Water Risk Management Programs

2025

1. Introduction

Water risk management is essential to ensure the safety and sustainability of communities and ecosystems. In Brazil, hydroelectric plants are responsible for approximately 71% of the electricity generated in the country. In the context of Cemig, our electricity matrix is composed of 91% water sources, highlighting the importance of this issue for the Company, which recognizes its role in developing conservation initiatives to ensure the multiple uses of this resource.

Through the implementation of integrated water resource management practices, continuous monitoring and technological improvements, we seek to reduce the vulnerability of assets, promoting resilience in the face of extreme events. In the items below, we address how the Company manages its water risks and develops initiatives to mitigate the impacts resulting from this resource.

2. Business Impacts of Water Related Incidents

We did not have any water-related incidents (operation interruptions/plant closures etc.) with substantial (more than 10,000 USD) impacts on costs/revenues in the last four fiscal years.

3. Dependency and/or impact risks considered

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Cemig systematically assesses the interconnections between environmental dependencies, impacts, risks and opportunities as part of its integrated risk management process. This process is cross-cutting across the company, ensuring that environmental considerations are assessed in conjunction with other business risks and opportunities. A practical example of this integrated approach is the way Cemig has been dealing with the interdependence between water resources and climate change. Given Cemig's great dependence on water resources for its operations, it was identified that this resource is being impacted by climate change, which can generate significant risks in contexts of water scarcity. In light of this situation, the company conducted a detailed study to map the risk, identify the most exposed units and define mitigation measures.

As a result of this study, actions were identified for more efficient management of reservoirs, in addition to an opportunity to diversify the energy matrix, with investments in wind and solar sources. In its strategic planning, Cemig set the goal of investing R$ 3.3 billion in Distributed Generation projects in vertical solar parks by 2028.

a) Water risks related to dependency considered in the risk assessmen

The company's dependence on water resources for hydroelectricity generation was considered, with a predominantly hydroelectric matrix (91.06%). The company mitigates this risk in the short term by monitoring rainfall patterns and in the medium and long term by increasing investments in other renewable sources. In Brazil, this risk is shared via the Generation Scaling Factor (GSF) mechanism. This is the risk measure that analyzes the relationship between the volume of energy produced and the physical guarantee of each plant, that is, the physical guarantee adjustment factor of the hydroelectric plants that make up the Energy Reallocation Mechanism (MRE). The calculation is made monthly by CCEE and works as a proportional rebalancing of the total volume of energy produced, adding the results of all plants participating in the MRE.

The MRE aims to mitigate the impacts of the variability of generation from hydroelectric plants. This mechanism shares the generation of all hydroelectric plants in the system in order to compensate for the lack of generation from one plant with the surplus from another plant, thus completing the necessary generation of all MRE plants. However, this mechanism is not capable of mitigating all the risk of the generating agents, because when there is an extremely unfavorable hydrological scenario, and the set of plants cannot reach the sum of their Physical Guarantees, this mechanism then makes an adjustment to the Physical Guarantee of each plant through the Physical Guarantee Adjustment Factor ('Generation Scaling Factor', or GSF), exposing the generators to a short-term market exposure. Source: 2025 Reference Form, pages 167 and 168, available at https://ri.cemig.com.br/docs/Formulario-de-Referencia-cemig-2025-12-31-hHWHtKDH.pdf

b) Impact-related water risks considered in the risk assessment

The energy sold by the Company is mainly produced by hydroelectric plants. A prolonged period of lack of rainfall may result in a reduction in the volume of water in the reservoirs of these plants, which may lead to an increase in the costs of acquiring energy due to its replacement by thermal sources or to a reduction in revenues due to the drop in consumption caused by the implementation of comprehensive programs for the rational use of electricity. The extension of generation by thermal plants may put pressure on the costs of acquiring energy by distributors, which causes a greater need for cash and may generate future tariff increases. *Source: 2025 Reference Form, pages 200 to 201, available at: https://ri.cemig.com.br/docs/Formulario-de-Referencia-cemig-2025-12-31-hHWHtKDH.pdf*

4. Aspect

a) Assessment of future quantities of water available

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Risk 4: Drought

(3.1.1.9) Organization-specific risk description

Climate change can cause changes in seasonal precipitation patterns, with extreme rainfall and drought events, changes in geographic distribution and average precipitation values, impacting the amount of water that reaches the power plant reservoirs. Since Cemig's electricity production is mostly hydroelectric, these changes can lead to a reduction in generation capacity. Historically, the company has already felt the impacts of these risks in the last five years, due to situations of water scarcity in the basins where it has hydroelectric generation projects.

(3.1.1.11) Primary financial effect of risk

Decrease in revenue due to reduced production capacity.

(3.1.1.12) Time horizon during which the risk is expected to have a significant effect on the organization

☑ Short term

(3.1.1.13) Probability of the risk having an effect over the expected time horizon

☑ Possible

(3.1.1.14) Magnitude

High.

(3.1.1.16) Expected effect of risk on the organization's financial position, financial performance and cash flows over selected future time horizons

Water scarcity due to climate change may have a direct impact on the power generation capacity of Cemig's hydroelectric plants. In a short-term scenario, reduced rainfall in the river basins where Cemig operates may lead to a decrease in reservoir levels and, consequently, in the availability of water for power generation. This reduction may impact revenue, putting pressure on cash flow in the short term, and may require additional investments, requiring accelerated investments in other generation sources, such as solar and wind, or in water efficiency and reservoir management measures. Although the company has already felt the impacts of changes in the water regime in recent years, these challenges are likely to intensify in the medium term, requiring increased resilience and adaptation of the generation portfolio.

(3.1.1.17) Is it able to quantify the financial effect of the risk?

☑ Yes

(3.1.1.25) Explanation of the value of the financial effect

A significant risk of water shortages for Cemig would have an impact of 0.05% on Cemig GT's revenue, which concentrates the generation assets. In 2024, Cemig GT's net revenue was R$ 6,108,966,000.00, so an impact of 0.05% would correspond to R$ 3,054,483.00.

Source: 2024 Management Report and Financial Statements, page 73, available at: https://ri.cemig.com.br/docs/Demonstracoes-Financeiras-Anuais-Completas-cemig-gt-2024-12-31-JHLjwLqW.pdf

(3.1.1.26) Primary risk response

Diversification of energy sources that make up the company's energy matrix.

(3.1.1.27) Cost of risk response

R$ 2,100,000,000.00

(3.1.1.28) Explanation of cost calculation

Cemig is investing significantly in its operations to mitigate the risks associated with water scarcity. The expected cost for the expansion and improvements at Cemig Geração, which includes the diversification of the energy matrix and improvements in reservoir management, is approximately R$ 2.1 billion by 2028. This investment aims to increase the company's resilience to water variations and ensure the continuity of operations in a scenario of climate change, in addition to contributing to the expansion of renewable sources and operational efficiency.

(3.1.1.29) Response description

SITUATION: Cemig faces an increasing risk of water shortages due to changes in precipitation patterns caused by climate change. The company's studies indicate that, by 2030, in 80% of the scenarios evaluated, precipitation in Três Marias will decrease. Since Cemig's energy generation is mostly hydroelectric, water shortages can have a direct impact on operations and power generation capacity.

TASK: Faced with this risk, Cemig decided to diversify its energy matrix and invest in renewable energy sources that do not depend on the availability of water, such as solar and wind power, to guarantee the continuity of its operations and reduce its vulnerability to climate change.

ACTION: In recent years, Cemig has significantly increased its investments in solar energy sources. In addition, the company has been improving the operational efficiency of its hydroelectric reservoirs and creating environmental alert systems to monitor water conditions and optimize water management. By diversifying its generation sources, Cemig seeks to reduce its dependence on its hydroelectric matrix and balance its portfolio with technologies less impacted by extreme weather events. An example of this action is the increased participation in photovoltaic projects, for example, the implementation of the Boa Esperança and Jusante Solar Photovoltaic Plants (UFVs) completed in 2024.

RESULTS: As a result of this strategy, Cemig should be better positioned to face the impacts of climate change. Portfolio diversification helps reduce the company's exposure to water variability, while leveraging new opportunities for renewable energy generation. These initiatives also reduce the financial and operational impact of water scarcity, making the company more resilient and able to sustain growth in a climate change scenario.

b) Assessment of future risks related to water quality

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Cemig monitors water quality in accordance with the company's environmental guidelines, which are: the Environmental Policy, which reinforces the importance of complying with legal requirements, preventing pollution and the commitment to continuous improvement; the Biodiversity Policy, which emphasizes the relevance of programs related to the conservation of fauna and flora, water quality, urban afforestation and actions in its reserves and environmental stations; and the Water Resources Policy, which deals more specifically with the conservation and safe management of these resources.

Cemig's main risk of negative impact due to water pollution is the presence of oil in the waters of hydroelectric plants. All operational procedures at the plants are guided by service instructions and quality standards. Emergency Action Plans (PAE) present the necessary guidelines, and any type of incident related to contamination or leakage is recorded and consolidated in an Environmental Occurrence Report (ROA). The success of the procedures is assessed based on compliance with the criteria established in the PAE.

The main procedures are:

IS-62 - Service Instruction on Minimum Requirements for Environmental Compliance and Adequacy, Cemig Internal Policy (Insulating Oil and Askarel)

Cemig's Internal Policy - Lubricating Oil and Grease Applied in the Company's Industrial Facilities

DPR-H-87 - Environmental Standards and Procedures

IT-G.02.01-001b - Work instruction

PAE-DDC-SIG-001h - Environmental and Health and Safety Emergency Response Procedure

DC-08A - Emergency preparedness and response procedure

PAE-AT-0004 - Mineral oil leak or spill (Emergency response procedures for each facility of the Generation Asset Management Superintendence).

Cemig has a Service Instruction - IS62 - which establishes the minimum requirements to be met by the company's departments based on ISO standards, related to responsibility for environmental issues inherent to the processes, as well as the criteria that will guide budget management. To assess the state of degradation of water resources, water quality indexes are applied, which aim to simplify, quantify, analyze and summarize the data generated in the monitoring. The company uses and makes available the Water Quality Index (WQI), which defines a set of nine parameters considered most representative for characterizing water quality: dissolved oxygen, thermotolerant coliforms, pH, biochemical oxygen demand, nitrate, total phosphate, water temperature variation, turbidity and total solids.

c) Assessment of impacts on local stakeholders

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Cemig monitors the characteristics of the region where its hydroelectric operations are concentrated to ensure proper resource management. In order to ensure its long-term energy generation and thus preserve its business plan, a hydroelectric project receives a flow rate grant for the right to use water resources. This flow rate allocation is part of the Water Resources Plan for the Hydrographic Basin, which establishes a percentage of flow allocated to each use, depending on the type of user in the basin. Normally, when the water resource use right grant is granted, future projections of consumable uses in the transfer area upstream of the hydroelectric plant are considered. These future consumable uses are expected to increase over time. Furthermore, these projections may be revised in subsequent years, based on population growth and the development of economic activities in the areas upstream of the hydroelectric plant. In the first Ordinary Review of Guaranteed Energy for centrally dispatched hydroelectric plants (1st ROGF), carried out in 2017 (with guarantees in effect from January 1, 2018), consumption was based on 2016. In the second ROGF, carried out in 2022 (with guarantees in effect from January 1, 2023), consumptive uses were based on 2023, as provided for in ANA Resolution No. 93 of August 23, 2021. The consumptive uses considered in the second ROGF were higher than those in the first ROGF, due to both the expected temporal increase in consumptive uses and some revisions in future projections. The assured energy levels determined in the second ROGF were published by Ordinance GM/MME No. 709, of November 30, 2022. For most hydroelectric plants covered by the second ROGF, there was a reduction in assured energy - with a significant portion of these plants presenting losses that reached the 5% limit, as established in the ordinance. The increase in consumable uses was a factor - although not the only one, nor the main one - that contributed to the reductions in assured energy levels. This study was carried out with data from the current year, without projections. However, this behavior is expected to persist in the short term (until 2025). Cemig plans to carry out new studies as hydrological variations are observed.

(5.1.1.11) Justification for choosing the scenario

According to WWF's Water Risk Filter tool, water stress in the Minas Gerais region is considered low to medium-low. Although the company's assets are not exposed to significant water stress, it is understood that the Emborcação, Nova Ponte and Queimado hydroelectric plants are more vulnerable to this condition. In 2023, there was a greater volume of water withdrawal at these plants due to greater water availability, which contributed to an improvement in reservoir levels. Regarding Cemig's hydroelectric plants, the increase in consumptive uses was significant at the Emborcação, Nova Ponte and Queimado plants. The annual average of accumulated consumptive uses upstream of the Emborcação plant, which had already been high during the 1st ROGF, increased by 47.6% in the 2nd ROGF. In the case of the Nova Ponte plant, consumption increased by 61.2%. Finally, at the Queimado plant, the annual average increased by 102%. This is mainly due to the significant pressure that the river basins where these plants are located have been experiencing in recent years from upstream irrigation users, who have been withdrawing more and more water for consumptive uses, as indicated in previous reports. It is important to note that the regular reviews of guaranteed energy occur every five years. Thus, the 3rd ROGF is scheduled for 2027, with guaranteed energy levels coming into effect from January 2028. It is likely that consumptive uses will be adopted for the year 2028, following the pattern observed in the 2nd ROGF.

Mitigation actions:

Cemig created the Proximidade Program with the aim of strengthening relationships with local communities and promoting social development in areas close to the plants under its concession. The program promotes technical meetings in which company experts provide detailed information on the operation of reservoirs and dams, addressing critical aspects such as operational and structural safety, and detailing the Emergency Action Plans (PAEs). In addition, the program participates in meetings to integrate the PAEs with the Municipal Contingency Plans (PLANCONs) and carries out engagement actions with NGOs in water resources forums, facilitating the participation of these NGOs in the formulation of policies and standards related to water resources management. Engagement with other water users is carried out through river basin committees, such as the management of the Três Marias HPP reservoir.

In 2024, Cemig continued its actions to improve PAEs and to coordinate with Civil Defense and local governments. Among the year's initiatives, the following stand out:

■ Execution of 11 tabletop exercises, both internal and external, to improve emergency response at dams in the Tronqueiras and Poço Fundo SHPs and the Nova Ponte, Peti, Cajuru, Salto Grande, Itutinga/Camargos, Três Marias, Irapé, Teodomiro Carneiro Santiago (Emborcação) and Machado Mineiro HPPs.

■ Conducting of seven Evacuation Drills with the population of the ZAS, covering 11 municipalities and mobilizing approximately 600 evacuees.

■ Production of 14 Simulated Training Reports, consolidating learning from the Cel. Domiciano, Dona Rita, Piau, Tronqueiras, Poco Fundo and Machado Mineiro SHPs, in addition to the Sa Carvalho, Rosal, Nova Ponte, Peti, Itutinga/Camargos, Cajuru, Salto Grande and Queimado HPPs.

■ Update of 14 Municipal PLANCONs, covering 24 municipalities affected by Cemig dams.

■ Execution of 20 Restricted Drills at 28 Meeting Points in the ZAS of the Machado Mineiro, Irapé, Theodomiro Carneiro Santiago (Emborcação) and Três Marias HPPs, involving approximately 200 evacuated people.

Risk related to multiple uses of water

Water is the main raw material for CEMIG's energy production and is a resource that is sensitive to climate change and vulnerable to the consequences of the exploitation of other natural resources, significantly affected by human actions and subject to a regulatory environment. The operation of reservoirs for the generation of hydroelectric energy carried out by CEMIG essentially implies the consideration of the multiple uses of water by other users of a river basin, which, in turn, leads to the need to consider a series of restrictions of an environmental nature, safety, irrigation systems, human supply, waterways, and bridges, among others. In periods of severe drought, such as those experienced from 2013 to 2021 and also in 2024, monitoring and forecasting reservoir levels and constant dialogue with the government, civil society and users were essential to guarantee energy generation, as well as for other uses of this resource. Finally, CEMIG uses a Risk Management System to analyze scenarios and determine the degree of financial exposure to risks, considering the probability of occurrence and their impact. In scenarios related to potential conflicts with other users, CEMIG assesses both the impacts resulting from prolonged droughts, which may lead to increased competition between the energy sector and other users, and those resulting from flooding due to excessive rainfall. Although CEMIG engages with other essential users and takes steps to analyze the input of communities and studies on issues related to the impact of water use, at the same time conflicting interests with respect to water use could, subject to certain minimum limits previously established by law, affect its availability for use in the operations of some of our projects, which may adversely affect our results of operations and/or financial condition.

Risk: The multiple uses of water and the various interests related to this natural resource may give rise to conflicts of interest between CEMIG and society as a whole, which may cause harm to our business, operating results and/or financial condition. Source: Reference Form, pages 180 and 181, available at: https://ri.cemig.com.br/docs/Formulario-de-Referencia-cemig-2025-12-31-hHWHtKDH.pdf

d) Assessment of potential future regulatory changes at the local level

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Risk 2: Political: Increase in water prices

The charging for water use in large hydroelectric plants is already regulated and no regulatory changes are expected in the short or medium term. For Small Hydroelectric Plants, the charging for water use is considered exempt under current legislation. If a regulatory change occurs, suspending the exemption from charging for water use for SHPs, plants with installed capacity of less than 30 MW, Cemig would have an additional cost for its generating park. Currently, Cemig has 25 SHPs, which correspond to 4.69% of the company's installed capacity. With the increase in the operating cost of SHPs, through the potential increase in taxes, the risk would lead to a potential financial impact on the company's direct operations, increasing the cost of power generation operations.

Financial effect: Increased cost of capital

Time horizon: Long term

Magnitude: medium-low

Expected effect of risk on the organization's financial position, financial performance and cash flows over selected future time horizons

Based on the identified risk, the regulatory change that could suspend the exemption from water usage charges for Small Hydroelectric Power Plants (SHPs) would have a direct effect on increasing Cemig's operating costs, affecting its financial position, financial performance and cash flows in the future. If this regulatory change occurs, the company will have additional costs to operate its 25 SHPs, which represent 4.69% of total installed capacity. In the long term, the addition of new costs could result in a reassessment of investments in SHPs, increasing the need for adjustments in the energy generation strategy and potentially changing capital allocation. The impact would be proportional to the magnitude of the additional cost generated. The change in cash flow would be perceived through an increase in operating expenses, which would reduce the cash generation of SHPs. However, this isolated effect would not significantly compromise the company's financial sustainability in the medium or long term, due to the diversity of generating assets and the greater relevance of other energy sources in Cemig's matrix.

(3.1.1.23) Expected long-term financial effect value - minimum (currency)

R$ 4.555.975,12

(3.1.1.24) Long-term expected financial effect value - maximum (currency)

R$ 6.150.744,35

(3.1.1.25) Explanation of the value of the financial effect

The calculation of the financial effect considered a variation in the financial compensation tariff for the use of water resources. For the minimum value, the tariff applied to hydroelectric plants in 2023, of R$ 89.79/MWh, was used, and for the maximum value, an estimated tariff of R$ 121.22/MWh, representing an increase of 7% over the next 5 years. The expected financial impact varies between R$ 4,555,975.12 (for the minimum tariff) and R$ 6,150,744.35 (for the maximum tariff), reflecting the possible increase in operating costs due to a regulatory change regarding the charging for the use of water for Small Hydroelectric Plants.

(3.1.1.26) Primary risk response

Engagement Interact with regulatory bodies/policy makers

(3.1.1.27) Cost of risk response

R$ 534,689.96

(3.1.1.28) Explanation of cost calculation

The cost of responding to this risk currently involves Cemig's participation in forums where the possibility of adopting a water tariff for Small Hydroelectric Power Plants (PCHs) is discussed. In these forums, Cemig can engage with decision-makers and bring to light relevant aspects of the impacts that could be generated by the new measure. The reported cost therefore considers the amount invested annually in the associations representing the sector, with reference to the year 2023, as follows:

ABRAGE: R$ 178,000.74 + APINE: R$ 227,016.72 + ABRAGEL: R$ 129,672.50 = R$ 534,689.96 (Total Cost)

(3.1.1.29) Response description

SITUATION: Although it is not interpreted as a high probability risk and has a low potential financial impact, this risk is relevant for mapping regulatory changes and market movements.

TASK: Cemig's role in managing regulatory change risks is through participation in the National Water Resources Council, the Minas Gerais State Water Resources Council, river basin committees, technical chambers and working groups, business associations (ABRAGE), and public hearings, where master plans for river basins, resolutions, bills, normative resolutions, and regulations on granting and charging for the use of water resources are discussed, prepared, and approved.

ACTION: In these contexts, the expertise of its specialists is used to assist in the development of policies and guidelines for regulating water use in the basins. At the same time, the company has a superintendence of institutional relations and sector regulation that monitors regulatory changes and activates the water resources management team whenever the topic is relevant.

RESULTS: Although Cemig does not detect a significant probability of this risk materializing, the company keeps it on its radar for periodic monitoring in the forums and councils in which it participates. In this way, the company remains aware of potential regulatory changes and can contribute to discussions regarding the impact that these changes may have on the company.

5. Effluent Management

Incident investigation and corrective action: There have been no incidents related to the disposal of industrial effluents. All of the Company's effluents are treated in compliance with the standards and parameters for effluent discharge.

All Cemig's sanitary effluents are treated, with approximately 68% being sent to conventional treatment systems via the public collection network and 32% directed to septic tanks located on Cemig's premises. Effluents from the generation at hydroelectric plants are discharged directly into bodies of water. Any degradation of water quality can occur in insignificant volumes when compared to the flow of rivers, which eliminates the need for treatment of effluents, as they have concentrations below the parameters of current legislation. Effluents are monitored through annual audits: an external audit carried out by the ABNT certification institution and two internal audits