Monitoring and Indicators

- Water Quality Indices in Reservoirs (IQA and IQAr)
- Reservoir Operation Level
- Meteorological indicators collected: temperature, precipitation, wind speed, and irradiance.
- Abundance of ichthyofauna species in reservoirs
- 2000+ Number of Protected Springs

Risk mapping

Physical risks

Risk Factor

Wildfires

The increased risk of wildfires can cause both financial and non-financial impacts to the organization, involving significant damage to infrastructure and posing risks to human safety. It may also lead to the displacement of animals and an increase in their presence in the assets and the community.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	2050	2030	2050	2030	2050	2030	2050
Business as usual (BAU) scenario	32	32	39	39	20	20	9	9
Catastrophic	32	32	39	36	20	18	9	14

Mitigation strategy

- Intensify social communication and environmental education campaigns focused on wildfire prevention
- Intensify emergency evacuation training
- Plan and implement alternative evacuation routes
- Implement improvements to alert systems
- Create buffer zones and/or build firebreak barriers, if not already in place
- Clear firebreaks around preservation areas
- Densify vegetation planting in preservation areas
- Improve fire-fighting infrastructure, such as the installation of artesian wells to provide quick and easy access to water, and the implementation of isolation and protection technologies for cables
- Monitor the progression of fires and intervention management via satellite, preventing the spread of wildfires
- Evaluate the reduction of combustible material, such as removing woody material and branches around assets, and controlling vegetation near substations
- Implement vegetation restoration and maintenance programs
- Create ecological corridors
- Develop a wildlife monitoring system, if not already in place.

Impacts

On business

Damage to infrastructure, equipment, and assets of the organization; Interruption of operations due to unexpected shutdown; Reduction in electricity generation.

In Nature

Loss of biodiversity; Disruption of Ecological Corridors; Increase in erosion processes; Deterioration of water quality in rivers and artificial lakes.

In Society

Difficulties/problems accessing roads/highways; Loss of assets due to fires; Interruption of essential services, such as water and energy supply; Migrations; Land disputes; Incidence of cardiorespiratory diseases; Exposure of the population to venomous animals.

Monitoring and Indicators

- Number of fire outbreaks
- Number of inspections of fire-fighting equipment
- Number of preventive inspections of firebreaks and other operational equipment
- Number of people trained for emergency response.

Risk mapping

Physical risks

Risk Factor

Flooding

The increase in the frequency and intensity of extreme daily accumulated rainfall may lead to a rise in the occurrence of flooding. The materialization of this risk can lead to both financial and non-financial impacts for the organization, ranging from damage to assets to potential conflicts with the community.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	2050	2030	2050	2030	2050	2030	2050
Business as usual (BAU) scenario	67	67	35	35	3	3	9	9
Catastrophic	63	68	35	35	6	5	9	8

Mitigation strategy

- Implement real-time climate and hydrological monitoring systems
- Develop and implement flood response plans (dam break), if not already in place
- Create an early flood warning system, if not already in place
- Plan and implement safety zones and alternative and/or emergency escape routes that are clearly marked
- Intensify emergency evacuation training
- Collaborate with governments and local communities to develop regional flood mitigation plans
- Monitor the drainage system *online* (CCTV) and install efficient drainage systems
- Conduct a study on soil stability and slopes along the entire access route, as well as on the capacity of drainage and sewage systems
- Elevate critical infrastructure
- Ensure the protection of the metal structure of transmission towers in flood-prone areas
- Develop protective and retention infrastructures in vulnerable areas, considering physical barriers and nature-based solutions (NbS)
- Clear vegetation and debris on the slope leading to the plant
- Restore and protect riparian zones
- Develop biodiversity conservation programs
- Implement Wildlife Monitoring and Deterrence Programs
- Monitor the water quality of reservoirs
- Control erosive processes
- Mapping and protection of springs
- Apply environmental education program.

Impacts

On business

Damage to infrastructure and/or disruption of access routes; Reduction and/or disruption in electricity generation.

In Nature

Loss of biodiversity; Increase in erosive processes; Deterioration of water quality with increased sedimentation.

In Society

Difficulty/problems accessing roads/ highways/routes; Loss of assets due to flooding; Interruption of essential services, such as water and energy supply, etc.

Monitoring and Indicators

- Reservoir Operation Level
- Reservoir inspection
- Meteorological indicators collected: temperature, precipitation, wind speed, and irradiance.

Risk mapping

Physical risks

Risk Factor

Heat Waves

The increasing frequency and intensity of heatwave events can result in both financial and non-financial impacts for the organization, including significant damage to infrastructure and risks to human health and safety. Thermal stress in the workplace occurs when employees are exposed to extreme temperatures, which can lead to serious health issues such as dehydration, heat exhaustion, cramps, and, in severe cases, heatstroke. In addition, there may be an increase in the presence of venomous animals.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	**2050**	**2030**	**2050**	**2030**	**2050**	**2030**	**2050**
Business as usual (BAU) scenario	50	38	50	54	0	8	0	0
Catastrophic	44	43	44	50	11	7	0	0

Mitigation strategy

- Evaluate the installation of cooling systems and passive cooling solutions for inverters and solar panels
- Adopt photovoltaic technologies more resistant to heat
- Promote campaigns during the period and provide thermal stress safety kits
- Implement environmental education and awareness programs for employees and the local community focused on the prevention and control of vectors
- Conduct campaigns and install equipment to prevent water accumulation
- Partner with public health authorities for the control and vaccination of tropical diseases
- Develop biodiversity conservation programs
- Implement Wildlife Monitoring and Deterrence Programs.

Impacts

On business

Damage to infrastructure, equipment, and assets of the organization; Changes in work shifts/schedules.

In Nature

Loss of biodiversity; Deterioration of water quality; Increased need for animal hydration; Increased need for wildlife deterrence.

In Society

Health issues, such as dehydration, heat exhaustion, cramps, and, in severe cases, heatstroke.

Monitoring and Indicators

Meteorological indicators collected: temperature, precipitation, wind speed, and irradiance.

Risk mapping

Physical risks

Risk Factor

Windstorms

Extreme wind events are characterized by exceptionally strong and persistent winds that can cause financial and non-financial impacts for the organization, including significant damage to infrastructure and risks to human health and safety.

Inherent risk

PROBABILITY OF ASSETS BEING IMPACTED BY THE RISK FACTOR (%)

	HYDROELECTRIC		SOLAR		WIND		TRANSMISSION	
	2030	2050	2030	2050	2030	2050	2030	2050
Business as usual (BAU) scenario	0	0	38	38	63	63	0	0
Catastrophic	0	0	38	38	63	63	0	0

Mitigation strategy

- Install weather alert and monitoring systems, if not already in place
- Develop and implement projects for wind turbines resistant to windstorms
- Implement an automatic protection system to prevent wind turbine operation interruptions based on wind speed
- Manage a preventive maintenance plan for wind turbines, including quality inspections of third-party maintenance and corrective actions in case of identified structural weaknesses
- Promote regular safety training and drills
- Adjust insurance coverage to include damages caused by extreme windstorms
- Reinforce temporary structures and both mobile and fixed equipment across all types of assets
- Implement a forest management program (selective cutting or branch pruning)
- Plant trees to serve as windbreaks
- Conduct a cable balance study for transmission lines
- Install reinforced shelters in work areas
- Develop a Monitoring and Control Program for Erosion Processes
- Develop a Water Quality Monitoring Program for Reservoirs.

Impacts

On business

Damage to infrastructure and/or disruption of access routes; Reduction and/or disruption in electricity generation.

In Nature

Tree falls; Increase in erosion processes; Deterioration of water quality due to increased sedimentation.

In Society

Difficulty/problems accessing roads/highways/routes; Loss of assets due to strong winds; Interruption of essential services, such as water and energy supply, etc.

Monitoring and Indicators

Meteorological indicators collected: temperature, precipitation, wind speed, and irradiance

ANNEX 4

Transition Risks

Risk Category	Risk Factor	Risk Description	Qualitative financial impact	Climate and Nature Mitigation and Adaptation Strategy (Short, Medium, and Long Term)
Transition (Market)	Market loss	Increased competition in the renewable energy sector with lower-cost technologies and/or higher operational capacity	Reduction in projected revenue (ACR and ACL)	**Control measures already implemented by the Company**: The evaluation of the economic feasibility of new decontracted projects (partially or fully) considers different energy price evolution scenarios, including various Capex and Opex values for the technologies, within the scope of the Corporate Scenarios.
	Increase in deployment cost	Increase in the price of critical components associated with renewable energy due to high demand	Shutdown of operations due to unavailable equipment for replacement; Increase in OPEX and CAPEX for new installations and assets in operation	**Control measures already implemented by the Company**: Risk factor considered to be of low relevance to the Company, not requiring the implementation of an action plan
	Increase in operating cost	Increase in costs associated with insurance coverage or limitations on insurance coverage	Higher operational costs	**Control measures already implemented by the Company**: Development of a Climate Risk Study and the structuring of Adaptation Plans for the Company's assets
	Lack of skilled labor	Circumstantial lack of skilled labor for the implementation and operation of the assets	Operational overload of the team, with risks of occupational diseases; Increase in implementation and operational costs	**Control measures already implemented by the Company:** Risk factor considered to be of low relevance to the Company, not requiring the implementation of an action plan

ANNEX 5

Opportunities

Nature of the opportunity	Opportunity	Comment	Consequences
Resource Efficiency	Adoption of new practices and technologies for better resource efficiency in operations	For a renewable energy company, the adoption of new eco-efficiency practices and technologies in operations involves implementing systems and processes that reduce the consumption of natural resources and optimize energy efficiency. This includes the integration of low-energy consumption technologies in its facilities and equipment with better energy efficiency, which could lead to a reduction in energy consumption during operations.	Reduction of operational costs
Markets	Increase in customer demand in the ACL associated with renewable energy generation	With growing awareness of the environmental impacts of carbon emissions, many companies are seeking more eco-friendly alternatives for their energy needs. This is driving a growing demand for renewable energy in the Free Energy Market, where customers have the freedom to choose their suppliers. Renewable energy companies can capitalize on this opportunity by offering green energy supply contracts sourced from solar, wind, and hydropower. By meeting the growing demand for clean energy, renewable energy companies not only expand their market but also make a significant contribution to the decarbonization of the economy and the fight against climate change.	Increase in the company's revenue generation
Markets	Technological development that enables the implementation of the Decarbonization Plan at lower costs	Continuous technological innovation, such as advances in energy storage systems, solar panel efficiency, and more effective wind turbines, reduces the costs of transitioning to renewable energy sources. This makes renewable energies more competitive compared to fossil fuels and accelerates their large-scale adoption. By implementing accessible and efficient technologies, companies in the sector drive decarbonization, expand their customer base, and lead the sustainable economy. Furthermore, R&D projects can generate patents and valuable intellectual property, creating new revenue streams and differentiation in the sector.	Reduction of Operational Costs

ANNEX 6

LEAP Methodology: **structuring the Journey for Nature**

ENGIE Brasil Energia adopts the LEAP methodology (Locate, Evaluate, Assess, Prepare), developed by TNFD, as the foundation for managing risks and opportunities related to nature. This structured approach allows the Company to map, evaluate, analyze, and manage its interactions with the environment in an integrated and strategic manner, aligning its operations with commitments to biodiversity conservation and sustainability.

LEAP Methodology Steps

1. Locate

The initial stage involves identifying the areas where the company's operations, including its value chain (suppliers and customers), have significant interactions with nature. This process involves:

- The detailed mapping of the influence areas of each asset, considering the biomes, ecosystems, and local communities impacted.
- The identification of critical habitats, preservation areas, and regions with high biodiversity importance.

2. Evaluate

After identifying the areas of interaction, the dependencies and impacts of the company's activities on nature are assessed. The assessment covers:

- Direct impacts, such as land and water use, and indirect impacts, such as greenhouse gas emissions.
- Dependencies on ecosystem services, such as climate regulation and water availability.
- The analysis of the biodiversity footprint, which estimates the extent of the area affected by operations, considering specific criteria for each Brazilian biome.

3. Assess

Based on the evaluations, the risks and opportunities related to nature are analyzed. This analysis includes:

- Physical risks: Such as extreme weather events and loss of biodiversity.
- Transition risks: Related to regulatory and market changes.
- Systemic risks: Resulting from the failure of the entire environmental system.
- Identification of opportunities, such as the implementation of Nature-based Solutions (NbS), which help mitigate impacts and create value for biodiversity.

4. Prepare

The final stage of the LEAP methodology focuses on developing and executing strategies and practical actions to manage ENGIE Brasil Energia's interactions with nature. In this context, the Group has established clear commitments to guide its conservation and mitigation initiatives:

- Ecological management of industrial facilities at 100% of *sites* by 2030.
- Implementation of at least ten Nature-based Solutions (NbS) projects worldwide by 2025.

These commitments are incorporated into specific action plans developed for priority assets, with the goal of reducing impacts, mitigating risks, and seizing opportunities related to biodiversity and ecosystem services. They also strengthen the integration of conservation strategies into corporate governance and stakeholder engagement.

Summaries

Components of a transition plan **according to the CDP**

Elements of the Climate Transition Plan	Element description	Notebook Page	Topic addressed in the CDP (question number)
Governance	It demonstrates that the organization has executive-level oversight over the climate transition plan and that there are defined governance mechanisms in place to ensure the implementation of the plan.	7 to 13	4.1.1, 4.1.2, 4.2, 4.3, 4.3.1, 4.5, 4.5.1
Strategy: Scenario analysis	A climate transition plan should be based on a robust scenario analysis used to identify potential and substantial climate risks and opportunities.	9; 15 to 17	5.1, 5.1.1, 5.1.2
Strategy: Financial planning	As part of its strategy to achieve carbon neutrality, an organization should outline financial details with defined timelines for its transition. For example, capital expenditures (Capex), operational expenditures (Opex), revenue, etc.	15	5.3.2, 5.4, 5.4.1, 7.41, 7.41.1
Strategy: Value Chain Engagement & Low Carbon Initiatives	A climate transition plan should include actions with defined timelines for the decarbonization of business processes (and those within its value chain), with temporal KPIs. This includes three distinct elements: (1) Engagement of the value chain; (2) Increasing the revenue share from low-carbon products and services and (3) Implementation of emission reduction initiatives for direct and indirect operations.	17, 18, 24 and 25	7.55.2, 5.11, 5.11.1, 5.11.2, 5.11.5, 5.11.6, 5.11.7, 5.11.9

Summaries

Components of a transition plan, **according to the CDP**

Elements of the Climate Transition Plan	Element description	Notebook Page	Topic addressed in the CDP (question number)
Strategy: Engagement in policy	A climate transition plan should demonstrate that the organization's engagement in public policies is aligned with its climate commitments and strategy.	7, 10 and 13	4.11, 4.11.1, 4.11.2
Risks & Opportunities	A climate transition plan should outline the organization's process for addressing identified climate risks and maximizing substantial climate opportunities.	30 to 41	2.1.1, 2.2.2, 3.1, 3.1.1
Goals	A climate transition plan should include science-based, verified targets with defined timelines, aligned with the latest climate science. Organizations should set short-term emission reduction targets to halve emissions by 2030 and also define a long-term net-zero emissions target – no later than 2050.	43 to 46	7.53, 7.53.1, 7.53.2, 7.54.1, 7.54.2, 7.54.3
Inventories of scopes 1, 2, and 3 emissions, with third-party verification	A climate transition plan should be accompanied by an annual inventory of scopes 1, 2, and 3 emissions that is complete, accurate, transparent, consistent, relevant, and third-party verified.	Inventory of GHG Emissions	7.5, 7.6, 7.7, 7.8, 7.9.1, 7.9.2, 7.9.3

Summaries

Compliance with the **TCFD** and TNFD **recommendations**

Pillar	TCFD recommendations	NOTEBOOK PAGE	TNFD recommendations	NOTEBOOK PAGE
Governance	A. Describe how the Board supervises climate-related risks and opportunities	8	A. Describe how the Board monitors nature-related dependencies, impacts, risks, and opportunities.	8
	B. Describe the role of the Board in the assessment and management of climate-related risks and opportunities.	8	B. Describe the role of management in the assessment and management of nature-related dependencies, impacts, risks, and opportunities.	7 and 8
			C. Describe the organization's human rights policies and engagement activities, as well as the oversight by the board and management, with respect to indigenous peoples, local communities, affected stakeholders, and other stakeholders, in the organization's assessment and response to nature-related dependencies, impacts, risks, and opportunities.	7
Strategy	A. Describe the risks and opportunities related to climate change that the organization has identified in the short, medium and long term.	31 to 34	A. Describe the nature-related dependencies, impacts, risks, and opportunities identified by the organization in the short, medium, and long term.	29 to 34
	B. Describe the impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning.	31 to 34; 63 to 70	B. Describe the effect that nature-related dependencies, impacts, risks, and opportunities have had on the organization's business model, value chain, strategy, and financial planning, as well as any ongoing transition plans or analyses.	35 to 38
	C. Describe the resilience of the organization's strategy, considering different climate change scenarios, including a 2°C or lower scenario.	63 to 69	C. Describe the resilience of the organization's strategy to nature-related risks and opportunities, considering different scenarios.	24 and 25
			D. Disclose the locations of assets and/or activities in the organization's direct operations and, when possible, in the upstream and downstream value chains that meet the criteria for priority locations.	36
Risk management	A. Describe the processes used by the organization to identify and assess risks related to climate change.	30 to 36	A. Describe the organization's processes for identifying, assessing, and prioritizing nature-related dependencies, impacts, risks, and opportunities in (i) its direct operations and (ii) its upstream and downstream value chain(s).	29 to 34
	B. Describe the processes used by the organization to manage risks related to climate change.	29 to 41	B. Describe the organization's processes for managing nature-related dependencies, impacts, risks, and opportunities.	29 to 41
	C. Describe how the processes used by the organization to identify, assess, and manage risks related to climate changes are integrated into the organization's overall risk management.	30 to 32	C. Describe how the processes for identifying, assessing, prioritizing, and monitoring nature-related risks are integrated into and inform the organization's overall risk management processes.	30 to 32
Metrics and targets	A. Inform the metrics used by the organization to assess risks and opportunities related to climate change according to its strategy and risk management process.	43 to 44	A. Disclose the parameters used by the organization to assess and manage material nature-related risks and opportunities, aligned with its strategy and risk management process.	43, 44 and 71
	B. Report Scope 1, Scope 2 and, if applicable, Scope 3 greenhouse gas emissions, and the risks related thereto.	Inventory of GHG Emissions	B. Disclose the parameters used by the organization to assess and manage dependencies and impacts on nature.	29 to 41
	C. Describe the targets used by the organization to manage climate-related risks and opportunities, and its performance against those targets.	43 to 44	C. Describe the targets and objectives used by the organization to manage nature-related dependencies, impacts, risks, and opportunities, and its performance against those targets.	45 and 46

Working Hours

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Coordination
Environmental and Climate Management
of ENGIE Brasil Energia

Consulting, content, *design*, and project management
Juntos Approach

Review
Catalisando Conteúdo

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(Official mechanisms for feedback, inquiries, questions, clarifications, and complaints)

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Ethical, governance, integrity, and human rights agendas
Ethics Committee:
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