



COMPANHIA ENERGÉTICA
DE MINAS GERAIS

TCFD

Climate-related financial disclosures report

Base year 2023

2024

Summary

1. ABOUT CEMIG	3
2. SUMMARY	7
3. ABOUT TCFD	10
3.1 TCFD recommendations	10
3.2 TCFD and the energy sector	11
4. REPORT	13
4.1 GOVERNANCE	13
4.1.1 Board Oversight	15
4.1.2 Committees	15
4.2 STRATEGY	16
4.2.1 Climate-related risks and opportunities	21
4.2.2 Impact of climate-related risks and opportunities	30
4.2.3 Scenario analysis	36
4.3 RISK MANAGEMENT	48
4.3.1 Risk Identification and Assessment Process	49
4.3.2 Risk management process	50
4.3.1 Top Risks identified by the company	53
4.4 METRICS & TARGETS	56
4.4.1 Company Metrics	56
4.4.2 Emissions data	57
4.4.1 Company Goals	60
4.4.2 Climate Action Plan: Lines of action	61
5. FINAL CONSIDERATIONS	63
6. REFERENCES	64

1. ABOUT CEMIG

Companhia Energética de Minas Gerais (Cemig) operates in the areas of generation, transmission, commercialization and distribution of electricity, energy solutions (Cemig SIM) and distribution of natural gas (Gasmig). The group consists of the holding company Energética de Minas Gerais (Cemig), the wholly-owned subsidiaries Cemig Geração e Transmissão S.A. (Cemig GT) and Cemig Distribuição S.A. (Cemig D), totaling 95 Companies, 49 Consortiums and 01 FIP (Fundo de Investimentos em Participações), in addition to assets and businesses in 24 Brazilian states and the Federal District.

Cemig is a publicly-traded company, controlled by the Government of the State of Minas Gerais (51%), and its shares are traded in São Paulo, on B3 S.A. (Brasil, Bolsa, Balcão), in New York, on the New York Stock Exchange (NYSE) and in Madrid, on the Latin American Stock Market (Latibex). In 2023, the company had a net profit of R\$5.8 billion, which represented a growth of 41.46% compared to 2022. In the same year, it reached a record investment of R\$ 4.8 billion, forecasting R\$35 billion in total investments for the 2024-2028 cycle.

Ranking among the largest power generators in the country, Cemig holds stakes in 83 operational generation projects across 10 Brazilian states, including 44 wholly-owned projects with 100% equity participation. Through its subsidiaries and affiliated transmission companies, the company operates a transmission network extending over 5,060.39 km. This system is responsible for transporting large energy blocks from major generating centers to consumer hubs. By utilizing transmission substations distributed across various regions within the concession area, it enables the supply to sub-transmission and distribution systems.

Cemig's generation capacity is 5,189.96 MW, of which 96.54% comes from hydropower, 3.38% from wind power, and 0.08% from solar power. In terms of distributed generation, the company reported a total installed capacity of 3,723.29 MW. Figure 1 shows the current location of the company's plants. The company's current generation totals 19,997.67 GWh, considering all energy sources, including distributed generation. By the end of 2023, the company operated 60 Hydroelectric Power Plants (HPPs), Small Hydroelectric Plants (SHPs), and Small Hydro Generators, one photovoltaic plant, and seven wind complexes. The organization owns a total of 5,060 km of transmission lines. In the field of electricity distribution, Cemig manages the largest electricity distribution network in Latin America, with a length of 570,535 km.

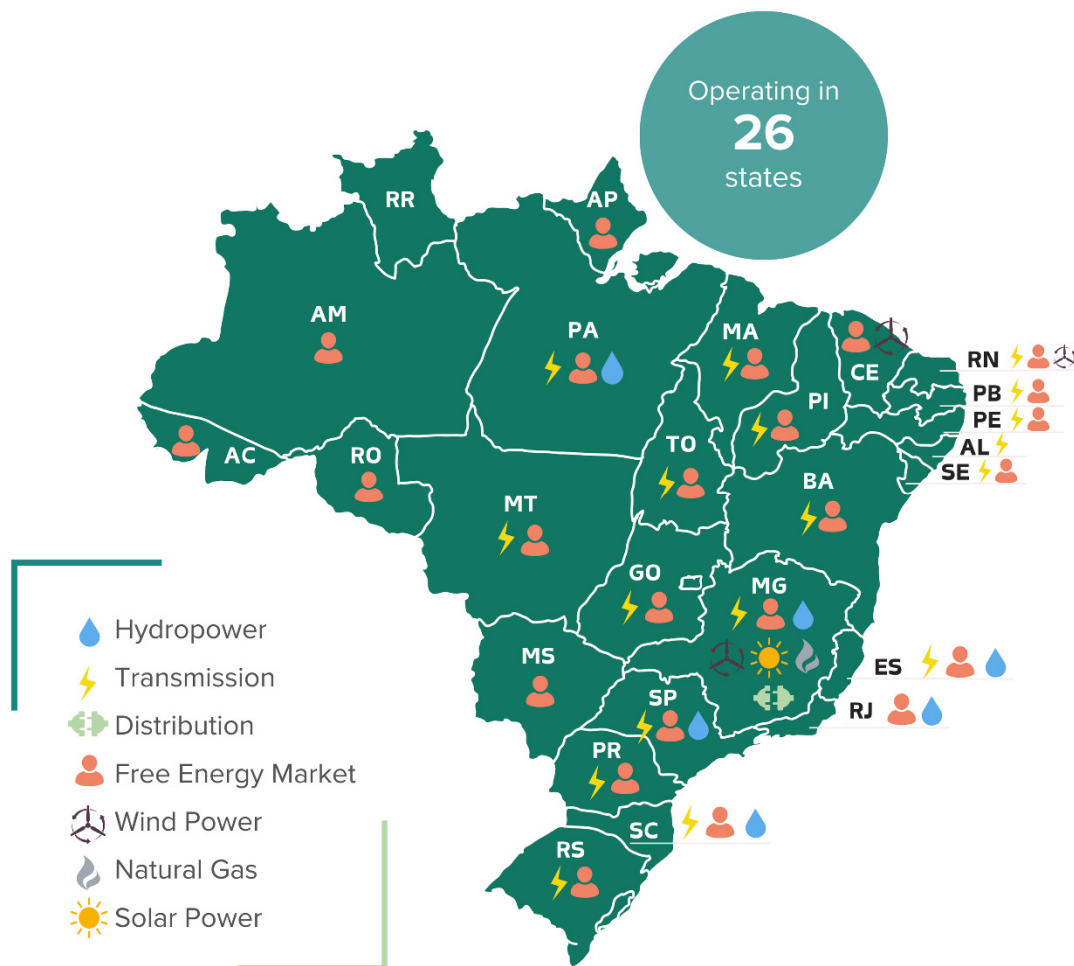


Figure 1. Locations of Cemig Group's power plants. Source: Adapted from Cemig Annual and Sustainability Report, 2024.

Due to its commitment to the principles of social and environmental responsibility, its economic and financial solidity, and its technical excellence, Cemig is internationally recognized as a benchmark in sustainability within its sector. The company is positioned as one of the main drivers in the consolidation of the Brazilian electric sector. Cemig has been a component of the Dow Jones Sustainability Index (DJSI World) for 24 years, being the only electric utility company in the Americas recognized in this list. It has also been part of the B3 Corporate Sustainability Index (ISE) for the 19th consecutive year and was selected for the 14th time to be included in the Efficient Carbon Index (IC02), created in 2010 by B3 and BNDES.

Every year, Cemig is dedicated to building the path toward a low-carbon future, committing to increasingly ambitious climate goals. On this journey, it is notable that since 2011, the company has been publishing its independently verified greenhouse gas emissions inventory. This identifies the main sources of emissions to develop appropriate mitigation strategies, such as the decommissioning of its only thermoelectric power plant – UTE Igarapé – in 2019, making its energy generation complex 100% renewable since then.

In addition to mitigation actions, the company recognizes the urgent need for prevention and adaptation in operations to increase the resilience of assets and the safety of energy use in the face of chronic climate changes and extreme weather events, whose frequency and intensity are likely to rise. In this regard, Cemig has been conducting annual climate scenario studies and investing in improving the efficiency and safety of its assets and their surroundings. This includes projects related to dams and wildfires in the regions where it operates.

Climate Journey – Cemig

In 2023, as part of the headquarters' diversification strategy, Cemig SIM acquired 100% of the stake in special purpose companies that own three photovoltaic solar power plants, and Cemig GT announced the implementation of the Boa Esperança and Jusante solar photovoltaic plants. In the same year, given the relevance of the company's diversification strategy in line with the theme of climate change, Cemig's Board of Directors approved the constitution of the Innovation and Energy Transition Committee.

Also throughout 2023, completing another stage of its climate journey, Cemig began to formalize the next steps of its decarbonization process through the preparation of the Climate Action Plan, in line with the main recommendations of frameworks and initiatives such as the CDP (*Carbon Disclosure Project*), *Transition Plan Taskforce* (TPT) and *Assessing Low-Carbon Transition* (ACT).

The Climate Action Plan (currently under development) outlines a series of time-bound actions, detailing the strategy the organization will adopt to guide its existing assets, operations, and entire business model towards a path aligned with the latest and most ambitious climate science recommendations. The Plan's objective—which will be reviewed every three years—is to align Cemig with the goals of the Paris Agreement, doing its part to limit global warming to 1.5°C.

To provide visibility to these and other actions being developed by the company in line with its values of integrity, commitment, sustainability, and social responsibility, Cemig is publishing its Climate-Related Financial Disclosures Report (TCFD) for the third consecutive year. By ensuring transparency in its efforts to mitigate and adapt to climate change, the company reinforces its commitment to the climate agenda.



Figure 2. Cemig's trajectory in the climate agenda. Source: Prepared by the authors.

2. SUMMARY

Table 1 below provides a summary of the highlights of 2023, showing the progress and transparency within the four thematic areas around which the Task Force structured its recommendations, and which represent the core elements of the organizations' operations: Governance; Strategy; Risk Management; Metrics and Goals.

Table 1. Summary of TCFD 2023 report highlights. Source: Prepared by the authors.

<p>Governance</p>	<ul style="list-style-type: none"> • In 2023, the Board of Directors held 23 meetings, addressing a variety of strategic issues, including climate change. The oversight of ESG activities, which encompasses climate issues, is carried out quarterly by the Audit Committee, ensuring compliance with standards and guidelines. • Established in 2023, the Innovation and Energy Transition Committee plays a key role in advising the Board of Directors on issues related to innovation and energy transition, with a special focus on decarbonization. • In a significant milestone, the Board of Directors approved the development of the company's Climate Action Plan. This plan represents Cemig's concrete commitment to decarbonization and establishes a clear trajectory for reducing emissions and adapting to climate change. This initiative reinforces the company's commitment to addressing climate-related challenges through mitigation and adaptation actions.
<p>Strategy</p>	<ul style="list-style-type: none"> • The Climate Action Plan outlines a series of concrete measures and comprehensive strategies that the company will adopt to achieve the ambitious goal of becoming Net Zero by 2040. • The impacts of climate change on water availability and hydroelectric generation have been the focus of Cemig's studies. To address this vulnerability, the company has been dedicated to scenario analysis, including advanced climate modeling. This guides their investments in alternative energy sources such as solar and wind, strengthening their resilience in the face of climate change. • Cemig faces multiple challenges arising from climate change. Rising temperatures are impacting the lifespan of equipment such as transformers, while intensifying winds pose a direct threat to transmission networks. Additionally, heavy rainfall can disrupt the electricity supply and affect the quality of the power supply. In the face of these vulnerabilities, Cemig has been

	<p>investing in adapting operations and asset resilience. Detailed analysis of climate data and the implementation of scenario-based action plans help Cemig mitigate these risks, ensuring the energy security and long-term sustainability of its operations.</p>
<p>Risk Management</p>	<ul style="list-style-type: none"> • Cemig's various governance forums conducted the review and approval of the Top Risk Matrix for the years 2023 and 2024. This matrix represents a key tool for identifying, assessing, and prioritizing the risks most relevant to the company, enabling a proactive approach to managing potential threats and opportunities, including those related to climate. • Cemig performed a comprehensive review of its Risk Management and Internal Controls Policy, along with the Risk Appetite Statement, to ensure that they are aligned with best practices and the company's specific needs. After thorough review and approval by the relevant governance bodies, these documents provide the essential framework for effective risk management across the organization. • The risk management team and the focal points of the risk holder areas conducted comprehensive training on the interpretation and implementation of the ISO 31000 standard. This international standard provides guidelines and principles for risk management, allowing Cemig to adopt a systematic and effective approach to identifying, analyzing, and responding to risks in all its operations and processes. This training reinforces the team's ability to manage risks in a way that is consistent and aligned with global best practices.
<p>Metrics and Goals</p>	<ul style="list-style-type: none"> • Since the preparation of the Climate Action Plan, Cemig has been defining several lines of action as part of its commitment to environmental sustainability and climate change mitigation. Covering a variety of key areas, these lines of action will be closely monitored, and include: <ul style="list-style-type: none"> ○ Expansion of its generating complex with investments in renewable energy sources; ○ Tracking of the emission sources of the commercialized energy; ○ Expansion of the commercialization of energy with renewable energy certificates (Cemig REC and I-REC); ○ 100% renewable own consumption; ○ Modernization and innovation of the electricity distribution service; ○ Reduction of losses in transmission and distribution; ○ Engagement with its suppliers aiming at reducing emissions from services and products;

- Electrification of the company's own car fleet;
- Energy Efficiency Program and customer awareness;
- Political engagement aimed at supporting initiatives to decarbonize the economy;
- Investments in innovative projects aligned with the energy transition;
- Creation of incentives related to decarbonization goals for the entire company.
- Based on its commitment to the SBTi initiative, Cemig continues to work to approve its science-based targets.

3. ABOUT TCFD

3.1 TCFD recommendations

The Task Force on Climate-related Financial Disclosures (TCFD), established in 2015 by the Financial Stability Board (FSB), was an international body that, for eight years, monitored and made recommendations to support informed and efficient capital allocation decisions. The objective of the Task Force centered on developing voluntary guidelines and recommendations to enable companies to provide relevant and timely information to all stakeholders about the risks and opportunities associated with climate change. To achieve this goal, the Task Force developed a *framework* whose final version was released in 2017 and which has become a reference for companies from the most diverse sectors and the financial market. In October 2023, the Working Group fulfilled its mission and was dissolved. The Financial Stability Board has asked the IFRS Foundation to take over the monitoring of the progress of companies' climate-related disclosures, with the *framework* and its recommendations prevailing as a reference for reporting.

The disclosure recommendations are structured around four thematic areas representative of the core elements of the companies' operations: Governance, Strategy, Risk Management, and Metrics and Targets (as shown in Figure 3). The four areas are interrelated and supported by eleven recommendations that build the framework with information that should help investors and other *stakeholders* understand how reporting organizations think about and assess climate-related risks and opportunities.

In addition to the general recommendations and guidelines, the TCFD also proposes complementary guidance for those sectors that account for the highest proportion of GHG emissions, such as energy services.



Figure 3. Core elements of financial disclosures related to climate change. Source: [Recommendations of the Task Force on Climate Change-Related Financial Disclosures – Final Report, 2017](#).

To support the development of high-quality disclosures that enable users to understand the impact of climate change on organizations, the Task Force recommends that companies consider seven principles. In order to ensure effectiveness, disclosure should:

1. Present relevant information;
2. Be specific and complete;
3. Be clear, balanced and understandable;

4. Be consistent over time;
5. Be comparable between companies in a sector, industry, or portfolio;
6. Be reliable, verifiable, and objective;
7. Be provided in a timely manner.

Since the first publication, in 2022, Cemig has been following these principles in its TCFD reports, presenting its strategies, as well as climate change mitigation and adaptation actions implemented and to be implemented. In addition to identifying the financial impacts of the fundamental physical and transition risks to be addressed in order to ensure the sustainability of the business, the company has also been recognizing more and more opportunities, not only in energy sources and resource efficiency, but also in diversification of service offerings, access to new markets and resilience strategies.



Figure 4. Climate-related risks, opportunities and financial impact. Source: [Recommendations of the Task Force on Climate Change-Related Financial Disclosures – Final Report, 2017](#).

In view of the progress and efforts it has been making, Cemig recognizes the challenges that exist on the way to achieving the goal of net zero emissions by 2040. In this trajectory, TCFD reporting is an important ally of the company's Climate Action Plan, formalizing the encouragement and strengthening of innovation, process improvements, investments in new technologies and collaborative partnerships that foster effective solutions in the energy sector.

3.2 TCFD and the energy sector

In its latest Status of Reporting 2023 report, the Task Force found that, in 2022, energy companies remained the sector with the highest average percentage of disclosure among the eight industries¹ analyzed, with the highest level of transparency in seven of the framework's eleven disclosure

¹ Sectors covered in the report: Banks; Insurers; Energy; Materials and Buildings; Transport; Agriculture, Food and Forest Products; Technology and Media; and Consumer Goods. A total of 1434 companies were analyzed.

recommendations highlighted. In line with this trend, Cemig has been increasingly transparent about its climate-related information, not only through the annual release of the TCFD Report, but also through disclosure on platforms such as CDP.

Another relevant finding of the study is that the resilience of companies' strategies in the face of different climate-related scenarios had the lowest level of disclosure in all three years evaluated by the Task Force. Based on the survey conducted with more than 200 companies in 2022, only 11% of the companies analyzed reported being compliant with this recommended disclosure. In addition, nearly 90% of them rated this recommended disclosure as somewhat difficult or very difficult to implement, which may help justify the low disclosure. Also noteworthy in this report, specifically related to the energy sector, is the difficulty for companies to report an efficient management of risks and opportunities in line with TCFD recommendations.

In terms of these challenges, Cemig has been proactively adopting measures to address them. The company has a well-established governance and risk management system to face these challenges and annually publishes its Greenhouse Gas Inventory, which guides the implementation of various actions aimed at promoting greenhouse gas reduction targets, in line with the decarbonization trajectory and the transition plan that is still under construction. As for scenario analysis, this is also a practice that the company has instituted internally and that has been directing not only mitigation and adaptation actions, but also the company's own strategy in the face of climate behaviors that directly impact the business.

The following sections of this report deal in detail with the progress made by Cemig in accordance with the central elements and recommendations of the TCFD and in line with the ambitions that the company has been setting in order to contribute to a sustainable future.

4. REPORT

4.1 GOVERNANCE

Objective: To disclose the company's governance on risks and opportunities related to climate change.

TCFD GUIDELINES:

- How does the Board oversee risks and opportunities related to climate change?
- What is the role of the Board in assessing and managing risks and opportunities related to climate change?

Cemig's corporate governance is based on transparency, equity and accountability. The management of the company is conducted by the Board of Directors and the Executive Board, with the presence of a permanent Supervisory Board. All are subject to the company's Bylaws and relevant legislation.

The main feature of Cemig's governance model is the clear definition of the roles and responsibilities of the Board of Directors and the Executive Board in the formulation, approval and implementation of policies and guidelines related to the management of the company's business. The members of the Board of Directors, appointed by the General Shareholders' Meeting, elect its Chairman and appoint the members of Cemig's Executive Board. The structure and composition of the Board of Directors and the Executive Board are reflected in the wholly-owned subsidiaries Cemig D and Cemig GT, with possible exceptions subject to the approval of the Board of Directors.

The emphasis of the company's governance has been on the balance between Cemig's economic, financial, environmental and social aspects, with the continuous objective of contributing to sustainable development and strengthening its relationship with shareholders, customers, employees, society, and other stakeholders. To sustain a well-defined corporate governance model, Cemig adheres to the good practices and recommendations of the Brazilian Institute of Corporate Governance (IBGC), promoting a relationship of trust and integrity with all parties involved.

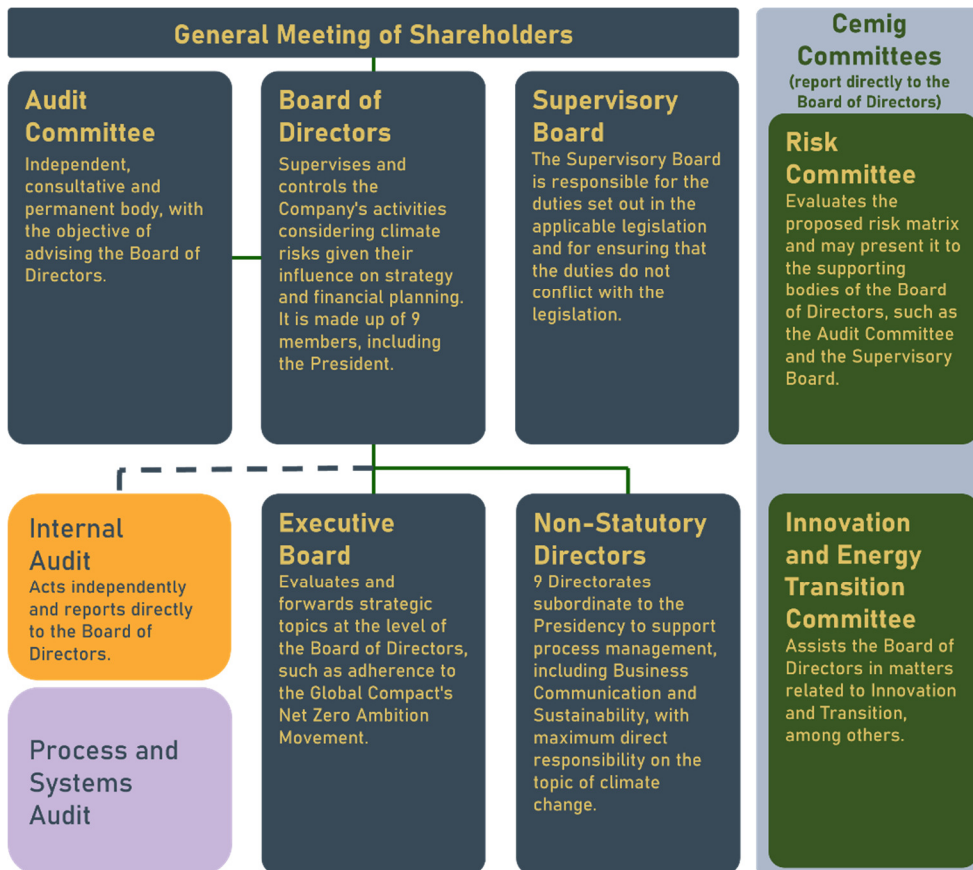


Figure 5. Cemig's corporate governance structure. Source: Cemig Annual and Sustainability Report, 2024.

Reporting directly to the President is the Director of Communication and Sustainability, responsible for climate change matters. Its duties involve the approval of technical standards and normative instructions necessary for the development of corporate sustainability, climate change and social responsibility, in line with strategic drivers and sector regulation.

Among the various duties of the Board of Directors are, for example, the approval of technical standards and normative instructions necessary for the development of corporate sustainability, climate change and social responsibility, in line with strategic drivers and sector regulation. In order to fulfill these duties, the Board of Directors meets ordinarily, in accordance with its Internal Regulations, at least once a month, to analyze the indicators and results of the company and its wholly-owned subsidiaries, subsidiaries and affiliates, in addition to deliberating on other matters included in the agenda and, extraordinarily, by request of its President, or of one-third of its members, or when requested by the Executive Board.

In order to monitor ESG actions, including climate change, the Sustainability Management presents the progress of the main actions to the Audit Committee on a quarterly basis, as well as the reporting of indicators. The Audit Committee is the auxiliary collegiate body of the Board of Directors, with regard to the exercise of its audit and oversight functions on the quality and integrity of the financial statements, adherence to legal, statutory and regulatory standards, and effectiveness of internal control systems and internal and independent audits. The Audit Committee is composed of four (4) members, all independent, appointed and elected by the Board of Directors.

4.1.1 Board Oversight

Cemig's Board of Directors is responsible for:

- Establish general guidelines and promote the integration of risk management practices and internal controls into the decision-making process;
- Evaluate and approve the Top Risks Risk Matrix, as well as the general guidelines for establishing the company's acceptable limits of exposure to risks (risk appetite);
- Evaluate and approve the Risk Management and Internal Controls Policy;
- Ensure and supervise the risk management systems and internal controls established for the prevention and mitigation of the main risks to which the Company is exposed, including those related to the integrity of accounting and financial information and the occurrence of corruption and fraud;
- Monitor the results of risk management processes and internal controls through executive reports.

In 2023, the Board of Directors held 23 meetings dedicated to strategic planning, project analysis, acquisition of new assets, investments, and other relevant topics. Additionally, consistent with past years, **climate issues were discussed at least once each semester**, focusing on matters related to the construction of renewable power plants, and a plan for reducing losses — related to Scope 2 emissions — among other topics. According to the company's structure, the highest-ranking position directly responsible for climate change issues at Cemig is the Director of Corporate Communication and Sustainability. This role supports process management by reporting directly to the President of Cemig, who represents the highest level of the Executive Board and reports directly to the Board of Directors. Each month, the Director of Corporate Communication and Sustainability presents the progress of the main ESG (Environmental, Social, and Governance) actions within the company to the President and the Board of Directors.

In addition, whenever the approval of a deliberative topic is necessary, an evaluation is made by the Executive Board and forwarded to the level of the Board of Directors, as occurs in the following cases: definition of the growth strategy in generation focused on renewable sources; adherence to commitments such as the Net Zero Ambition Movement from the United Nations Global Compact (UNGC); and the construction of photovoltaic plants.

According to the Internal Regulations, the role of the Board of Directors is to supervise and control the company's activities, exercising concrete responsibilities in relation to the strategy and direction of the business, and entrusting the ordinary management of the business to the executive bodies. The management of climate issues falls under these functions to the extent that the climate-related risks and opportunities that are mapped by the company exert an influence on strategy and financial planning – especially when Cemig mobilizes as a whole to establish and achieve decarbonization goals in the short, medium and long term. It is because it understands the importance of a well-equipped and informed Board of Directors that Cemig has members specialized in the electricity sector, in regulatory issues of relevance to the company, and academically and professionally experienced in the subject of Corporate Governance.

4.1.2 Committees

At Cemig, the Committees do not have executive authority or direct decision-making power, and their purpose is to ensure objectivity, consistency and quality in the decision-making process. They are dedicated to thoroughly analyzing matters within their competence and providing recommendations for decisions or actions, as well as opinions to the Board of Directors.

In the company's governance structure, two committees play important roles in addressing and managing risks and opportunities related to climate change, as well as in promoting innovation and energy transition. They are:

a. Risk Committee:

Cemig's Risk Committee is responsible for:

- Periodically monitoring the risk management process and internal controls, bringing the most relevant points to the attention of the Board of Directors;
- Evaluating, by advising the Board of Directors, the definition of the *Top Risks Risk Matrix*, as well as the general guidelines for establishing acceptable limits for the Company's exposure to risks (Risk Appetite);
- Analyzing all material submitted to the Board of Directors about the company's risk management and internal controls, giving a prior opinion on it.

In addition to the direct relationship with the Board of Directors, its function includes the presentation of the risk matrix to the support bodies of this Board, such as the Audit Committee and the Supervisory Board. The Risk Committee acts as an essential advisory body, providing a critical and expert view on the impacts of climate change on the company's business. Its analysis and recommendations contribute to informed and proactive decision-making regarding the threats and opportunities arising from the ever-evolving climate landscape.

b. Innovation and Energy Transition Committee:

Given the growing importance of the climate agenda, the Board of Directors decided to create, in 2023, the Innovation and Energy Transition Committee of the Board of Directors, which meets monthly and may have extraordinary meetings. This committee plays a key role in advising the Council on issues related to innovation and the energy transition, with a special focus on decarbonization.

Composed of four independent directors, the committee has members who have experience in both climate issues and innovation. Its strategic role is crucial, especially considering the importance of decarbonization as one of the company's main objectives. The committee guides Cemig's innovation strategy, ensuring that electrification initiatives, one of the main vectors of decarbonization, are properly integrated and driven in all areas of the company. Their expertise contributes to the identification of innovation opportunities that not only reduce the company's carbon footprint but also promote long-term competitiveness and sustainability.

These committees, with their respective competencies and focuses, ensure that risks and opportunities related to climate change are properly assessed and incorporated into corporate strategy, while driving innovation and the transition to a more sustainable energy future.

4.2 STRATEGY

Objective: To disclose the actual and potential impacts of climate change-related risks and opportunities on the organization's business, strategy, and financial planning, whenever such information is relevant.

TCFD GUIDELINES:

- Describe the risks and opportunities related to climate change that the organization has identified in the short, medium, and long term.
- Describe the impacts of climate change-related risks and opportunities on the organization's business, strategy, and financial planning.
- Describe the resilience of the organization's strategy, considering different climate change scenarios, including a 2°C or less scenario.

Cemig's strategic planning was updated in December 2023, and its content covers the period between 2024 and 2028, aiming to accelerate the transformation based on six main drivers:

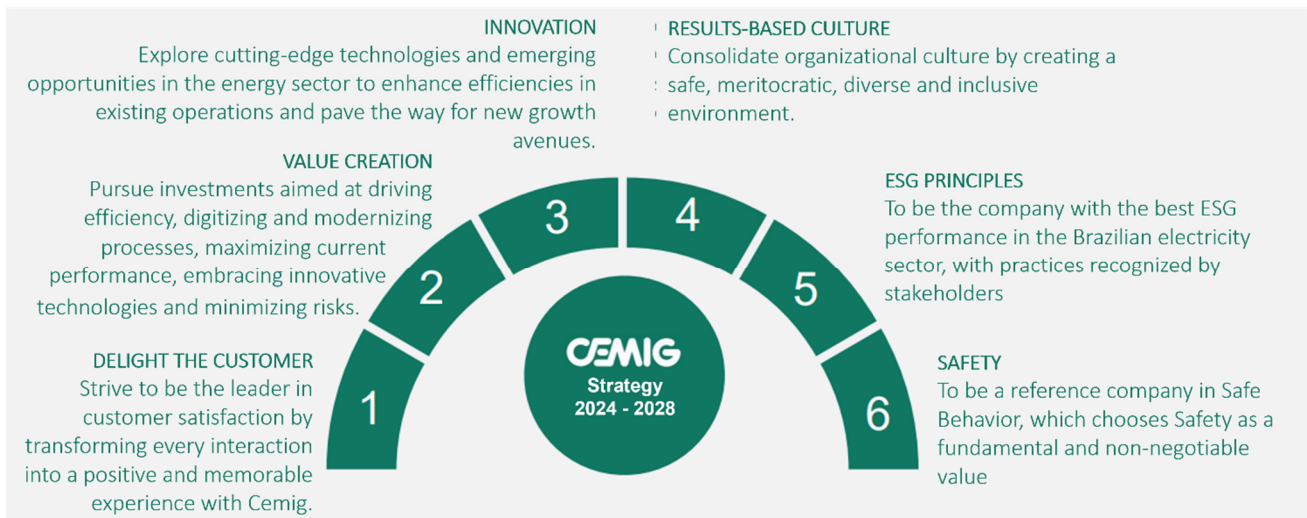


Figure 6. Six pillars of Cemig's strategy. Source: Annual and Sustainability Report, 2024.

The global ambition of the new strategic plan is to "be a leader in customer satisfaction and safety, achieving efficiency levels beyond regulatory requirements through modern, sustainable management that generates value and fosters a culture of results, with a focus on investments in Minas Gerais."

Cemig is firmly committed to becoming the best company in **customer delight**. The goal is to reach the zone of excellence in the *Net Promoter Score* (NPS) by 2028, ensuring that every interaction is marked by quality and efficiency. To achieve this goal, Cemig has been working to establish a system of continuous improvement of the journey, achieving excellence in customer service, according to the NPS spectrum.

Value creation is also a strategic axis of the company. Cemig is digitizing and modernizing its processes to increase operational efficiency while exploring new technologies and reducing risks. With investments expected to reach R\$ 35.6 billion throughout the company for this new cycle, Cemig is committed to achieving a *Total Shareholder Return* (TSR) of more than 20%, redefining how it generates returns for shareholders and communities.

Seeking to position itself at the forefront of energy transformation, Cemig is also dedicated to exploring **innovation** opportunities in the electricity sector. The search for efficiency in today's business and the development of new growth possibilities are rooted in a culture of innovation. With

an expected investment of R\$ 1.6 billion in innovation and digital transformation, Cemig is actively shaping the future of energy through new technologies.

Building a **results-based culture** that values safety, meritocracy, diversity, and inclusion is also one of Cemig's pillars. The company is committed to promoting transparent and accountable management, in which results are recognized and celebrated, driving collective progress toward excellence.

ESG principles are also part of the company's guidelines and are reflected in the search for the best ESG performance in the Brazilian electricity sector. To this end, Cemig has been incorporating practices that reflect its commitment to sustainable development and the creation of shared value. The company is committed to achieving carbon neutrality by 2040, reducing its emissions by 60% by 2028, and securing leadership in two of the world's top ratings by the same year.

Finally, **safety** is a non-negotiable value at Cemig, which is committed to being a benchmark company in Safe Behavior. A safety culture permeates every aspect of the company's operations, ensuring that protecting employees, customers, and communities is always a priority. Cemig is constantly improving standards and practices, continuously raising the standard of safety excellence throughout the Brazilian electricity sector.

Based on these drivers, Cemig seeks to continue updating and improving its strategy. Initially established for the 2023-2027 Cycle, this strategy has already generated significant results, which are highlighted below. Many of these successful actions will be maintained and refined from the latest review of the strategic cycle, which now covers the period 2024-2028.

OUTSTANDING RESULTS
STRATEGY - 2023-2027

- Consistent entry into the photovoltaic generation segment, with 155 MW under construction in Centralized Generation and 550 MWp approved in Distributed Generation;
- Entry into the energy trading market for the retail segment, reaching ~80 MWm sold to more than 1,100 customers in the category as of 2024;
- Launch of the Innovation Challenge 2.0 and partnerships with representative hubs in the electricity sector;
- Completion of *Datalake* deployment and *Disaster Recovery Deployment* of Cemig D and GT Networks.

During the execution of the 2023-2027 cycle, Cemig identified new strategic challenges to address, such as difficulties in the feasibility of generation plants, with delays in the construction of current plants and low attractiveness for new solar and wind projects, and the need to define the positioning intended by the company in the context of the energy transition. In terms of opportunities, the company identified that, although the speed of dissemination of new technologies depends on maturity and price, they should enable the energy transition and electrification of the economy, favoring new businesses.

Thus, the strategy review and corresponding update for the 2024-2028 cycle aims to address the latest landscape of challenges and opportunities identified by the company. To adequately meet the demands of this period, Cemig has outlined an investment plan distributed as follows:

INVESTMENTS	DISTRIBUTION	GENERATION	TRANSMISSION
R\$ 35.6 billions	R\$ 23 billions	R\$ 2.1 billions	R\$ 3.8 billions
DISTRIBUTED GENERATION	GAS		INNOVATION/IT
R\$ 3.3 billions	R\$ 1.8 billion		R\$ 1.6 billion

In terms of the ESG agenda, Cemig is attentive to the demands of stakeholders, and continues to develop environmental practices in line with the Sustainable Development Goals; contribute to the social development of the state of Minas Gerais through the provision of services in the energy and health and safety care segment (employees, customers and the community); and define and implement an agile and transparent governance logic, creating a culture engaged with results and meritocracy.

In line with these commitments, Cemig has outlined a series of goals to further strengthen its position as a leader in sustainability. In 2024, the company will focus on improving its standing in the world's leading ESG ratings, striving to remain among the top performers in this area. Additionally, Cemig has set an ambitious goal to become a leader by 2028 in at least two of the major globally recognized ESG ratings, such as ISS, MSCI, CDP, Sustainalytics, and Dow Jones. To achieve these goals, the company will launch the ESG 2030 Plan, which comprises a range of initiatives, metrics, and public commitments. This plan will address the most relevant ESG topics, align with industry trends and best practices, and focus on mitigating risks while seizing opportunities that align with the company's operational and strategic realities.

Figure 7 below shows Cemig's strategic commitments according to its strategic planning.

Environmental Practices	Contributions to Social Causes	Principles of Corporate Governance
<ul style="list-style-type: none"> - Aligned with the commitment to become Net Zero by 2040, reduce greenhouse gas emissions by 60.6% by 2028, based on the 2021 baseline. - Focus on renewable energy sources. - Expand the commercialization of Renewable Energy Certificates - Cemig REC and I-REC. - Develop actions for biodiversity conservation and water resources to generate benefits for society in line with the Sustainable Development Goals (SDGs) - Develop actions aligned with the circular economy, including ESG criteria in the development of new projects. 	<ul style="list-style-type: none"> - Promote actions to combat illegal occupancy under power lines and irregular electricity connections. - Promote projects aimed at social and cultural development in schools, hospitals, municipalities, and other social entities. - Make investments that create jobs and contribute to the development of social entities. - Make investments that create jobs and contribute to the development of communities in Minas Gerais. - Foster communication and dialogue with the society of Minas Gerais and with public authorities, demonstrating transparency in the company's ESG practices. 	<ul style="list-style-type: none"> - Promote diversity within the company through awareness initiatives, inclusion actions, and goals. - Strengthen a culture of compliance and integrity throughout the value chain, contributing sustainably to the company's performance. - Manage risks to ensure the success of strategic objectives and minimize negative impacts. - Act to promote transparency and ensure the protection of information and personal data under Cemig's responsibility.

ESG HIGHLIGHTS	<ul style="list-style-type: none"> ▪ Advance in the evaluation of the world's main ESG ratings in 2024, remaining among the companies with the best performances. ▪ Become a leader, by 2028, in at least two of the world's leading ESG ratings. ▪ Address through the ESG 2030 Plan (initiatives, indicators and public commitments) the most relevant ESG topics, in line with trends and best practices, mitigating risks and taking advantage of opportunities aligned with the company's reality.
----------------	--

Figure 7. Cemig's ESG commitments in accordance with the Strategic Plan. Source: Cemig's New Strategic Planning 2024-2028.

The innovation axis has a lot to contribute to these commitments, given that Cemig's purpose is to advance in the development of new technologies in the electricity sector, assuming a leading role in the Energy Transition. This includes exploring and developing new technologies and businesses with a focus on digitalization, efficiency, clean energy generation, electrification, and storage, using owned, regulated, and incentivized resources. The company seeks to enable the Energy Transition and the decarbonization of the economy, while developing and applying innovative solutions in the energy segment, capturing value for its current businesses and exploring expansion alternatives. In addition, Cemig plans to actively participate in innovation environments, collaborating with universities, ICT and startups to foster a culture of innovation and promote professional development and the internalization of knowledge. As part of these strategies, the company will also evaluate additional investment opportunities, complementary to regulatory resources, to seize the opportunities of the energy transition and contribute to a more sustainable future.

The company's strategies for the current cycle, therefore, have a special focus on the company's resilience. In this context, the company is intensifying its efforts to increase its capacity to deal with adverse conditions, including with regard to risks and opportunities related to climate change.

4.2.1 Climate-related risks and opportunities

In 2023, Cemig internally mapped a total of 18 priority risks. For an efficient management of these risks, involving the prioritization of mitigation and adaptation actions, the company evaluates the potential impacts and horizons of materialization according to the periods identified in the Bylaws, which are presented in Table 2.

Table 2. Time horizons. Source: Cemig's Bylaws.

Short-Term	Up to 1 year	An annual review of the Budget by the Board of Executive Directors is planned. Such revision is reflected in all plans, projections, activities, strategies, investments and expenses of the company and its wholly-owned subsidiaries, subsidiaries, affiliates and consortia in which it participates, directly or indirectly.
Medium-Term	Between 1 and 5 years	The company's Multi-Year Business Plan must reflect the assumptions of the Long-Term Strategy and contain the goals of five (5) years, including the Annual Budget. The Multi-Year Business Plan is reflected in all guidelines and plans of the company and its wholly-owned subsidiaries, subsidiaries, affiliates and consortia in which it participates, directly or indirectly. The Plan addresses in detail, among others: (i) the company's strategies; (ii) new investments and business opportunities; (iii) the amounts to be invested; and (iv) the rates of return and profits to be earned or generated by the Company.
Long-Term	Between 5 and 10 years	The Long-Term Strategy contains fundamentals, goals, objectives and results to be pursued and achieved in the long term by the company. The Long-Term Strategy is reflected in all plans, projections, activities, strategies, investments and expenses of the company and its wholly-owned subsidiaries, subsidiaries, affiliates and consortia in which it participates, directly or indirectly. The Long-Term Strategy contains the company's strategic fundamentals (Mission, Vision and Values) as well as the long-term strategic guidelines.

In order to assess the possible impacts of climate change, Cemig carried out the mapping considering the horizons for physical and transition risks, as well as for opportunities, according to the categories listed by the Task Force (as shown in Figure 4), in a process that involved the Board of Directors, the Risk Committees and the respective areas exposed to the identified risks. The following are the risk classifications according to the TCFD framework and their application to the company's context.

4.2.1.1 Transition Risks

Transition risks are related to the evolution of economic or market, political and legal, technological and reputational elements over time (Figure 8). From the projections of climate and economic scenarios, it is possible to evaluate the possibilities of evolution of each of these elements for the Brazilian energy sector, identifying the associated risks and opportunities and the financial impact they would bring to the company.

Political & Legal

- Rising costs associated to greenhouse gas emissions
- Stricter reporting requirements
- Regulations on existing products and services
- Exposure to lawsuits related to climate impacts

Technological

- Environmental impacts of replacing existing products and services with low-emission options
- Unsuccessful investment in new technologies
- Costs for transitioning to lower-emission technology

Market

- Change in customer behavior
- Uncertainty in market signals
- Increased cost of raw materials

Reputational

- Changes in consumer preferences
- Stigmatization of the sector
- Increased stakeholder demands or negative stakeholder feedback

Figure 8. Examples of transition risks. Source: adapted from TCFD.

The risks mapped by Cemig on each of these fronts are highlighted below, according to the material issues for the sector and for the company itself.

Political and legal risk

With the evolution of regulatory policies and the advancement of discussions on climate change, Cemig remains attentive to the political and legal challenges that impact its operations. Commitments and targets to reduce greenhouse gas (GHG) emissions are among the main topics that have been driving changes in the regulatory landscape.

In this scenario, it is important to remember that the Paris Agreement, signed in 2015, set out significant global commitments to combat climate change, with the goal of limiting global temperature rise to "well below 2°C" compared to pre-industrial levels. Within this context, Brazil has made a commitment to reduce its carbon emissions by 50% by 2030, compared to 2005 levels, and to achieve carbon neutrality by 2050. To support these goals, Brazil is discussing the implementation of a regulated carbon market, as proposed in Bill 412/2022, which introduces the Brazilian Emissions Trading System (SBCE).

The SBCE will require companies that emit more than 10,000 tons of CO₂ equivalent (tCO₂e) per year to monitor and report their emissions. Companies that exceed the limit of 25,000 tCO₂e will have to prove compliance with emission reduction obligations, encouraging the purchase and sale of emission allowances within a *cap-and-trade* system. This means that companies will have a decreasing amount of emission allowances over time, which can represent an increasing cost for those that fail to reduce their emissions.

Cemig, as one of the largest companies in the Brazilian electricity sector, reported total emissions of 5,432,267 tCO₂e in 2023². This significant volume of emissions puts the company in a position where the implementation of a regulated carbon market will have substantial financial implications.

² For more details on emissions, see Section 4.4. Goals and Metrics.

Given the proposed structure for the SBCE, Cemig would fall into the categories that would need to rigorously monitor its emissions and possibly acquire emission permits to meet future regulations.

The implementation of a carbon market in Brazil will entail direct and indirect costs for Cemig. Using Latin American markets where carbon taxation is already in place (see Table 3) as a reference, we can estimate the possible financial impacts. In Argentina, Chile and Mexico, carbon prices range from USD 0.41 to USD 5.00 per tonne of CO₂e. Applying the highest value of this range (USD 5.00 per tCO₂e), Cemig could face an additional cost of approximately USD 27.2 million per year (considering its total emissions of 5,432,267 tCO₂e).

The initial financial impact can be considered relatively moderate when compared to carbon prices in more mature markets, such as Canada and France, where prices reach USD 48-49 per tonne. If Brazil follows a similar price growth trajectory, potential costs for Cemig could increase significantly in the future.

Table 3. Carbon tax in different jurisdictions.

Jurisdiction	Tax Name	Local Currency	Price (\$/tCO ₂ e)	Price (USD/tCO ₂ e)	Observation
Argentina	Impuesto al carbon dioxide	ARS	696	3	Petrol
Argentina	Impuesto al carbon dioxide	ARS	681	3	Petroleum coke
Canada	Canada federal fuel charge	CAN	65	48	
Chile	Impuesto destinado a gravar las emisiones al aire de compuestos contaminantes ou "impuesto verde"	USD	5	5	
Colombia	Impuesto Nacional al Carbono	COP	23,395	5	
France	Contribution Climat-Énergie	EUR	45	49	
Mexico	Ley del Impuesto Especial sobre Producción y Servicios	MXN	73	4	Kerosene
Mexico	Ley del Impuesto Especial sobre Producción y Servicios	MXN	7	0,41	Petroleum coke
Portugal	Excise Tax Code	EUR	24	26	Principal Tax Rate
Uruguay	Impuesto a las Emisiones de CO ₂	YUY	6,024	156	

In order to mitigate the financial impacts resulting from the carbon market, Cemig continues to focus on the various fronts on which it has been operating. Firstly, the business is already based on a 100% renewable energy supply, which is a significant advantage. The company invests in innovative technologies that can minimize the emissions associated with its operations, with a focus on improving efficiency in transmission networks to reduce losses are also critical steps.

Another key measure for the company has been to deepen engagement initiatives with suppliers and partners to reduce emissions along the value chain. As for Gasmig, a Cemig subsidiary dedicated to the distribution of natural gas, there are significant challenges. With the growing pressure for decarbonization, demand for natural gas, seen as a transition fuel, may begin to decline from the 2030s onwards. To adapt, Gasmig will need to explore new business models that go beyond traditional gas distribution. This includes incorporating cleaner fuels, such as biogas and green hydrogen, and investing in technologies to mitigate emissions. In addition, the diversification of services in areas such as energy efficiency and electrification of industrial processes can position Gasmig as a leader in the transformation of the energy sector in Minas Gerais. In this way, Gasmig

will not only meet the demands of an evolving market, but will also contribute significantly to Cemig's decarbonization goals, ensuring its relevance and long-term sustainability.

Cemig also seeks information aimed at adapting to the risks linked to this market through participation in the Working Group on Climate Change and Air Quality, which is part of the Council of Entrepreneurs for the Environment (CEMA) of FIEMG – the Federation of Industries of the State of Minas Gerais – and in the Brazilian Business Council for Sustainable Development (CEBDS), where discussions are held on possible changes in legislation resulting from the implementation of the National Policy on Climate Change.

As for legal risks, although they are not currently considered relevant to Cemig's business, they are included in the scope of the corporate assessment of risks related to climate change, that is, the methodology developed by the Risk Management and Internal Controls Department maps together with the other managements any potential legal implications related to the Company's areas.

Although legal issues do not represent a material topic for Cemig, it is important to highlight that the company presents principles in its Environmental, Water and Biodiversity Policies that guide good practices in order to avoid any implications. Examples are the emphasis on compliance with current environmental legislation, the encouragement of the participation of society and affected or interested communities in all stages of the project, and the implementation of programs to improve the surroundings, where the communities are located, and vulnerable areas.

Technological risk

With the constant technological evolution in the Brazilian electricity sector, Cemig faces challenges and opportunities related to the technological transition. The company recognizes that, although the evolution and insertion of new technologies are still modest, they present considerable potential. However, the absence of specific regulation and the high associated costs (CAPEX) pose significant obstacles to the wide dissemination of these innovations.

In fact, technological challenges represent an important issue for the energy sector as a whole, as they directly impact operational efficiency, service delivery, and environmental sustainability. The lack of clear regulation can slow down the adoption of cleaner and more efficient technologies, while high upfront costs can make it difficult to access these solutions, undermining the competitiveness of companies in the sector.

To mitigate these risks, Cemig is committed to investing in research and development, seeking to explore new technologies and business opportunities. The company is focused on expanding renewable energy supply, with an emphasis on decarbonization through the expansion of offshore wind, floating power plants, biomethane and pumped storage plants. In addition, the growing adoption of electric mobility and green hydrogen is part of the company's strategy.

In the field of smart operations, Cemig is investing in smart grids, batteries and artificial intelligence to optimize its operations and offer more efficient services to customers. Not only do these initiatives help the company remain competitive in a technologically advanced environment, but they also contribute to mitigating the risks associated with the technology transition. By positioning itself at the forefront of innovation, Cemig is preparing to face the challenges of the future and consolidate its position as a leader in the Brazilian energy sector.

Market risk

Currently, Cemig stands out as a leader in several segments of the Brazilian energy market. It is the largest supplier to free energy market customers, ranks sixth among the largest generator sets,

fourth place among the largest transmission groups, and holds the position of the largest distribution group.

The company is committed to generating value for all stakeholders, including shareholders, employees, suppliers and society at large. This is reflected in investments aimed at expanding energy distribution and improving the quality of customer service. To achieve these goals and consolidate its prominent position in the market, Cemig has set ambitious goals with regard to environmental, social and governance (ESG) sustainability. Among these goals is the commitment to achieve carbon neutrality by 2040 and reduce its greenhouse gas emissions by 60% by 2028. In addition, the company aims to lead in at least two of the world's top ratings by 2028, demonstrating its commitment to sustainable practices.

However, the company identifies significant challenges in the market scenario. For example, the expectation of renewal of concessions in the power distribution and generation sectors has raised discussions about new models and regulatory obligations. The growing relevance of climate issues may be present in these new contracts, requiring a strategic adaptation on the part of Cemig to meet emerging market requirements.

Another challenge concerns the quality of the energy offered, since this directly impacts the ability to adequately meet market demands. While indicators such as DEC (Equivalent Interruption Duration per Consumer Unit) and FEC (Equivalent Frequency of Interruption per Consumer Unit) showed improvements compared to the previous year, there was an increase in accidental interruptions due to extreme weather events such as intense heat waves and severe storms.

In response to this scenario, Cemig Distribuição has implemented several initiatives to reduce the number and duration of outages, including a significant increase in the investment program, which includes the construction of new substations, lines and distribution networks throughout the state of Minas Gerais over the next five years. These works will not only increase the availability of electric power for the development of the state, but also improve the reliability and resilience of the electricity system.

Another important strategic objective for Cemig is the reduction of energy losses, which represent unearned revenues and have indirect impacts on the environment, such as increased greenhouse gas emissions. Through actions aimed at combating losses, Cemig D has kept these losses below regulatory limits for the last three years, although Aneel's models present increasingly challenging limits for companies in the sector.

In addition to these critical factors for the dynamics of market risks and opportunities, Cemig recognizes the importance of suppliers to ensure the quality of the services provided. The company adopts similar principles and values in relation to its supply chain, establishing a relationship guided by ESG requirements for the supply chain, the Statement of Ethical Principles and Code of Professional Conduct, and federal and state legislation. The quality assurance of the materials acquired by Cemig is also ensured through industrial technical evaluations and rigorous approval processes. These measures aim to mitigate potential risks not only in the company's own operations, but also in the value chain as a whole.

Reputational risk

The management of reputational risks is a strategic priority for Cemig, considering the direct impact that these risks may have on the company's image and its market value. The organization carefully evaluates the image and reputational impact for all strategic risks prioritized by the Board of Directors, classifying them into six levels, from minimal exposures to critical situations that compromise the company's reputation internationally.

One of the main reputational risks identified by Cemig is related to the possible need to expand its energy supply through fossil fuel-fired thermal power plants, if renewable energy capacity does not meet demand. This measure, in addition to contradicting efforts towards decarbonization, could significantly damage the company's image, affecting its position in sustainability indices and generating distrust on the part of investors. To mitigate this risk, Cemig is investing in the enhancement of its hydroelectric plants and the diversification of renewable energy sources, with clear goals by 2040 to increase solar and wind generation capacity.

In addition to the concern with the energy matrix, the company recognizes the importance of managing the environmental and social impacts of its supply chain. Cemig acts proactively to eliminate or mitigate situations that may damage its image and reputation, adopting a preventive approach to avoid damage to the brand, market losses and possible lawsuits. In 2023, the company implemented several initiatives to improve supplier management, such as reviewing supplier groups in relation to Industrial Technical Assessment (ATI) requirements, creating a Supplier Forum to strengthen strategic partnerships, and advancing risk management through specialized monitoring tools.

In the process of prospecting for new suppliers, Cemig adopts strict criteria, disregarding those that do not meet social and environmental requirements or whose reputation is compromised. These measures reflect the company's commitment to protecting its reputation and sustaining its position as a leader in the Brazilian energy market.

4.2.1.2 Physical Hazards

Physical hazards are related to the effects of climate change, which stem from the change in the frequency and intensity of weather events. These risks are divided into acute and chronic, with acute risks triggered by extreme weather events (e.g., a storm that causes flooding over a city), and chronic risks related to impacts resulting from progressive changes in climate (e.g., increased droughts due to changes in rainfall patterns) (Figure 9).

Acute

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

Chronic

- Changes in precipitation patterns and extreme variability in weather patterns
- Rising temperatures
- Sea level rise

Figure 9. Examples of physical hazards. Source: adapted from TCFD.

To assess physical risks, Cemig uses the scenarios provided in the sixth phase of the *Coupled Model Intercomparison Project (CMIP6)*, a collaborative structure designed to improve knowledge about climate change and organized since 1995 by the *Working Group on Coupled Modelling (WGCM)* of the *World Climate Research Programme (WCRP)*.

The impacts were assessed for the 2050 time horizon and took into account the Representative Concentration Pathways (RCP) presented in the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The scenarios evaluated by Cemig were:

- RCP2.6 – Represents the scenarios in which the increase in the global average temperature would be below 2°C, being extremely strict with respect to greenhouse gas emissions. This scenario is unlikely in the short term;

- RCP3.4 – Represents an intermediate emissions scenario between 2.6 and 4.5, but still includes a considerable removal of greenhouse gases from the atmosphere. This scenario is still unlikely, but more likely than 2.6;
- RCP4.5 – Represents an increase in concentrations, with an estimated peak around 2040 and then a decline to a value of approximately half of that recorded around 2050, by 2100. This is the most likely scenario among all RCPs;
- RCP7.0 – Represents the scenarios of stabilization of the radioactive forcing at 6 W/m². It represents a less likely scenario than the previous one;
- RCP8.5 – Represents scenarios with high greenhouse gas emissions, very useful for analysis up to mid-century, but highly unlikely beyond it if climate policies are implemented by countries.

RCP2.6 is the most optimistic among the scenarios used in this report (there is also RCP1.9, but it is not used in the analysis because it is highly unlikely), with radioactive forcing reaching a peak of 2.6 W.m². This scenario predicts a peak in CO₂ concentration of approximately 490 ppm and a decline in this value by the end of the 21st century. In this context, the increase in land temperature would be between 0.3 °C and 1.7 °C from 2010 to 2100, and the increase in sea level would be between 26 and 55 cm. However, for this scenario to happen, it would be necessary to stabilize GHG concentrations in the next 10 years and then remove them from the atmosphere (MMA, 2016). The RCP4.5 scenario has been one of the most widely used scenarios and it foresees an additional 4.5 W.m² of energy storage and stabilization of GHG emissions before 2100. In this case, the increase in land temperature would be between 1.1 °C and 2.6 °C and sea level between 32 and 63 cm (MMA, 2016).

Figure 10 highlights the greenhouse gas emissions from 1980 to 2014 and the emission scenarios just described. It should be noted that estimates up to 2014 seem to be following the path of high emissions.

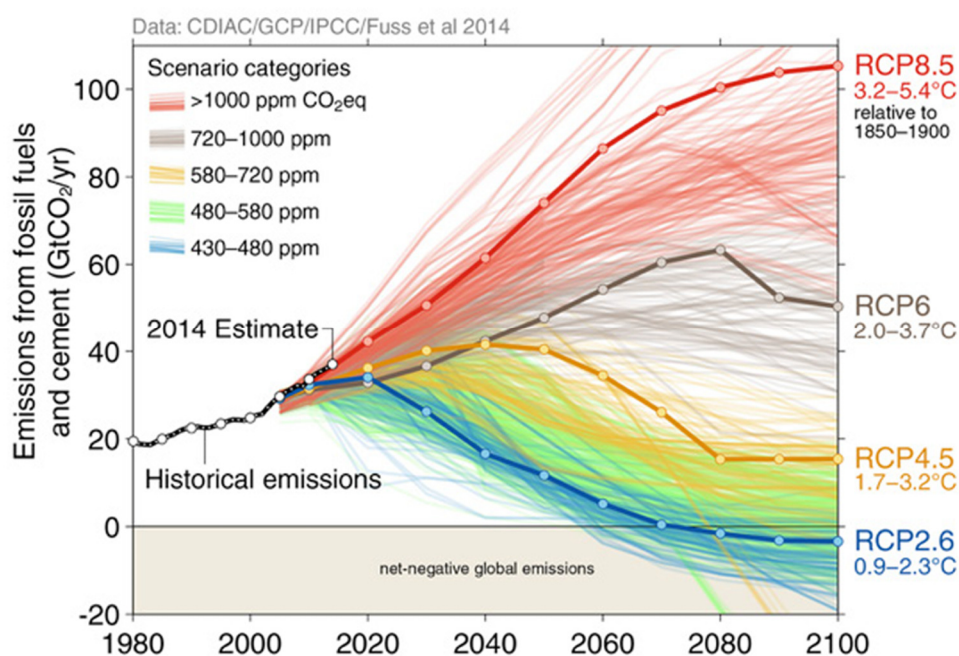


Figure 10. Global emissions trajectories. Source: Fuss et al., 2014.

To evaluate the climatic indicators of precipitation, temperature, humidity, wind speed and cloudiness, the company opted for the use of a multi-model approach. This approach gives greater

credibility to the results, as it allows to reduce the uncertainties that the use of only one model would bring.

The analysis carried out by Cemig's team made it possible to identify the climate risk for each of the company's plants and for others in which Cemig may be interested. Considering the analysis of the scenarios described above, with the identification of physical risks, a quantitative and qualitative analysis of their impacts on the company's operations, as well as their impact on the business, was carried out. The results of these analyses will be discussed later in the Scenario Analysis section.

The new version of models (CMIP6) is used in conjunction with Shared Socioeconomic Pathways (SSPs). The SSPs are intended to function as reference scenarios for various analyses related to climate change challenges and broader sustainability issues. They complement Representative Concentration Pathways (RCPs) by integrating underlying socioeconomic narratives and quantitative trajectories, aligned with mitigation and adaptation challenges.

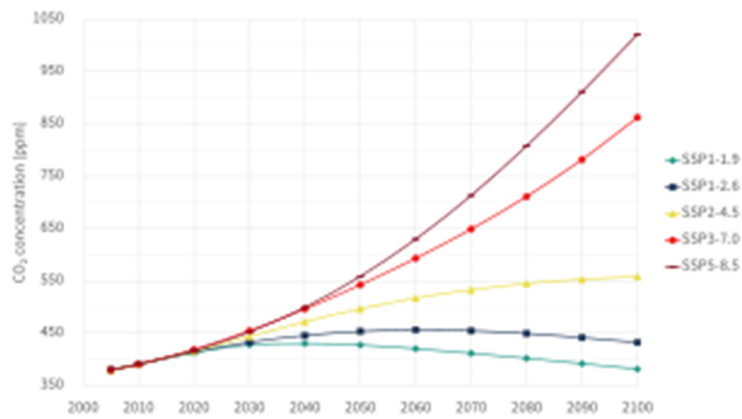


Figure 11. Atmospheric CO₂ concentrations by SSP over the 21st century (projected by MAGICC6, a climate model of simple complexity).

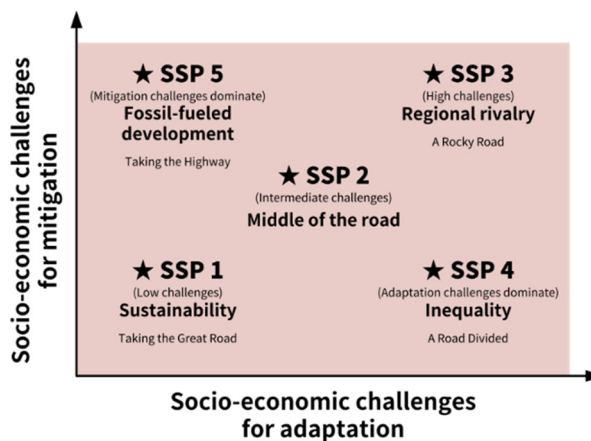


Figure 12. SSPs mapped out the challenges for the mitigation/adaptation space.

Chronic risk

Chronic physical risks are also a relevant topic included in Cemig's *Top Risks*. Among the climatic phenomena that fall into this class, two stand out for the company:

- Water scarcity: climate change can cause extreme rainfall and drought events, as well as changes in the geographic distribution of these phenomena. In addition, there may be a change in the average precipitation values, modifying the amount of water that reaches the reservoirs of the power plants. As Cemig's electricity production is mostly hydraulic, these changes may cause a reduction in generation capacity. The actions taken to adapt to this risk are linked to the expansion of Cemig's operations in other regions of the country, and investments in diversification of the generation matrix, seeking solutions in other energy sources, such as solar and wind. Currently, to study the feasibility of these paths, there is the operational cost and the dedicated team consisting of 2 meteorologists and 3 engineers, totaling an investment of R\$ 6,583,928.59 in 2023.
- Fires: rise in average temperatures and changes in rainfall and drought patterns can exacerbate certain risks to the Power Transmission System, as prolonged dry conditions increase the risk of wildfires. Fires within or near the transmission corridors can lead to outages in transmission lines. To mitigate this risk, Cemig conducts regular inspections and clearings of these corridors to maximize the safety and availability of transmission functions. Additionally, a new system for monitoring, forecasting, and alerting about wildfires has been implemented to support various Cemig departments in minimizing shutdown risks. The company has also developed the "Extinguish the Fire" (Apaga o Fogo - AoF) Project through collaboration with a network of institutions. This system provides real-time images processed by artificial intelligence algorithms that autonomously, and with the help of internet users, can aid in the early identification and validation of smoke sources and the progression of wildfires.
- Another way to mitigate this risk is through investments in Research and Development (R&D). This includes projects such as the Distribution Operation Center (COD) of the future, a platform that facilitates the understanding of the operation scenario and decision-making, and the System Operation Center (COS) that aims to train and mobilize teams for interventions in extreme weather events.

Acute risk

Damage to infrastructure is considered a priority risk since the occurrence of heavy rains in a short period, accompanied by gales and lightning, can cause physical damage to the facilities that transport and distribute energy, leading to service interruption. These phenomena are increasingly attributed to the effects of an unfavorable microclimate, especially noticeable in large urban centers. The resulting impacts are significant, including severe damage to power transmission and distribution facilities, which can lead to disruption of supply to consumers. In addition, there are substantial costs associated with repairing damaged structures and compensating customers, as indicated by the high amounts paid in compensation in recent years by Cemig D. In 2023, for example, approximately R\$114.89 million was disbursed, an increase of 35% compared to 2022, reflecting the growing vulnerability and rising costs associated with these extreme weather events.

The management methods seek to reduce, in the medium term, the magnitude of this risk through preventive adaptation measures, such as the management of urban afforestation (through pruning), the operation of climatological stations and meteorological radar, which predicts with greater accuracy the occurrence and intensity of storms, and the emergency plan with the allocation of maintenance teams for the rapid restoration of the energy supply.

Cemig also carries out works on its distribution system (expansion, reinforcement, refitment and renovation of assets such as substations and distribution lines) in order to reduce the occurrence of physical risks. In 2023, the company focused on a series of strategic macro projects to strengthen

and expand its electrical infrastructure. The investments included expansion and reinforcement in high voltage, as well as the improvement of medium and low voltage networks through renovations and reinforcements. A highlight was the Medium Voltage Automation Master Plan, designed to improve operational efficiency and incident response. The total amount invested in these projects reached approximately R\$ 1.148 billion, evidencing the company's commitment to modernize its operations and increase resilience in the face of climate and operational challenges.

4.2.2 Impact of climate-related risks and opportunities

Cemig considers the influence of climate issues in the strategic and financial spheres on all its business fronts, which enables the anticipation of relevant issues and a more appropriate response time, as well as stimulates the identification of opportunities. The following are the business areas and the respective impact assessment on these fronts.

4.2.2.1 Strategic planning

Products & Services

With a predominantly hydraulic electricity production, Cemig recognizes that the risks inherent to climate change can cause a reduction in generation capacity and a significant impact on energy supply. In this way, Cemig, among other risks, acts preventively, monitoring:

- Change in precipitation patterns: Cemig has a specific organizational structure that supports risk management and decision-making, both in the commercialization and operation of assets. Cemig also participates in the Energy Reallocation Mechanism (MRE), whose purpose is to share the hydrological risks of plants in situations of high inflows and generations, which transfer energy to plants in situations of low inflows and generations;
- Tree falls during storms: Cemig continuously inspects and cleans the right-of-way of its distribution lines to maximize the safety and availability of transmission and distribution functions (always limited to the minimum removal of vegetation, avoiding cutting in places where there is no interference with the transmission and distribution lines);
- Precipitation regimes and intense storms: management methods seek to reduce, in the medium term, the magnitude of this risk through preventive adaptation measures, such as the proper management of urban afforestation through pruning, the operation of climatological stations and meteorological radar, which predicts more accurately the occurrence and intensity of storms, and the emergency plan with the allocation of maintenance teams for the rapid restoration of the power supply;
- Change in consumer behavior: This risk is managed by carrying out a diagnosis of the electrical system for the need for expansion works; monitoring of operating conditions; and the reprioritization of the works.

In addition to monitoring, Cemig has also invested in the diversification of its energy matrix, expanding the use of wind and solar sources in order to reduce dependence on hydroelectric plants. The current CAPEX plan (2024-2028) foresees an investment of around R\$ 35.6 billion.

Value Chain

There is a possibility of possible financial losses resulting from the increase in the intensity of winds, rains and periods of drought, which may indirectly affect the operation of Cemig's business. These

impacts can occur throughout the supply chain, especially those directly involved in the deployment and/or maintenance of infrastructure (transmission and distribution).

In this way, Cemig constantly monitors its supply chain, maintaining a high degree of demand and care based on the mapping of potential risks and probabilities of occurrence, and tangible and intangible impacts, calculated in financial values, and of a strategic nature for the company.

In addition, Cemig seeks to align suppliers and contractors with its vision of sustainability, its commitments and corporate values. Among these corporate values, Cemig integrates the Commitment to Climate Change into its Procurement Policy.

Cemig is aware of the importance of managing social and environmental impacts throughout its supply chain and estimates that these impacts may occur in the medium term, and that the magnitude of the impact will be low, as the company has a system for classifying suppliers based on social and environmental criteria.

A strategic decision by Cemig influenced by the climate issue is the application of a socio-environmental questionnaire to suppliers, an initiative that has been in force since 2019. The questionnaire, called the Industrial Technical Evaluation, must be answered by both new suppliers and those already hired by Cemig, as a form of periodic evaluation. In the content there are several issues, including some related to the environment (monitoring of GHG emissions and GHG reduction targets). In 2023, several initiatives aimed at improving supplier management were implemented. These actions include reviewing suppliers against Independent Third-Party Analysis criteria, creating a Supplier Forum to strengthen strategic partnerships, and improving risk management through specialized monitoring tools.

Investment in Innovation

Cemig seeks to implement mitigation and adaptation measures by investing in research, development and innovation, always seeking to continuously improve its processes, reduce its greenhouse gas emissions and prepare for the effects of climate change – considering energy alternatives and energy efficiency. In 2023, approximately R\$ 829,000 were invested in Research and Development (R&D) projects.

The company has been exploring new technologies and opportunities such as *smart grid*, hybrid generation, energy storage, "electrostations", digitalization, among others, in order to mitigate this risk and leverage opportunities. As a way to make this strategic initiative viable, Cemig annually launches R&D calls for proposals focused on the mapped opportunities. Among the initiatives are actions such as:

- Agrovoltaic system: covers the research and development of alternatives for the exploration of agrovoltaic systems in Minas Gerais. The proposal is to identify the products and opportunities that this new technology can generate, as well as the impacts on the production of photovoltaic energy integrated with agricultural production, aiming at a solution to the difficulty of associating the two activities in the same area;
- H₂ Roadmap Project for Minas Gerais: the product of this project will be a methodology to (i) evaluate the potential of technologies – traditional and emerging – related to the production and use of green hydrogen in the business environment of a target region, focusing on the potential for renewable energy production, the main productive sectors, the technical, operational and commercial impacts on the electricity sector, and the production of synthetic fuels (e-fuels) through carbon capture, and (ii) build a regional Strategic Technological Roadmap to direct actions that promote the supply and demand of green hydrogen through

research and development programs, as well as public and private initiatives, contemplating the various economic sectors operating in the target region;

- **Modular Green Hydrogen (H₂V) Production System:** the product to be developed in this project consists of a modular plant for the generation and availability of hydrogen (H₂) via water electrolysis with the application of H₂ in industrial processes, from rotary furnaces with burners adapted to a mixture composed of H₂ and other types of combustible gases. The product must be scalable, efficient, safe and easy to integrate with existing industrial plants in order to allow the production and use of H₂V, according to the "appetite" of the plant;
- **Veredas Sol e Lares:** completed in early 2023, the floating solar photovoltaic plant in the Santa Marta SHP reservoir is associated with the construction of a methodology for social participation in the implementation, operation and maintenance of the plant and in the execution of R&D research. as well as the development of technologies for the use of natural resources for the economic development of a region aiming at reducing socio-environmental vulnerabilities and adapting to climate change. For the first time, a "shared" and floating power generation plant will be executed by the population to benefit from energy credits and a technological solution will be debated with the surrounding public as a socio-environmental solution for regional development. It will be a qualitative leap in R&D research, in order to ensure the social integration of technological advances, demonstrating that research must be at the service of the quality of life of the Brazilian population and especially of the most vulnerable;
- **Reverse logistics system for batteries and photovoltaic panels:** In order to meet the high demand for solid waste production from photovoltaic systems and energy storage, the project presents the development of a reverse logistics system focused on batteries and photovoltaic (PV) panels. The proposed system encompasses the creation of a methodology for application in Cemig's reality, consisting of methods for collecting, recycling and reusing equipment. The validation of the system will take place through a pilot project to meet rural electrification (irrigation) with an off-grid system with PV panels and reused batteries. In this stage, the methods of collection (waste mapping, collection and transport logistics) and reuse (evaluation of the components that can be used) will be applied. In the last phase, the results obtained become the basis for the modeling of the business model. At the end of the project, the main product to be applied at Cemig is the reverse logistics system.

Operations

Cemig promotes a series of initiatives that enable the accurate management of possible impacts related to climate change on its operation, among which the following stand out:

- **Hydrometeorological monitoring:** preventively, the company invests in practices that position it in a safer situation in the face of various possible scenarios, using modern techniques and equipment, such as the Storm Location System, Telemetry and Hydrometeorological Monitoring System, mathematical models for hydrological simulation and weather and climate forecasting.
- **Dam safety:** the process that aims to ensure the safety of the dams operated and maintained by Cemig uses, in all its stages, a methodology based on the best national and international practices, also complying with Federal Law 12,334/2010, which establishes the National Dam Safety Policy, and its associated regulation (Normative Resolution No. 696/2015 of the National Electric Energy Agency – Aneel). In this context, the procedures of field inspection,

collection and analysis of instrumentation data, preparation and updating of dam safety plans, planning and monitoring of maintenance services, analysis of results and classification of civil structures are contemplated. Based on the classification of the structures, the frequency of safety inspections and the monitoring routine are established. The vulnerability of each dam is automatically calculated on an ongoing basis and monitored by the Dam Safety Specialist System (Inspector).

- **Distribution Development Plan:** the PDD consists of the execution of projects linked to the electric power system, associated with the expansion, reinforcement, renovation and renovation of Cemig D's assets, such as substations and distribution lines. In 2022 and 2023, 39 new substations and 120 feeders were energized. The current investment program includes a significant investment in new substations, lines and distribution networks throughout the state of Minas Gerais over the next five years (2024-2028).
- **Diversification of energy generation sources:** Cemig GT, attentive to global energy trends, in addition to investing in consolidated technologies – such as hydroelectric, photovoltaic and onshore wind – also includes in its new planning studies to enable the use of integrated energy solutions (hybridization and association), capacity market, green hydrogen, and offshore wind.

4.2.2.2 Financial Planning

Operating Costs and Revenues

Cemig's electricity generation is predominantly hydraulic. In 2023, the company had 57 Hydroelectric Power Plants (HPPs), Small Hydroelectric Power Plants (PCHs) and Hydroelectric Generating Plants (CGHs). A reduction in rainfall rates, which can be caused by climate change, affects the volume of water stored in the reservoirs, leading to a reduction in energy generation capacity. In other words, the risks inherent to climate change may increase the exposure of generators in the short-term market, due to a significant reduction in energy supply, representing an impact of high magnitude.

This situation can directly affect the company's revenue, and even give rise to the possibility of lawsuits for any losses caused. The accidental interruption of transmission lines, due to extreme weather conditions, can cause a reduction in energy availability, with a direct impact on billing, as well as on distribution lines, causing interruption in the energy supply. For this reason, Cemig invests in initiatives to strengthen the security and resilience of services, which implies additional costs for the company.

On the other hand, the issue of water scarcity has been mobilizing Cemig to diversify its matrix through wind and photovoltaic generation, which may lead to an increase in the capacity to generate energy from clean sources that do not depend on the hydraulic component, potentially increasing the company's revenue.

Investments and Capital Allocation

Climate change determines the need for the company to make additional investments to maintain and improve the distribution network. The Distribution Development Program (PDD) contributes to the mitigation of this risk, in addition to providing assistance to the increase in demand resulting from the vegetative growth of the population. The company considers the magnitude of this impact to be medium.

Investment in improving the distribution network involves the implementation of new, more efficient technologies that also contribute to reducing greenhouse gas emissions indirectly, by reducing technical losses and the number of trips to local interventions. Therefore, the PDD also supports the achievement of the company's climate goals. In addition, the current CAPEX plan (2024-2028) foresees an investment of more than R\$ 35.6 billion on the company's various fronts, with emphasis on the advances of Cemig SIM.

In the 4th quarter of 2023, Cemig SIM recorded net income of R\$ 14,768,698.95 for Cemig, showing both a 37% increase in the volume of energy distributed when compared to the same period in 2022, as well as the recognition of capital gain by remeasuring investments resulting from the business combination carried out in stages. Assuming that this growth is maintained year by year and is reflected in Cemig SIM's potential, it would be possible to expect a total profit of R\$ 77 million by 2025, considering the planned expansion of Cemig SIM's projects. With the completion of the project and the maintenance of the services, Cemig will achieve a return on investment in the long term and will be able to count on a more diversified energy matrix.

According to the plan, Cemig SIM started its expansion of solar farms, reaching a total of 102 MWp in 2023, and plans to invest, in the period between 2024 and 2028, the equivalent of R\$ 653 million in the Distributed Generation segment, with the objective of reaching approximately 70 solar farms.

Acquisitions or divestments

In line with its commitment to reduce impacts on the environment, Cemig is no longer expected to invest in thermal plants, having deactivated the only thermoelectric plant operated by the company in 2019. With this measure, the diversification of its matrix and investments in innovation in the area of generation and transmission go hand in hand with the decarbonization planning and the supply of 100% renewable energy. Aiming at a cleaner and more efficient matrix, Cemig also expects to carry out R\$ 6.2 billion in divestments in underperforming assets.

However, the company recognizes the impact of climate change on the ability to guarantee generation by hydroelectric plants, which reinforces the need to diversify the company's generating complex and encourages the construction and acquisition of wind or photovoltaic projects, technologies in which Cemig already has expertise.

In this context, Cemig SIM, a wholly-owned subsidiary of the Cemig Group dedicated to innovation and energy solutions, invested approximately R\$ 212 million in 2023 to acquire and develop photovoltaic solar power generation plants in Minas Gerais. This investment reinforces the company's commitment to expanding sustainable energy capacity in the region, aligning with its growth and sustainability strategies in the energy sector.

Access to capital

Cemig participates in several sustainability indexes and rankings, which helps to communicate the company's sustainability practices to the market, including its actions to mitigate the effects of climate change, and thus facilitate access to capital for investors and the financial market.

A factor considered critical in this scenario of access to capital is the issue of water scarcity, not only due to the potential impact on revenue, but also due to the consequent increase in GHG emissions if the company has to resume generation in a non-renewable matrix. As a result, Cemig's performance in the sustainability indexes and rankings of which it is part (DJSI, ISE, Oekom, CDP,

Sustainalytics, among others) could be negatively influenced. In order to mitigate this risk, Cemig has increasingly invested in the diversification of the renewable matrix, reducing water dependence and building alternative renewable capacity in case water scarcity becomes a reality.

In terms of attracting capital, in 2023, Cemig Distribuição concluded its 10th issuance of debentures, totaling R\$ 2 billion. This issuance includes R\$ 400 million maturing in five years and R\$ 1.6 billion in ten years. The strategy allowed the company to extend the average maturity of its debt and reduce the average cost. The debentures are classified as "ESG bonds for the use of sustainable resources", as the funds raised will be directed to social and environmental projects defined in Cemig's *Sustainable Finance Framework*. This *framework* has been validated by Bureau Veritas through the Second Opinion (SO). Aimed at the Qualified Public, the offer attracted a demand of R\$ 5.46 billion, 2.73 times the value of the offer, reflecting the market's confidence in Cemig's credit quality.

The funds raised will support Cemig's Distribution Development Plan (PDD), which will be incorporated into the Regulatory Remuneration Base in the next tariff review. This plan aims to expand the availability of electricity, reduce greenhouse gas emissions, and promote social and economic development in Minas Gerais. With this issuance, Cemig D reaches R\$ 4 billion in sustainable debentures in the local market, reinforcing its commitment to ESG practices and highlighting the robustness of its financial strategy. The Vice President of Finance and Investor Relations, points out that these investments seek to generate positive and sustainable social impacts in the company's concession area.

4.2.2.3 Resilient strategy

Cemig's sustainability trajectory reached an important milestone in 2010, with the creation of the Biodiversity Policy. In 2016, the company continued this commitment by approving the Water Resources Policy and updating its Environmental Policy, which had been established in 1992.

In 2019, Cemig developed the Sustainability Plan, in line with the company's Strategic Planning and *Top Risks*, which are the risks of macro-processes capable of directly impacting its strategy.

The following year, 2020, Cemig set goals related to several critical areas, including climate change and environmental performance. The low-carbon targets set for 2020 included planting trees, reducing biomass affected by operations, stabilizing energy consumption at 2017 levels by 2022, recycling or disposing of 99% of industrial waste, reducing particulate matter emissions, and decreasing SF₆ losses by 65%. based on the actual percentage of 2019 and establishing 2027 as the target year.

In 2021, Cemig prepared its Climate Change Adaptation Plan, in accordance with the recommendations of the *Task Force on Climate-related Financial Disclosures* (TCFD). This plan used scenario analysis to identify potential implications for the company's business and operations, mapping key physical and transition risks, and proposing mitigation and adaptation measures.

Also in 2021, Cemig joined the ACT-DDP project, which seeks to increase decarbonization ambition in critical economic sectors, such as the electricity sector. This initiative combines the innovative methodologies ACT (*Assessing Low Carbon Transition*) and DDP (*Deep Decarbonization Pathways*), allowing the evaluation of Cemig's decarbonization strategies in relation to national and sectoral trajectories aligned with the objectives of the Paris Agreement.

Fast forward to 2022, and Cemig launched the first edition of its TCFD Report, following the guidelines of the Task Force to provide greater transparency in crucial information and engage the Chief Financial Officer in discussions on climate change, promoting a broader integration of the strategy in all areas of the company.

In 2023, Cemig began the preparation of its Climate Action Plan in partnership with a consulting firm specializing in climate change. This was a significant step, as the company and its subsidiaries are at the appropriate level of maturity to commit to more ambitious goals and coordinate a comprehensive decarbonization process, involving all scopes and areas of activity. In the same vein, the second edition of the TCFD Report was published, bringing updates on the company's progress and greater alignment with TCFD recommendations.

Therefore, the preparation of the Climate Action Plan in 2023/2024 consolidates several initiatives and lessons learned by Cemig over the years. This plan represents a milestone, bringing together a more integrated and robust set of climate practices and goals, providing a clear direction for the successful journey that the organization has been taking in the fight against climate change.

4.2.3 Scenario analysis

In 2021, Cemig carried out a first study considering scenario analysis to compose its Climate Change Adaptation Plan, which guided the identification of priority issues and actions that should be included in the company's Strategic Planning in the field of climate. The study considered as a transition scenario the *Deep Decarbonization Pathways* (DDP) centered in Brazil, simulating two scenarios of GHG emissions in the country until 2050, and the focal questions raised by Cemig in this study had as their starting point, mainly, the recognition of its water dependence and its performance in a sector that is responsible for a large part of the world's greenhouse gas emissions.

In the years that follow, Cemig has been updating the study with the aim of reassessing the impacts of climate change on its operations by 2050. In this process, the scenarios used are being expanded and the analyses are deepened due to the greater availability of data and the development of tools.

For an effective scenario analysis, clear definition of objectives is key, considering the specific challenges and opportunities that the company faces in the context of climate change and energy transition. This analysis should address how the key variables behave in different future scenarios, impacting Cemig's operations, infrastructure and growth strategy in the coming years. For the company, the main focus has been established on three critical axes: operational resilience, diversification of the energy matrix and compliance with decarbonization goals.

The results of the analysis of physical and transition scenarios are presented below, taking into account the sectoral and regional context for considerations.

Transition scenarios

The goal of the transition scenario analysis is to equip the company with the capability to develop robust strategies to tackle the challenges and seize the opportunities arising from the shift to a low-carbon economy. This analysis aims to address crucial questions, such as the company's ability to adapt to new climate policies, innovate in clean technologies, and diversify Cemig's energy mix, ensuring its long-term competitiveness and sustainability. Currently, the following objectives are fundamental in guiding the company's strategy:

- **Adaptation to decarbonization policies:** different public policy and regulatory scenarios may affect Cemig's operation and strategy. This includes analyzing how carbon pricing policies, renewable energy subsidies, and environmental compliance requirements may impact operating and capital costs, as well as the company's growth opportunities;
- **Investment in innovation and clean technologies:** integrating emerging technologies and innovations into operations to reduce emissions and improve energy efficiency is imperative

in the sector. This encompasses the adoption of renewable energies such as solar and wind, the development of energy storage solutions, and the implementation of smart grid management systems. The analysis should make it possible to identify the priority areas for investment in R&D and the technologies that offer the greatest potential for positive impact;

- **Diversification of the energy matrix:** both opportunities and challenges are associated with the expansion of the share of renewable energy sources in Cemig's energy matrix. The analysis allows us to evaluate how different scenarios of market development and technological advancement can influence the viability and competitiveness of new energy sources, contributing to the reduction of dependence on hydroelectric generation and the resilience of the company in the face of climate change.

As part of the analysis of transition scenarios, it is important to identify the key variables that directly influence Cemig's ability to achieve its strategic objectives in a context of energy transition. These variables are fundamental for the construction and evaluation of different future scenarios and, in the current context of the company and the sector, include:

- **Climate policies and regulations:** including variables such as the implementation of carbon pricing, greenhouse gas emissions regulations, tax incentives for renewables, and national carbon reduction targets. The evolution of public policies shapes Cemig's operating environment, affecting costs and growth opportunities;
- **Technological advancements:** encompasses innovation in renewable energy technologies, energy storage systems, digitalization of grids, and energy efficiency. The adoption of clean technologies can transform Cemig's operation, offering ways to reduce emissions and improve operations;
- **Market conditions:** This concerns variables such as the demand for clean energy, energy prices, competitiveness in the renewable energy sector, and evolving consumer preferences. Market dynamics influence Cemig's investment decisions and its ability to maintain a competitive position in the energy sector in transition;
- **Financing and investment:** Considers access to capital for investments in low-carbon technologies, financing conditions, and investors' interest in sustainable projects. Cemig's ability to attract and allocate financial resources is essential for the implementation of its energy transition strategy;
- **Stakeholder expectations:** Includes the demands and expectations of customers, investors, regulators and communities regarding Cemig's climate responsibility and sustainability. Stakeholder expectations can drive the adoption of more sustainable practices and influence the company's reputation and social license to operate.

Based on the objectives and variables highlighted, the IEA NZE 2050, IRENA and IEA STEPS scenarios were selected to make considerations about Cemig's challenges. The scenarios analysed below – IEA NZE 2050, IRENA and IEA STEPS – offer distinct perspectives on the energy future, each with unique implications for long-term strategies and investments. The IEA NZE 2050 scenario represents a vision aligned with the more ambitious goals of the Paris Agreement, seeking to limit temperature rise to 1.5°C above pre-industrial levels, and is characterized by strict regulation and high carbon prices. In the IRENA scenario, the ambition is to contribute to limiting the global temperature increase to well below 2°C, emphasizing a gradual transition driven by robust incentive policies for renewables and energy efficiency. Finally, the IEA STEPS scenario represents a conservative approach, reflecting current policies with less ambitious climate targets, resulting in a temperature increase of more than 2°C and a slower pace of energy transition.

- **IEA NZE 2050 scenario:** in this scenario, Cemig faces a strict regulatory environment, with high carbon prices and strong incentives for clean energy. Adapting to decarbonization policies will require the company to align its operations and investments with these global

and national policies, which may include quickly adapting to emissions standards and actively participating in carbon markets. Cemig can take advantage of incentives for renewable energy and low-carbon energy supply contracts, strengthening its competitiveness. In addition, innovation in clean technologies will be crucial. Cemig must accelerate investments in technologies such as energy storage, *smart grids* and energy efficiency solutions to manage the intermittency of renewable sources and maximize the efficiency of its distribution network. Carbon capture and storage (CCS) and green hydrogen technologies will also be important, as will the digitalization and automation of operations. The diversification of the energy matrix, as has already been done, is necessary, as well as the possibility of expanding distributed generation, taking advantage of technological advances to integrate these sources efficiently and economically into the electricity system, thus reducing dependence on traditional hydroelectric generation;

- IRENA scenario: in this case, the energy transition is driven by the progressive adoption of renewables and a significant increase in energy efficiency. Incentive policies and support mechanisms, such as renewable energy auctions and subsidies, will create a positive environment for the expansion of Cemig's clean energy operations. The company must take advantage of these incentives by actively participating in auctions and support programs, and adapt its operations to comply with new energy efficiency and emissions regulations. Technological innovation will be a central pillar, and Cemig must strengthen its R&D capabilities in renewable energy and energy efficiency. Investments in new solar and wind technologies, next-generation energy storage systems, and smart grids will be essential to facilitate the integration of renewables and demand management. Innovative solutions in microgrids and distributed energy technologies will also be important to offer additional flexibility and resilience to the energy system. Diversification of the energy mix will require the acceleration of solar and wind energy expansion plans, and the exploration of opportunities in emerging energies, such as geothermal and oceans, depending on technical and economic feasibility. The expansion of distributed generation is a key initiative to diversify Cemig's energy matrix and reduce vulnerability to hydrological variations, in addition to considering the electrification of its own processes and the development of solutions for industrial and commercial customers seeking to reduce their own carbon footprints;
- IEA STEPS: given that this scenario considers a climate ambition limited to the policies and targets currently in force in the country and in the energy sector, it is a scenario in which the temperature increase would exceed the limits established in the Paris Agreement, exceeding 2°C. For Cemig, less ambitious targets at the government and sector levels may result in a slower pace of energy transition given the dependence on regulatory and market structures, there is a reduced expectation of incentives for decarbonization. This slowness can make it difficult to adapt quickly and quickly to meet the growing demands for cleaner and more sustainable energy sources. In this sense, Cemig's response to these limitations involves a strategy of maximizing opportunities within the current regulatory and budgetary context. For example, Cemig should pay attention to renewable energy auctions and take advantage of the subsidies and tax incentives available for clean energy, also continuing to invest in smart grid technologies and energy storage systems to improve efficiency and facilitate the integration of renewable sources, such as solar and wind, into its energy matrix. In addition, Cemig can adopt a cautious and incremental approach to diversifying the energy matrix. This includes continuing to gradually expand solar and wind generation capacity, reducing reliance on hydropower generation, and exploring the economic viability of emerging sources. The company can also strengthen its energy efficiency initiatives and electrification programs, aligning with the efficiency and sustainability policies already in place and

ensuring possible progress towards the Net Zero goal, even if the regulatory environment and sectoral policies are not the most favorable to the transition.

The analysis of the IEA NZE 2050, IRENA, and IEA STEPS scenarios reveals different paths for Cemig's energy transition, each with its own challenges and opportunities. In the IEA NZE 2050 scenario, Cemig must face strict regulation and high carbon costs, requiring rapid investments in clean technologies and energy diversification to align with decarbonization policies. The IRENA scenario offers a more enabling environment, driven by incentives and supportive policies, facilitating the expansion of renewable energy operations and requiring the adoption of emerging technologies to increase efficiency and integrate new energy sources. The IEA STEPS scenario, which is more conservative and reflects current policies until 2023, imposes limitations on the pace of the energy transition, challenging Cemig to maximize opportunities within the existing regulatory framework and focus on incremental improvements in efficiency and integration of renewable energy. In all scenarios, however, Cemig's strategic adaptation must be in line with continuous investments in innovation and energy diversification, which are essential to maintain its competitiveness and resilience in the transition to a low-carbon economy.

Physical Scenarios

The physical risk assessment of the climate was carried out using historical information and using scenarios available in the sixth phase of the *Coupled Model Intercomparison Project (CMIP6)*.

In order to evaluate the behavior of the main meteorological variables that impact the company's activities, the Climate Monitor was created, a tool that focuses, in its first version, on the state of Minas Gerais. This initiative differs from the company's usual monitoring because it focuses on analyses related to possible signs of climate change, i.e., anomalous values.

Cemig analyzed the scenarios for the variables precipitation, temperature, humidity, wind speed and cloudiness for the following models:

Table 4. Models used in the study of climate change scenarios. Source: Cemig.

Model	Accountable	Country or Region	Resolution (Lon x Lat)	
AWI-CM-1-1-MR	Alfred Wegener Institute	Germany	0.94	0.9
CAMS-CSM1-0	Chinese Academy of Meteorological Sciences	China	1.13	1.1
CESM2	National Center for Atmospheric Research	USA	1.25	0.9
CNRM-CM6-1-HR	Centre National de Recherches Meteorologiques	France	0.5	0.5
EC-Earth3	EC-Earth-Consortium	Europe	0.7	0.7
EC-Earth3-CC	EC-Earth-Consortium	Europe	0.7	0.7
HadGEM3-GC31-MM	Met Office Hadley Centre	United Kingdom	0.8	0.6

The analysis carried out by Cemig made it possible to identify the climate risk for each of the company's plants and for others in which Cemig is interested. Considering the analysis of the scenarios described above, with the identification of physical risks, a quantitative and qualitative analysis of their impacts on the company's operations, as well as their impact on the business, was carried out. These models have been applied to the SSPs scenarios described and, over the next few years, the number of models used should be expanded, as well as the analyses.

In terms of physical risks, the data used to carry out the studies and analyses were applied to the company's business and interest areas in 2023, with emphasis on Power Generation and Power Transmission and Distribution. Based on the results, climate change monitoring and adaptation actions were identified, detailed below.

Power Generation

A. Hydraulic energy source

Within the scope of the hydraulic energy source, which corresponds to the largest percentage of the company's generation, Cemig evaluated 22 different precipitation scenarios, comprising different models, SSPs and periods.

The analyses were carried out for 77 hydroelectric plants, including Cemig plants and those of other companies, evaluating the possible changes in the rainfall regime of these projects, with identification of physical risks, and a quantitative and qualitative analysis of their impacts on the company's operations, as well as their impact on the business. The following are some examples of information collected for the Três Marias power plant.

Figure 13 shows a graph with data from the 30-year moving average of the history and the projections of six different models for Três Marias. It can be observed that both the history and the scenarios differ greatly from each other, and one of the first analyses that were made was to identify which models presented better adherence between their history and the data observed in the incremental basin. In the specific case of Três Marias, the models that had a history closer to that observed were the AW1-CM11-1-MR and the CESM2. This information is important for us to define which scenarios/models we are going to define as the most likely for a given region.

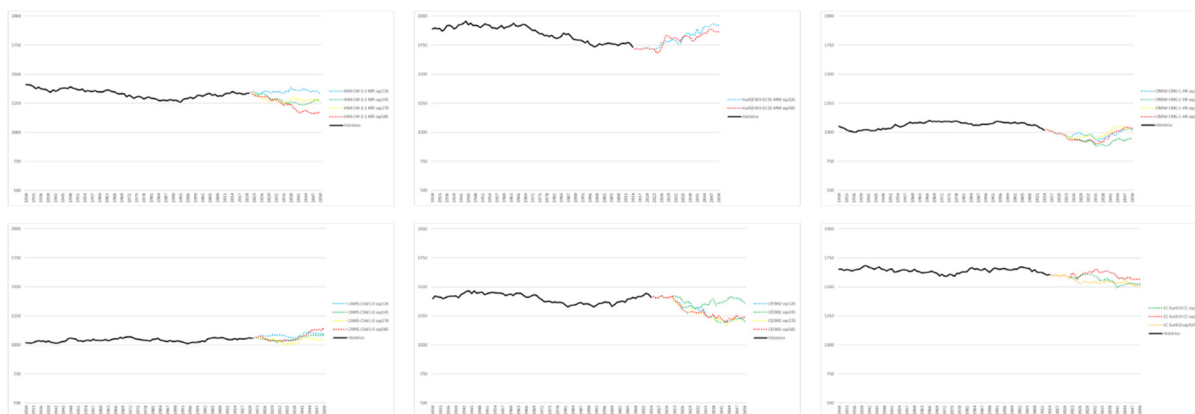


Figure 13. 30-year moving average of precipitation in the Três Marias incremental basin.

In the following figures, it is evident that for Três Marias the differences between the results of the two models are minimal, but for other regions this may not occur, such as, for example, in Maranhão and in the South of Brazil. Therefore, for each hydroelectric project, this similarity between the observational data and the history of each model was analyzed to define the relevance of the model in relation to the region.

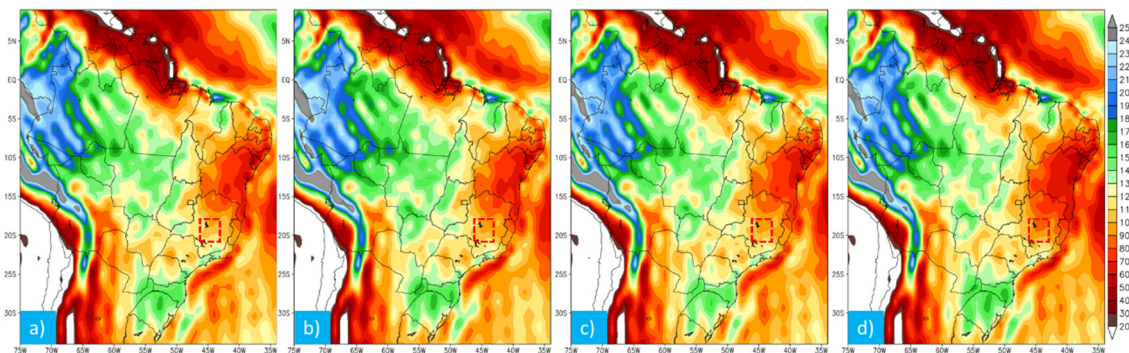


Figure 14. Example of the monthly average rainfall (mm) from 2022 to 2051, for the SSP126, SSP245, SSP370 and SSP585 scenarios, of the AW1-CM11-1-MR model, with emphasis on the Três Marias region.

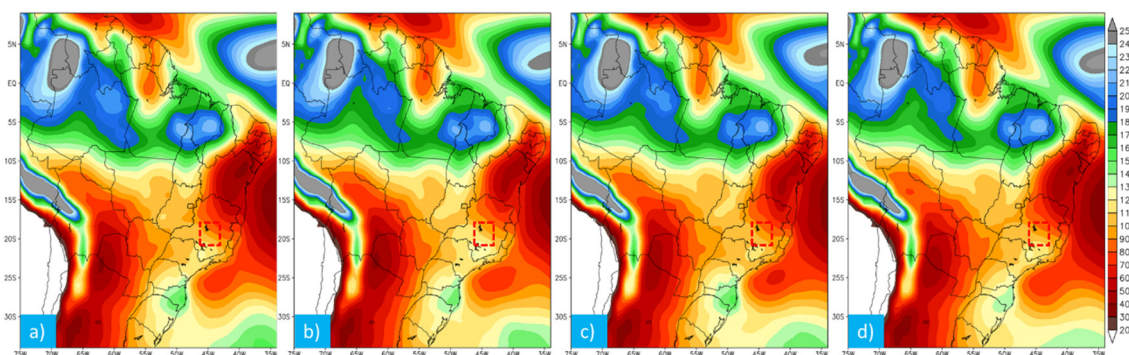


Figure 15. Example of the average monthly rainfall (mm) from 2022 to 2051, for the scenarios SSP126, SSP245, SSP370 and SSP585, of the CSM2 model, with emphasis on the Três Marias region.

In the results for the Três Marias plant, 80% of the scenarios point to a reduction in rainfall in the basin until approximately the year 2030. Only one of the models showed an increase, the HadGEM3, but it is also one of the ones with the greatest difference in history. As for the scenarios, even the most optimistic ones show a drop or stability in the next 10 years but followed by recovery. On the other hand, with the most pessimistic ones (SSPs 3, 4 and 5), there are sharp declines and, in some cases, no recovery.

For the remaining plants, the vast majority of those present in the Southeast and Midwest followed the pattern above, with some specific differences, which may indicate a risk of precipitation drop for the coming years, with strong pressure on the operation of the National Interconnected System. Based on this risk, Cemig has been improving and/or creating systems related to increasing efficiency in the operation of its reservoirs and environmental alerts, as will be explained in the following sections.

B. Solar energy source

The solar farms that Cemig currently owns and that it intends to install have the state of Minas Gerais as a priority. Therefore, the solar energy potential of the state and the possible changes in the variables that directly impact the generation by this source, such as cloudiness, temperature and humidity, were evaluated in greater detail. Of these, cloudiness definitely has the greatest impact on production, as it directly affects the radiation incident on the solar panels, while very high temperature and humidity levels negatively affect the efficiency of these panels.

The state of Minas Gerais has a significant climatic heterogeneity in its territory, so it became necessary to divide the state into some macro-regions to assess the impact of climate change on the atmospheric variables mentioned above, thus creating the divisions presented in Figure 16, which highlights the macro-regions of analysis.

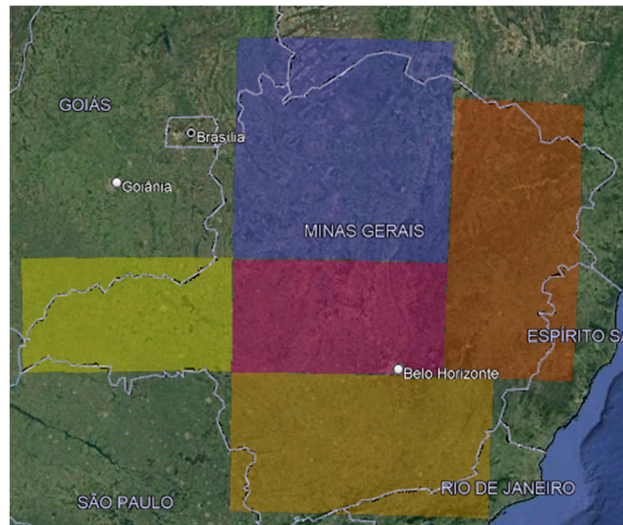


Figure 16. Macro-regions of analysis.

Figure 17 shows that the vast majority of scenarios point to a reduction in cloudiness in the northern region of Minas Gerais in the next 30 years, which contributes positively to an increase in energy production from solar sources in the coming years, regardless of the SSP analyzed.

A similar analysis was carried out for the other regions, indicating a similar decrease in the Triangle, Center and East, but showing stability in the South of Minas. However, the loss or gain in energy production from solar sources, given the low magnitude of the changes in cloudiness, should be accompanied by analyses related to temperature and relative humidity, which will be explored over the next year.

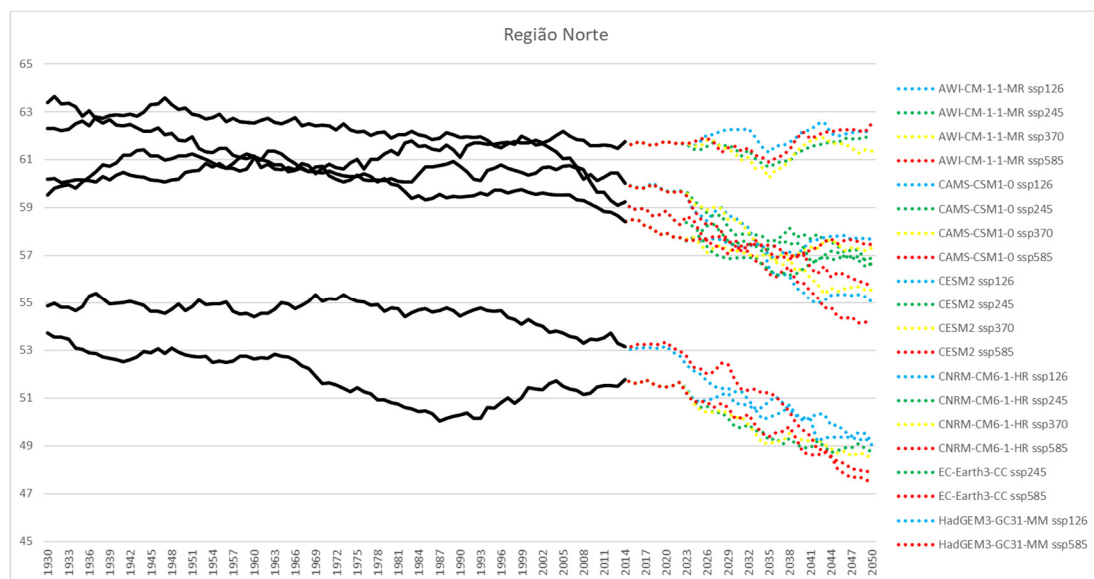


Figure 17. Historical and forecasted scenarios for cloudiness (%) until 2050 for the Northern region of Minas Gerais.

C. Wind energy source

In the analysis of climate change in wind sources, the regions present in the macro-region of analysis (Figure 16) and the wind farms of Volta do Rio and Parajurú, owned by Cemig (Figure 18), were analyzed.



Figure 18. Location of the Parajurú and Volta do Rio wind farms.

In the case of wind farms present in Ceará, the variation is almost imperceptible, but with a slight downward trend in the most pessimistic scenarios. As the wind regime in Ceará is dominated by the southeast trade winds, which arise due to the difference in equator-pole heating. Therefore, this warming gap will continue to occur, regardless of climate change scenarios. For the regions of Minas Gerais, there were significant differences between the North and East, which showed stability in all scenarios, while the South and Triangle showed increases in SSPs 245 and 370, while in the Central region there was a very high variability.

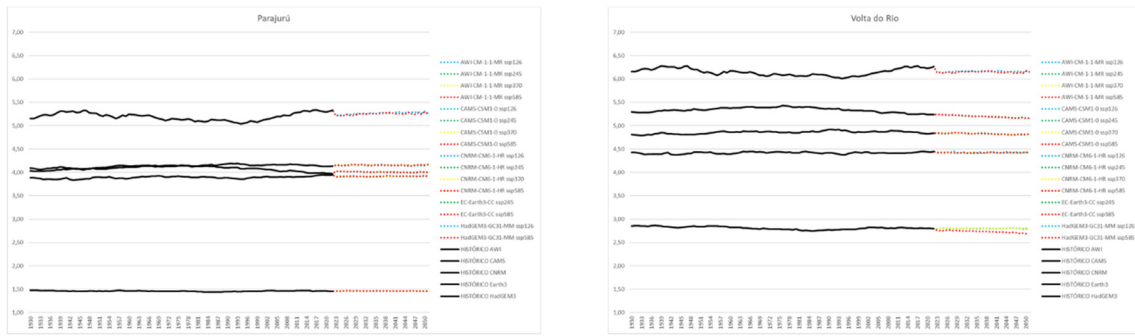


Figure 19. Historical and forecasted scenarios for surface wind speed (m/s) by 2050.

Power Transmission & Distribution

Power transmission and distribution represent two core businesses of the company and are directly affected by the prevailing weather conditions. During the rainy season they are hit hard by storms, while in the dry season fires punish the lines leading to a high number of annual shutdowns.

One of the ongoing studies evaluates changes in the frequency of occurrence of fires near power transmission and distribution lines. These fires affect both the duration and frequency of unscheduled consumer shutdowns, two aspects that, in one, have a direct correlation with indicators related to the performance of the concession of these services.

In this context, two variables that directly affect the occurrence of fires are air temperature and humidity, variables that were evaluated within the models and scenarios studied.

In all scenarios evaluated for air temperature, there is an increase in air temperature for all regions of Minas Gerais. In some scenarios, such as those represented for the North region (Figure 20), SPS585, this increase may exceed 4°C in the next 30 years.

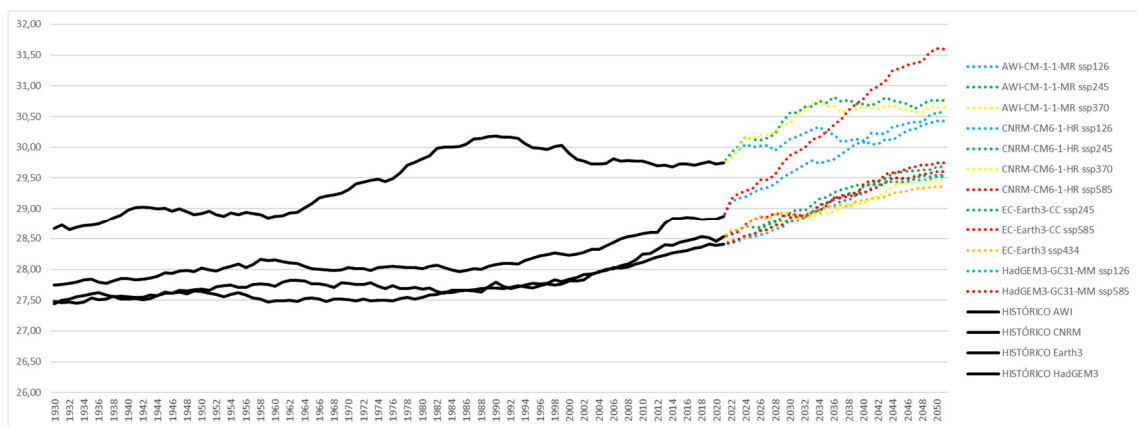


Figure 20. Historical and projected scenarios for maximum surface temperature (°C) by 2050.

In the case of relative humidity, the scenario is the opposite, with a drop in humidity in all regions of the state, such as in the north (Figure 21). The combination of rising temperatures, falling humidity and precipitation could lead to a future with an extreme increase in the frequency and extent of fires in the state of Minas Gerais, which is why Cemig has created its own system for monitoring, analyzing and warning of fires, which will be described later.

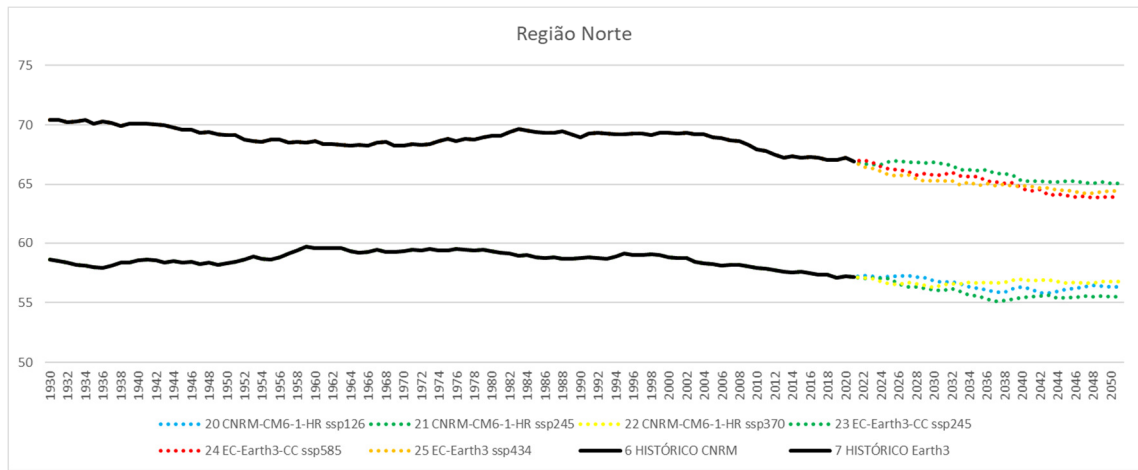


Figure 21. Historical and forecasted scenarios for relative humidity at the surface air (%) until 2050.

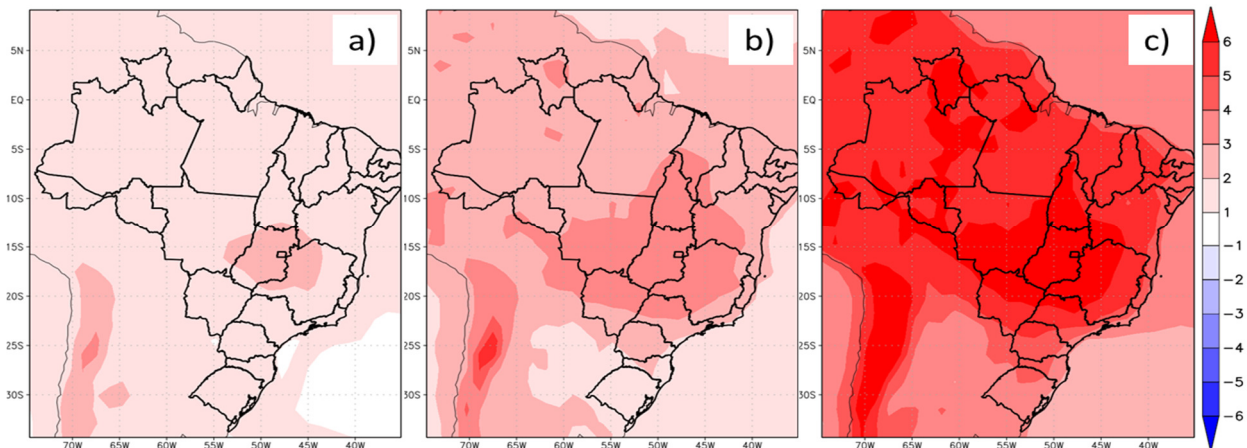


Figure 22. Anomalies (%) for SSP1 (b), SSP2 (c) and SSP5 (d) scenarios. Source: CNRM/FR.

Climate change adaptation actions are detailed in the 2024 Climate Change Adaptation Plan, which will be made available on the Company's website. Table 5 below highlights some of the physical risk adaptation measures applicable over the next five years (2024–2028). Ongoing and planned adaptation actions for the future are detailed, highlighting the affected business activities, potential impacts on the business, and initiatives implemented and planned to deal with the challenges.

Table 5. Summary of physical risk adaptation actions. Source: Cemig, 2024.

Physical Risk	Business Activity	Potential impact on the business	Actions Implemented until 2023	Actions planned for the next 5 years
Rising temperature	Transmission/ Distribution	Increased stress on equipment, leading to damage and reduced service life, such as transformers. Increased evaporation and consequent	Temperature monitoring at the local level and on a large scale. Identification of areas with observed high risk. Pilot Project in the Betim 6 system, 345 kV on the dynamic	Improvements to the weather forecasting system. Modernization of distribution lines.

Physical Risk	Business Activity	Potential impact on the business	Actions Implemented until 2023	Actions planned for the next 5 years
		decrease in water resources and increased likelihood of fires.	capacity of LTs through Digital Twins.	
Increased wind speed	Transmission/ Distribution	Damage to transmission networks	<p>Monitoring of weather events and use of weather alerts as a way to prepare the operation team.</p> <p>Training of Contingency Plans for the teams with adjustments and improvements of the last review carried out in the contingency plans.</p> <p>Technical meeting on practical applications of Contingency Plans of other companies in Brazil (Cemig D, CTEEP, TAESA, Sectional and Image geosystems)</p>	<p>Constant technical training with the O&M teams for the reconstruction of the lines, investment in the acquisition of emergency structures and optimization of the logistics of service for all transmission teams.</p> <p>Digitalization of Airline assets in a geospatial environment, modernization of equipment and tools for line inspection.</p> <p>Aneel R&D projects to measure the impact of climate change on airline assets.</p> <p>Explore new engineering solutions in the national and international electrical market.</p> <p>Holding new technical meetings on new technologies applicable in contingency plans in the power</p>

Physical Risk	Business Activity	Potential impact on the business	Actions Implemented until 2023	Actions planned for the next 5 years
				transmission sector. Use wind maps of recent years to identify the places with the highest incidence of critical winds from the Airlines' structures.
Reduced water availability	Hydroelectric Generation	Reduction of hydro generation	Investments in new sources of energy generation (solar and wind).	Investments in new sources of energy generation (solar and wind).
Heavy rainfall	Transmission/ Distribution	Discontinuity of electricity supply service	<p>Modernization of distribution lines: automation of reclosers, digitalization and modernization of substations.</p> <p>Training of Contingency Plans for the teams with adjustments and improvements of the last review carried out in the contingency plans.</p> <p>Technical meeting on practical applications of Contingency Plans of other companies in Brazil (Cemig D, CTEEP, TAESA, Sectional and Image geosystems).</p>	<p>Constant technical training with the O&M teams for the reconstruction of the lines, investment in the acquisition of emergency structures and optimization of the logistics of service for all transmission teams.</p> <p>Digitalization of Airline assets in a geospatial environment, modernization of equipment and tools for line inspection.</p> <p>Aneel R&D projects to measure the impact of climate change on airline assets.</p> <p>Explore new engineering solutions in the national and</p>

Physical Risk	Business Activity	Potential impact on the business	Actions Implemented until 2023	Actions planned for the next 5 years
				international electrical market. Holding new technical meetings on new technologies applicable in contingency plans in the power transmission sector.
Fires	Transmission/ Distribution	Damage to transmission networks	Mechanized cleaning, Fire monitoring system, Online platform www.apagaofogo.eco.br	Mechanized cleaning, Fire monitoring system, Online platform www.apagaofogo.eco.br

In order to clarify how Cemig defines and prioritizes these actions, it is relevant to report how the organization identifies, evaluates and manages risks related to climate change. In this context, in the next topic, the processes used by Cemig to identify and assess climate risks will be discussed in detail, as well as the strategies employed to manage them effectively. In addition, it will be presented how these processes are integrated into the organization's overall risk management, ensuring a holistic and comprehensive approach to mitigating the impacts of climate change in all areas of the company's operations.

4.3 RISK MANAGEMENT

Objective: To disclose how the organization identifies, assesses, and manages risks related to climate change.

TCFD GUIDELINES:

- Describe the processes used by the organization to identify and assess risks related to climate change.
- Describe the processes used by the organization to manage risks related to climate change.
- Describe how the processes used by the organization to identify, assess, and manage climate change-related risks are integrated into the organization's overall risk management.

The implementation of corporate risk management took place in 2003 and has been continuously improved by Cemig. This management is process-based and is aligned with the company's Master Plan and strategic planning, with the [Corporate Risk Management and Internal Controls Policy](#) as the main guiding element.

4.3.1 Risk Identification and Assessment Process

Since 2003, the Risk Management Process has played a fundamental role in the company, aligning its activities with the Strategic Planning, the Master Plan, and having as its main guiding element the Corporate Risk Management Policy and Internal Controls of Cemig. The most recent version of this policy was approved by the Board of Directors in 2023, as provided for in the company's Bylaws, and establishes the guidelines and responsibilities related to the identification, analysis, treatment and monitoring of risks.

Cemig's Corporate Risk Management and Internal Controls Policy is the responsibility of the Board of Directors, as provided for in Cemig's Bylaws. The Board of Directors is also responsible for validating the Company's risk matrix, which is updated annually. This involvement of the Company's highest governance body with risk management demonstrates not only the relevance of the topic, but also Cemig's alignment with good practices in Risk Management and Corporate Governance.

Since 2016, Cemig's corporate risk management activity has been subordinated to the CEO. In 2019, the Deputy Director of Compliance, Corporate Risks and Internal Controls was created, unifying the processes in the same administration. In June 2023, there was only a change in name, and it is currently the Compliance Department. This unification of the risk management and internal control processes reinforced the synergy between these processes and the independence among the others, in order to support Senior Management in decision-making, preserving the Company's value.

Based on Cemig's Corporate Risk Management and Internal Controls Policy, the Company's risk appetite is defined, which signals the Precautionary Principle (GRI 102-11) as one of the factors considered in the decision-making flow related to risk management. In addition, the policy is guided by guidelines that reflect the best market practices, and is aligned, especially, with the governance model called "Three Lines Model".

The "Three-Line Model" is a simple and effective way to define and clarify the roles and responsibilities related to risk management, coordinating all the integral parts so that there is no duplication of efforts or gaps in controls, thus improving the performance of risk management and internal controls. The model proposes the orientation of responsibilities and not the creation of departmental structures to serve it, with the holder of each risk being responsible for managing its own risk and/or control mechanism. In this way, the risk management process is managed by each area of Cemig, which owns its respective risks, and is centrally monitored by the Risk Management and Internal Controls Department.

The first line is composed of all the Company's administrative and business areas. Managers and employees in these areas are responsible for leading and directing actions (including risk management) and application of resources to achieve the organization's objectives.

In the second line are the functions that have the supporting role in risk management. In addition, this line is responsible for monitoring the implementation of risk management practices and internal controls in the first line and assisting managers in defining risk tolerance and in the way risk and control information is disclosed internally in the organization. The Compliance, Risk Management

and Internal Controls areas are responsible for coordinating the respective processes at Cemig and providing support to risk and control holders.

The third line is made up of the organization's internal audit. It is responsible for communicating the independent and objective assessment and advice to management and the governance body on the adequacy and effectiveness of governance and risk management (including internal control), to support the achievement of organizational objectives, promote and facilitate continuous improvement.

To make Cemig's risk management more robust, several initiatives were carried out in 2023 to maintain an integrated risk governance model to ensure the achievement of the Company's strategic objectives and acculturation. Among these activities, we can mention:

- Review and approval of the Top Risks 2023/2024 by Cemig's various governance forums;
- Evolution in the description of the concept of *Top Risks*, calibrating the exposure of risks in the measurement ranges, giving greater assertiveness to the process;
- Launch of the 2nd Module of the Risk Management and Internal Controls Course, achieving a significant participation of Cemig employees;
- Update and approval of the Risk Management and Internal Controls Policy and the Risk Appetite Statement;
- Hiring renowned consultancies for maturity diagnosis, improvement of risk management methodology and reporting of market risk trends;
- Training, for the risk management team and focal points of the risk holder areas, of interpretation and implementation of the ISO 31000 standard;
- Promotion of a culture of risks with the intensification of articles disseminated in the Company's communication channels, and
- Dissemination of the risk culture in Cemig's Executive Committees, participating in monthly and/or bimonthly meetings.

As an evolution of the risk management process, it is also noteworthy, in 2023, the ISO 31000:2018 Declaration of Conformity, issued by Bureau Veritas. ISO 31000 is an international standard, and an essential tool to assist in planning and, especially, risk management.

This Declaration of Compliance is the result of a thorough external audit carried out in all of Cemig's executive departments, which verified, analyzed and validated the process, structure, document management, environment and risk management culture in the Company, with regard to the criteria established by the standard.

4.3.2 Risk management process

Based on the guidelines established in the Risk Management and Internal Controls Policy, Cemig structured a risk management process that allows the mapping and evaluation of both strategic risks and those arising from operational activities. This process is coordinated by the Risk Management and Internal Controls Department, which provides technical support to the different areas of the company. The objective is to provide information to Senior Management for decision-making regarding the most relevant risks and opportunities.

The process is represented in a 6x6 risk matrix, as shown in Figure 41. As mentioned, each management is responsible for identifying the risks related to its context. The valuation is made

considering the probability of materialization and the maximum financial impact that this materialization would represent for the company.

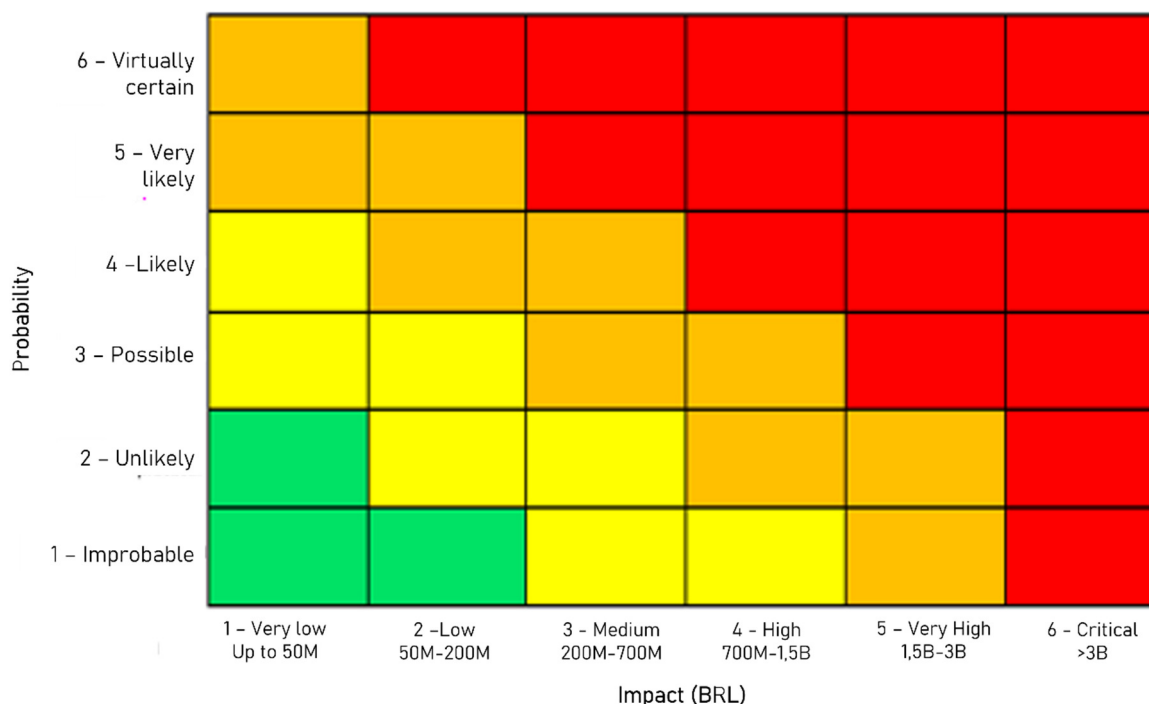


Figure 23. Cemig's risk matrix. Source: Cemig, 2024.

The result of the cross-referencing between the probability of materialization and the worst-case scenario among the impacts provides coordinates for the prioritization of risks by the company.

As a practical example in the context of operations, the substantial impact may result, for example, from an event that interrupts the distribution of energy in a certain region, which may have implications such as demand for local operations, fines, among other financial and non-financial consequences. For this reason, Cemig's governance structure provides that the Board of Directors and Committees – such as the Corporate Risk Monitoring Committee (CMRC) – also assess risks from the perspective of environmental and reputational impact, factors that will influence the risk response strategy.

In order to provide information to Senior Management for decision-making regarding the most relevant risks and opportunities, Cemig structured a risk management process based on the guidelines established in the Risk Management and Internal Controls Policy, enabling the mapping and evaluation of both strategic risks and those arising from operational activities. The process is coordinated by the Risk Management and Internal Controls Department, which provides technical support to the different areas of the Company, and is structured according to the following steps:

1. Planning

For the corporate risk management process to be effective, it is necessary to approve the strategic drivers and objectives that Cemig expects to achieve. Based on these, the Corporate Risk Matrix is revisited, broken down into classifications according to the type of risk.

2. Identification

In the risk identification stage, the area responsible for centralized risk management and internal controls analyzes market reports and consults with the managers of the areas related to the identified topics, including those areas that interact with external stakeholders, such as investor relations, strategic planning, sustainability, and general secretariat.

Each management, therefore, maps and reviews the risks associated with its activity, indicating the causes and potential impacts.

3. Analysis

The analysis phase comprises the determination of the probability of the risk and the quantification of the mapped impacts. The determination of probability includes carrying out an analysis of the potential occurrence of the risk within the defined time horizon. To measure the impacts, an evaluation is carried out for each dimension impacted by the risk. It should be evaluated qualitatively, considering the worst-case scenario of risk realization.

Based on the risk matrix, the result of the product between the probability of risk materialization and the worst impact for each of the risks considered, Cemig builds the Top Risks Matrix, covering priority risks within its strategic pillars, such as Generation, Transmission, Distribution, Commercialization, Information Technology, Institutional Regulatory and/or any adjustments to adapt to the current Strategic Planning.

After consulting with the leaders, a proposal for a risk matrix is presented to the CMRC, which is composed of members of different boards and brings considerations for improvements. Subsequently, the matrix is forwarded to the Executive Board for deliberation, which also improves the product, forwarding it to the Risk Committee of the Board of Directors and to the Board of Directors. In addition, the proposed matrix may be presented to the Audit Committee and the Fiscal Council.

This ranking of Top Risks takes place annually and involved, in 2023, all of Cemig's Executive Boards, with a mapping of 18 Top Risks.

4. Treatment

It involves identifying the controls that have a mitigating effect on the associated risk, ensuring that the residual/current risk accurately reflects what was indicated in the previous phase (analysis), as well as ongoing action plans related to these risks.

Once the actions have been defined, they are forwarded by the respective Directors to each of the areas, which will be responsible for the implementation and monitoring of the actions, reporting the progress periodically.

5. Monitoring

For the risks mapped by the Company, the Risk Management and Internal Controls Department is requested to update the status of the action plans and review the actions in order to bring improvements or reassess the priority given to that risk.

Within the scope of physical risk management, Cemig has been preparing a Climate Risk Bank for its assets. The Bank is designed to include the history of fires and lightning strikes by Cemig transmission line/tower, so that it would be possible to identify those most likely to be affected by events that may cause shutdowns. In addition, the transmission and distribution substations are also present, as well as severe event prediction data for each of these points. The alignment of this methodology with ISO 14.091:2021 – Adaptation to climate change, is also being discussed by internal teams and consulting teams.

4.3.1 *Top Risks* identified by the company

Among the *Top Risks* mapped in the latest revision of the matrix, the following stand out in the climate theme: (1) the risk of non-compliance with actions to reduce greenhouse gas emissions and actions to mitigate the effects of extreme weather events; and (2) the risk of negative repercussions related to the exclusion of ESG ratings and the company's inadequate human rights practices. The processes for addressing these risks, in summary, are organized as follows:

(1) Risk of non-compliance with actions to reduce greenhouse gas emissions and actions to mitigate the effects of extreme weather events

SITUATION

- The risk pertains to the inadequacy of mitigation and adaptation measures to climate change, arising from either the non-implementation or inefficiency of the necessary actions to minimize the impacts of extreme weather events. This risk directly affects the operations of Cemig H, Cemig D, and Cemig GT, along with their wholly-owned subsidiaries. Currently, the financial impact is estimated to be moderate. However, in the long term, with the intensification and increased frequency of extreme weather events, the impact could become very high in the absence of appropriate interventions.

TASK

- To address this challenge, Cemig has established a series of action plans and controls aimed at enhancing the company's adaptation to extreme weather events and reducing the financial and operational impacts associated with these events. These action plans include the expansion of photovoltaic and wind power generation, exploration and development of projects related to energy transition, the creation of a Climate Transition Plan, validation of emission reduction targets by the Science Based Targets initiative (SBTi), and investments in projects to expand and strengthen the energy distribution infrastructure, among others..

ACTION

- Cemig has already made significant progress in several of these initiatives. By the end of 2023, approximately 60% of the planned expansion in photovoltaic and wind power generation has been completed. The company has also advanced in the exploration and development of projects related to energy transition, and the process of validating emission reduction targets by the Science Based Targets initiative (SBTi) has been undertaken by the end of 2023. Additionally, Cemig's Climate Transition Plan is set to be unveiled in 2024. There have also been advancements in implementing projects for the expansion and reinforcement of the energy distribution infrastructure, with 30% of the total planned already completed.

RESULT

- These ongoing actions by Cemig aim to reduce the company's vulnerability to extreme weather events, mitigating the associated financial and operational impacts. It is expected that these continuous efforts will help maintain the company's resilience in the face of climate change, ensuring the continuity and quality of electricity supply services while also preventing the exacerbation of financial impacts resulting from the materialization of such risks.

(2) Risk of negative repercussions related to the exclusion of ESG ratings and the company's inadequate human rights practices

SITUATION

- This risk is associated with the possibility of failure to adopt practices that promote the sustainability of the company, encompassing issues related to governance, the environment, and social aspects. Non-compliance with ESG criteria required by sustainability ratings and investors may limit access to green resources such as green bonds and reduce attractiveness to potential investors.

TASK

- To mitigate this risk, Cemig has implemented a series of measures to ensure a balance between the Social, Governance, and Environmental dimensions. This included revising the company's ambition and incorporating the theme into the Strategic Planning, translating the ambition into "Strategic Options" and Pillars. Cemig's new ambition is to "reaffirm its commitment to ESG Policies, assuming a prominent role in the sector through advanced environmental management practices, generating social impacts in the communities it operates in, with due regard to health and safety, in line with best corporate governance practices."

ACTION

- The company has been adopting and improving several actions to mitigate the negative impacts of this risk. This included the annual preparation of the Greenhouse Gas (GHG) Emissions Inventory, the quarterly monitoring of Sustainability Plan indicators, the annual analysis of questionnaires from organizations such as Dow Jones and ISE B3 to identify gaps and propose improvements, the renewal annual participation in programs such as CDP's Benchmark Club/Reporter Services, and monthly monitoring and evaluation of suppliers.

RESULT

- These measures have contributed to mitigating the risks associated with non-compliance with ESG criteria and inadequate practices related to human rights. By adopting a proactive approach and establishing robust controls, Cemig seeks to maintain its position in the main sustainability ratings, ensuring attractiveness for investors and access to green resources. These continued efforts are expected to strengthen the company's reputation and its ability to address challenges related to sustainability and human rights.

Therefore, according to the example above, when it comes to opportunities, Cemig encourages that the mapping process by each Board of Directors takes place in parallel with the process of identifying, assessing and responding to risks. In general, it is the ESG guidelines present in the company's strategic planning that guide the process of identifying, evaluating and executing opportunities.

4.4 METRICS & TARGETS

Objective: To disclose the metrics and targets used to assess and manage risks and opportunities related to climate change whenever such information is relevant.

TCFD GUIDELINES:

- Report the metrics used by the organization to assess risks and opportunities related to climate change according to its strategy and risk management process.
- Report Scope 1, Scope 2 and, if applicable, Scope 3 greenhouse gas emissions and the risks related to them.
- Describe the targets used by the organization to manage risks and opportunities related to climate change, and performance against these targets.

Since the beginning of greenhouse gas emissions accounting in the Greenhouse Gas Inventory, Cemig has set reduction targets aligned with its business and sustainability strategy. As the issue has evolved within the company, today Cemig presents several goals that will be detailed further. Additionally, Cemig has aimed to align its emission reduction targets with global best practices and standards. In 2022, the company committed to the Science Based Targets initiative, which supports companies across various sectors in establishing emission reduction targets in line with scientific recommendations to limit global warming to 1.5°C. The pursuit of science-based targets demonstrates the company's commitment to significantly contribute to climate change mitigation and the transition to a low-carbon economy.

4.4.1 Company Metrics

To monitor its environmental impact and assess progress on the climate change agenda, Cemig tracks greenhouse gas emissions across all of its operations and subsidiaries. This monitoring allows the company to identify the main sources of emissions and prioritize reduction initiatives with greater potential for effectiveness.

In terms of Cemig's emissions profile, in 2023, Scope 1 contributed only 0.4% of the company's total emissions, including direct sources such as Stationary Combustion, Mobile Combustion, Fugitive Emissions and Agricultural Activities and Land Use Change. These emissions totaled 20,631 tCO₂e. Mobile Combustion was the main source, contributing 7,601 tCO₂e, 37% of the total Scope 1. Agricultural Activities and Land Use Change came next, with 7,388 tCO₂e, corresponding to 36% of emissions from this scope, while Fugitive Emissions accounted for 5,392 tCO₂e, or 26% of Scope 1 emissions.

Scope 2 emissions accounted for 6% of total emissions, being related to Electricity Consumption, Losses in Generation, Transmission and Distribution Systems, and Thermal Energy Consumption, totaling 305,514 tCO₂e. Losses in Transmission and Distribution systems were the main source, with 303,131 tCO₂e, or 99% of Scope 2 emissions. Electricity Consumption contributed with 2,383 tCO₂e, equivalent to 1% of the emissions of this scope.

Finally, Scope 3 emissions from activities not directly controlled by Cemig totaled 5,106,122 tCO₂e, representing 94% of total emissions. Most of these emissions come from fuel and energy-related activities not included in Scopes 1 and 2, totaling 2,585,631 tCO₂e, or 51% of Scope 3. The use of goods and services sold was responsible for 1,907,211 tCO₂e, or 37% of emissions from this scope. Purchased goods and services contributed 428,030 tCO₂e, representing 8%. Capital goods generated

111,631 tCO₂e, or 2%, while investments resulted in 72,581 tCO₂e, equivalent to 1% of Scope 3 emissions. Waste emissions, business travel, and employee commutes all had a minimal contribution.

Based on Cemig's emissions profile in 2023, the main sources of emissions were identified and classified into Scopes 1, 2 and 3. Direct Scope 1 emissions accounted for a small fraction (0.4%) of total emissions, with Mobile Combustion standing out. Scope 2 indirect emissions, mainly due to losses in Transmission and Distribution systems, contributed 6% of total emissions. However, the biggest challenge lies in Scope 3, which covers 94% of total emissions, especially in fuel and energy-related activities, as well as in the use of goods and services sold. This detailed mapping allows Cemig to target its emissions reduction initiatives more effectively, prioritizing actions in the sectors with the greatest impact.

4.4.2 Emissions data

Cemig prepares and publicly discloses the Greenhouse Gas Inventory audited since 2011, consistent with its commitment to transparency of information, especially in terms of progress related to commitments to reduce emissions and adhere to a renewable matrix. According to the ranking released in the Green Utilities Report (2023) by Energy Intelligence – a leading company in energy information – Cemig currently occupies the 22nd position among the top 100 sustainable independent energy utilities and producers, being the second Brazilian company to appear in the ranking, which considers total emissions and capacity from renewable energy.

Cemig's GHG Emissions results took into account the activities of all the company's business areas:

- CEMIG Geração e Transmissão and SPEs – wholly-owned subsidiaries of Cemig GT;
- CEMIG Distribuição;
- CEMIG Holding;
- CEMIG Trading;
- CEMIG YES;
- GASMIG;
- CENTROESTE.

Between 2020 and 2021, Cemig observed a significant increase in its greenhouse gas emissions, with a growth of approximately 86%. Emissions increased from 5,706,171 tCO₂e in 2020 to 10,624,362 tCO₂e in 2021. However, in 2022, there was a sharp drop in emissions, which decreased to 5,666,871 tCO₂e, representing a reduction of almost 47% compared to the previous year. Continuing this trend, between 2022 and 2023, Cemig reduced its emissions by just over 4%, from 5,666,871 tCO₂e to 5,432,267 tCO₂e in 2023.

The significant reduction in emissions observed between 2021 and 2022 is directly linked to the decrease in the emission factor of the National Interconnected System network. In 2021, this factor peaked at 0.1264 tCO₂e /MWh, but fell to 0.0426 tCO₂e /MWh in 2022. This variation is associated with changes in the rainfall regime. In years with less precipitation, the generation capacity of hydroelectric plants is reduced, forcing the National Electric System Operator (ONS) to activate thermoelectric plants, which use fossil fuels and, consequently, produce more carbon emissions.

Table 6. Summary of emissions by emission category. Source: Adapted from Emissions Inventory, 2024b.

Scope	Emission Category	Emissions (tCO ₂ e)
Scope 1	Stationary direct combustion emissions	249.26
	Direct emissions from mobile combustion	7,600.77
	Agricultural Activities and Land Use	7,387.96
	Fugitive direct emissions	5,392.57
Scope 2	Electrical energy	2,382.64
	T&D Losses	303,131.06
	Thermal energy	It doesn't occur
Scope 3	Goods and services purchased	428,030.22
	Capital Goods	111,631.07
	Fuel and energy-related activities not included in scopes 1 and 2	2,585,631.36
	Upstream leased assets	It doesn't occur
	Waste generated in operations	204.60
	Business travel	788.26
	Commuting employees from home to work	44.80
	Upstream <i>Transportation and Distribution</i>	It doesn't occur
	Downstream Transportation & Distribution	It doesn't occur
	Processing of Sold Products	It doesn't occur
	Use of Sold Goods and Products	1,907,211.02
	Final disposition of products sold	It doesn't occur
	Downstream leased assets	It doesn't occur
	Franchises	It doesn't occur
	Investments	72,581.17
Unclassifiable Scope 3 emissions in categories 1 to 15	It doesn't occur	

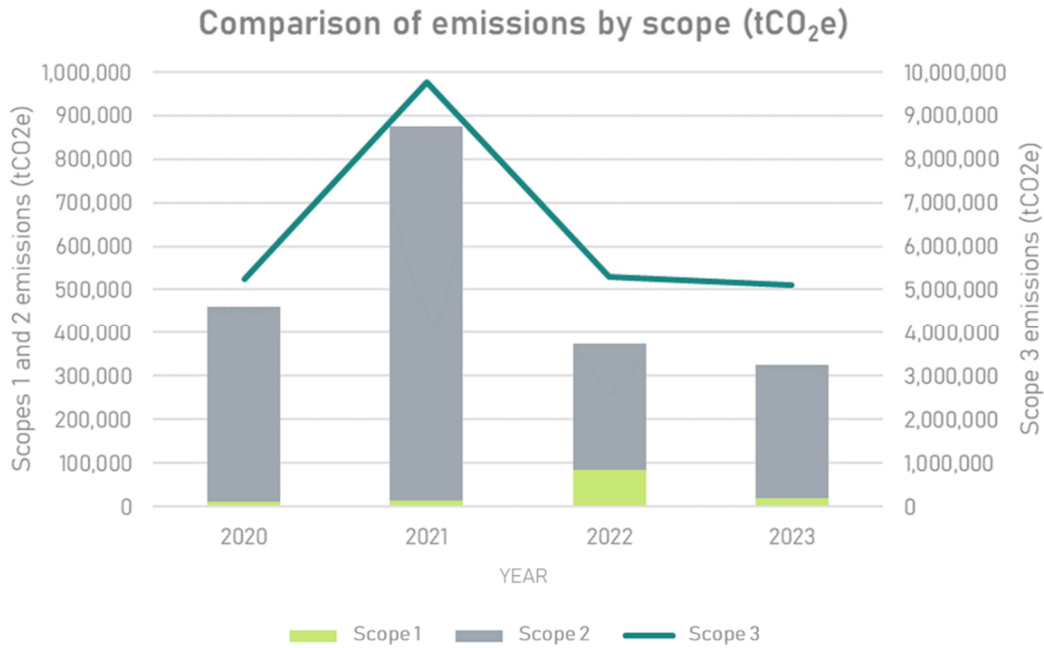


Figure 24. Historical series of total emissions by scope. Source: Adapted from Emissions Inventory, 2024b.

4.4.2.1 Scope 1

Scope 1 aggregated direct emissions from the categories 'Stationary Combustion', 'Mobile Combustion', 'Fugitive Emissions' and 'Agricultural Activities and Land Use Change'. In 2023, Cemig's emissions from this scope represented **20,631 tCO₂e** or **0.4%** of total emissions. Among the scope 1 emissions, emissions related to 'Mobile Combustion' accounted for the largest scope emissions, with **7,601 tCO₂e** accounting for **37%** of total emissions. Next, the category 'Agricultural Activities and Land Use Change' accounted for the second largest share of emissions, totaling **7,388 tCO₂e**, or **36%** of total scope 1 emissions. Emissions related to 'Fugitive Emissions' accounted for the third largest volume of scope 1 emissions, amounting to **5,392 tCO₂e** or **26%** of scope 1 emissions. The rest of the emissions are linked to direct emissions from stationary combustion.

Cemig D had the highest emission for this scope, totaling **17,879 tCO₂e**, approximately **87%** of scope 1, followed by Cemig GT, which emitted **2,514 tCO₂e**, about **12%** of scope 1 emissions. The Gasmig operating unit had emissions of **112 tCO₂e**, which represents **0.55%** of the company's emissions. Cemig SIM accounted for **0.02%** of scope 1 emissions, totaling **4 tCO₂e**. Trading totaled only **0.004 tCO₂e** and Cemig H did not present emissions for the categories.

4.4.2.2 Scope 2

Scope 2 aggregates indirect emissions related to 'Electricity Consumption', 'Losses in Generation, Transmission and Distribution Systems' and 'Thermal Energy Consumption'. In 2023, scope 2-related emissions were **305,514 tCO₂e**, representing **6%** of total emissions.

Among the scope 2 emission categories, Losses in Transmission and Distribution Systems accounted for most of the emissions, with **303,131 tCO₂e** or **99%** of the total scope 2, followed by emissions due to Electricity Consumption, which contributed with **2,383 tCO₂e** or **1%** of the scope emissions. As it represents the main source of emissions, Cemig has been working on this scope through the implementation of smart meters, with replacements planned for the next investment cycle, as well as through inspection and regularization actions for clandestine connections.

It is important to note that, although accounted for in the Inventory, 100% of the emissions related to Cemig's electricity consumption were offset through Renewable Energy Certificates (Cemig REC). The accounting for this reduction was allocated to Scope 3, in the category "Activities related to fuel and energy not included in scopes 1 and 2."

4.4.2.3 Scope 3

Scope 3 emissions are indirect and result from activities that are not directly controlled by Cemig. In 2023, the following categories were accounted for: Goods and services purchased; Capital goods; Fuel and energy-related activities not included in scopes 1 and 2; Waste generated in operations; Business travel; Commuting from home to work of employees; Use of goods and services sold; Investments. Cemig's scope 3 emissions totaled **5,106,123 tCO₂e**, which represents **94%** of total emissions.

Activities related to fuel and energy not included in scopes 1 and 2 are the ones with the highest emissions, with **2,585,631 tCO₂e**, which represents **51%** of the scope's emissions. Next, we have the use of goods and services sold, which accounts for **1,907,211 tCO₂e** or **37%** of total scope 3 emissions. The goods and services purchased accounted for **428,030 tCO₂e**, which represents **8%** of scope 3. Capital goods accounted for **111,631 tCO₂e** of scope emissions, or **2%**. The investments resulted in **72,581 tCO₂e**, which represents **1%** of the scope's emissions. Waste emissions generated from operations, business travel, and employee commuting represent a very small share of total emissions, at **0.004%**, **0.02%**, and **0.001%** respectively.

4.4.1 Company Goals

In 2022, Cemig committed to developing a science-based GHG emissions reduction target, in line with the recommendations of the *Science Based Targets* initiative (SBTi), which establishes guidelines and methodologies for the development of science-based emissions reduction targets to limit global warming to 1.5 °C. Currently, the company continues to advance in this process, working to define the goals in accordance with the requirements of the initiative.

Regarding the company's other goals, Table 7 below summarizes how Cemig has already been able to move forward:

Table 7. Summary of Cemig's goals and advances. Source: Cemig, 2024.

Description	Scopes Covered	Term	Status (reduction achieved)
VOLUNTARY TARGET Achieve the mark of 100% of electricity from renewable sources to meet Cemig's internal needs.	2	2024	100%
SHORT-TERM GOAL BEING VALIDATED BY SBT Achieve a significant reduction of 69.4% in Cemig's absolute emissions	1 & 2	2030	57%
SHORT-TERM GOAL BEING VALIDATED BY SBT Reduce carbon intensity by 75.8%, considering both energy generation and trading.	1 & 3	2030	63%

Description	Scopes Covered	Term	Status (reduction achieved)
SHORT-TERM GOAL BEING VALIDATED BY SBT Reduce emissions by 42% for emissions not related to energy trading.	3	2030	26%
LONG-TERM GOAL BEING VALIDATED BY SBT Reduce Cemig's absolute emissions by 90%, achieving the Net Zero Target and identifying the opportunity to offset residual emissions (limited to the 10% that were not feasible to reduce).	1, 2 and 3	2040	48%

Source: Greenhouse Gas Emissions Inventory (2024b).

4.4.2 Climate Action Plan: Lines of action

In 2024, Cemig established the actions that make up its *Net Zero* trajectory. In line with its emission reduction goals and initiatives, its line of action stands out, which directs the company's decarbonization strategy:

Table 9. Main lines of action in Cemig's decarbonization trajectory.

<ul style="list-style-type: none"> • Expansion of its generating complex with investments in renewable energy sources; • Tracking of the emission sources of the commercialized energy; • Expansion of the commercialization of energy with renewable energy certificates (Cemig REC and I-REC); • 100% renewable own consumption; • Modernization and innovation of the electricity distribution service; • Reduction of transmission and distribution losses; • Engagement with its suppliers in order to reduce emissions from services and products; • Electrification of the company's own car fleet; • Energy Efficiency Program and customer awareness; • Political engagement aimed at supporting initiatives to decarbonize the economy; • Investments in innovative projects aligned with the energy transition; • Creation of incentives related to decarbonization goals for the entire company.
--

Source: Cemig's Climate Action Plan (under preparation).

In order to evaluate and track the investments that are already being made in line with the Transition Plan, Cemig adopted the European Green Taxonomy to classify its financial expenses, given the absence of a Brazilian taxonomy. This taxonomy defines economic activities that are considered sustainable and green, helping to clarify for investors which stocks are environmentally sustainable. Noting this rating, the company has directed its investments in areas such as the production of electricity from renewable sources (such as wind and solar power), electricity transmission and distribution, and energy storage. For example, in 2023, Cemig estimates that 64% of revenues and 89% of operating expenses were aligned with the European taxonomy.

In addition, Cemig classifies 100% of its CAPEX investments as eligible according to the taxonomy, i.e., all these investments have the potential to be classified as green or environmentally sustainable,

but it would still be necessary to meet specific criteria to determine the effective contribution to climate change mitigation or adaptation. Table 10 below summarizes this information.

Table 10. Cemig's voluntary classification regarding the alignment and eligibility of Revenue, OPEX and CAPEX for 2023 according to the European Green Taxonomy.

	Revenue	OPEX	CAPEX
Total eligible according to taxonomy	80%	98%	100%
Taxonomy-aligned total	64%	89%	76%
Total not eligible according to taxonomy	20%	1,6%	0

Source: Cemig: Green Financing (2024a).

Cemig's proactive approach to adopting international sustainability standards and investing in green technologies and practices not only reinforces its position as a leader in the energy transition, but also demonstrates a deep commitment to the decarbonization of the economy.

5. FINAL CONSIDERATIONS

This year's TCFD report reflects not only Cemig's ongoing commitment to transparency and socio-environmental responsibility but also its determination to address the emerging challenges of climate change with clear and effective strategies. Throughout 2023, the company made significant progress in implementing actions focused on resilience and adaptation, aligning with established goals and taking concrete steps to mitigate risks and identify opportunities.

Cemig has strengthened its corporate governance by creating the Innovation and Energy Transition Committee and enhanced its risk management by incorporating advanced management practices based on the ISO 31.000 standard. Additionally, the expansion of its generation capacity through investments in renewable energy and progress in actions aligned with initiatives such as the Science Based Targets initiative (SBTi) demonstrates its commitment to leading the transition to a low-carbon economy.

With a solid foundation of financial results and a diversified portfolio, Cemig is strategically positioning itself to tackle future climate challenges, significantly contributing to the sustainability of the electric sector.

6. REFERENCES

CEMIG. 2024a. Green Financing 2023. Available at: <https://www.cemig.com.br/en/wp-content/uploads/sites/7/2024/06/sustainable-finance-taxonomy.pdf>

CEMIG. 2024b. Inventory of Greenhouse Gas Emissions 2023. Cemig. Available at: <https://www.cemig.com.br/en/wp-content/uploads/sites/7/2024/06/2023-greenhouse-gas-emissions-inventory.pdf>

CEMIG. 2024c. Climate Change Adaptation Plan. Available at: <https://www.cemig.com.br/en/wp-content/uploads/sites/7/2024/06/climate-change-adaptation-plan.pdf>

CEMIG. 2024d. Climate Action Plan. In the process of being drafted.

CEMIG. 2024e. Annual and Sustainability Report 2023. Available at: <https://www.cemig.com.br/en/wp-content/uploads/sites/7/2024/05/dow-jones-2023-en.pdf>

Energy Intelligence. 2023. Green Utilities Report. Available at: <https://www2.energyintel.com/2023greenutilitiesew>

TCFD. 2017. Recommendations of the Task Force on Financial Disclosures Related to Climate Change. Available at: <https://assets.bbhub.io/company/sites/60/2020/10/TCFD-Final-Report-2017-Portuguese-Translation.pdf>

TCFD. Status Report. 2022. Available at: <https://assets.bbhub.io/company/sites/60/2022/10/2022-TCFD-Status-Report.pdf>

Elaboração

Icare

Because our **impact** matters



<https://>



CEMIG

Companhia Energética de Minas Gerais

<https://www.cemig.com.br/>

Avenida Barbacena, 1200 - Santo Agostinho – Belo Horizonte/MG