PRELIMINARY ANALYSIS OF NATURE-RELATED RISKS – CEMIG

Because our impact matters

2024

CEMIG'S COMMITMENT TO BIODIVERSITY

Cemig dedicates special attention to the conservation of biodiversity in the environments where it operates, since water and biodiversity are closely related. There is a legal commitment to recover, protect and conserve the forests, rivers and fauna surrounding the developments.

The impact of human activities on ecosystems has led to a decline in biological diversity. Thus, Companhia Energética de Minas Gerais – Cemig, aware of the impacts caused by its activities on biodiversity and recognizing the importance of defining strategic guidelines for its preservation, adopted a specific policy (Biodiversity Policy) which was created with the participation of several segments of society involved with the theme.

Cemig seeks to minimize the impact of its activities on biodiversity, considering the impact mitigation hierarchy (prevent, mitigate, rehabilitate/restore, compensate). In order to achieve this proposal, it is necessary to deepen the knowledge of the risks associated with biodiversity, as well as the dependencies of this relationship, recognizing the importance of natural resources and the pressure exerted on them through the expansion and maintenance of the company's activities.

Classificação: Público

Biodiversity Risk Assessment

Biodiversity risk assessment is an integral part of Cemig's Strategic Planning and integrated to the corporate risk assessment with continuous monitoring of internal processes involving the topic and the establishment of controls and associated action plans through a specific approach to the location. As a result, internal instructions and procedures analysis, construction of strategies and effective action for mitigation. e updated and new guidelines are created, reducing risks in own operations and adjacent areas and expanding the company's commitment to biodiversity management, even in upstream and downstream activities. In this sense, environmental plans and programs aimed at biodiversity allow the identification of disturbances, critical

Cemig evaluated all its operational units with possible impacts on biodiversity and, as our main impacts are related to hydroelectric, consider the exposure and impacts of this activity.

In 2024 we have applied the methodology proposed by TNFD, guided by materiality, entitled LEAP (Locate, Evaluate, Assess, and Prepare), to support us in an integrated assessment process for risks and opportunities.

Classificação: Público

THE *TASKFORCE ON NATURE-RELATED FINANCIAL DISCLOSURES*

The Taskforce on Nature-related Financial Disclosures (TNFD) is an international science-based initiative, led by the financial market, which emerged as a response to the imminent need to manage the business and nature nexus.

The main purpose of this methodological framework is to provide a risk management and disclosure framework so that stakeholders can identify, assess, respond to and, where appropriate, **disclose their nature-related issues**, supporting a shift in global financial flows away from negative operations for nature and bringing them closer to positive operations for nature.

The methodological framework proposed by TNFD is centered on 4 pillars of recommendations:

Governance	Strategy	Risk & impact management	Metrics & targets
Disclose the organisation's governance of nature-related dependencies, impacts, risks and opportunities.	Disclose the effects of nature-related dependencies, impacts, risks and opportunities on the organisation's business model, strategy and financial planning where such information is material.	Describe the processes used by the organisation to identify, assess, prioritise and monitor nature-related dependencies, impacts, risks and opportunities.	Disclose the metrics and targets used to assess and manage material nature-related dependencies, impacts, risks and opportunities.

Classificação: Público

THE *TASKFORCE ON NATURE-RELATED FINANCIAL DISCLOSURES*

CEMIG

These pillars have an interface with 06 requirements, which is a difference in relation to the approach of the Taskforce on Climate-Related Financial Disclosures (TCFD), related to climate:

1 Approach focusing on the relevance of materiality

2 Scope of disclosures, both in terms of business and value chain coverage

3 Considerations about dependencies and related impacts, risks and opportunities associated with nature, based on an assessment of impacts and dependencies

4 Specific location of its interface with nature as an integral part of the assessment

5 Integration with other sustainability issues, including climate-related disclosures

6 Engagement of interested parties (stakeholders) in their disclosures

Classificação: Público

MAIN CONCEPTS

Impacts	Change in the state of nature (quality or quantity), altering its ability to provide social and economic functions. Positive or negative
Dependencies	Aspects of the environmental assets and ecosystem services on which an organization depends to function
Risks	Potential threats posed to an organization that arise from its dependencies and/or impacts
Opportunities	These are activities that create positive results for organizations and nature through positive impacts or mitigation of negative impacts

Nature-related issues → Impacts, Dependencies, Risks, Opportunities

RISK ANALYSIS IN TNFD

The methodology proposed by TNFD, guided by materiality, provides practical guidance on "how to proceed", entitled **LEAP** (Locate, Evaluate, Assess, and Prepare), to support companies and institutions financial statements in the formulation of their corporate and reporting reports and can be understood as an **integrated assessment process for risks and opportunities**.

The step *ASSESS* provides guidance on how to proceed **map and priortize the nature-related risk, assessing its magnitude and probability**, based on the estimate of **financial effects** of this risks **in business**. This is done through the identification, measurement and prioritization of nature-related risks, **originating from the dependencies and impacts** identified in the Locate and Evaluate phases.

Classificação: Público

RISK ANALYSIS IN TNFD

ASSESS step: Assess risks and opportunities

Locate — The interface with nature	Evaluate — Dependencies & impacts	Assess — Risks & opportunities	Prepare — To respond & report
L1 Span of the business model and value chain — **What** are our organisation's activities by sector and value chain? **Where** are our direct operations?	**E1 Identification of environmental assets, ecosystem services and impact drivers** — **What** are the sectors, business processes or activities to be analysed? What environmental assets, ecosystem services and impact drivers are associated with these sectors, business processes, activities and assessment locations?	**A1 Risk and opportunity identification** — **What** are the corresponding risks and opportunities for our organisation?	**P1 Strategy and resource allocation plans** — **What** risk management, strategy and resource allocation decisions should be made as a result of this analysis?
L2 Dependency and impact screening — **Which** of these sectors, value chains and direct operations are associated with potentially moderate and high dependencies and impacts on nature?	**E2 Identification of dependencies and impacts** — **What** are our dependencies and impacts on nature?	**A2 Adjustment of existing risk mitigation and risk and opportunity management** — **What** existing risk mitigation and risk and opportunity management processes and elements are we already applying? How can risk and opportunity management processes and associated elements (e.g. risk taxonomy, risk inventory, risk tolerance criteria) be adapted?	**P2 Target setting and performance management** — How will we set targets and define and measure progress?
L3 Interface with nature — **Where** are the sectors, value chains and direct operations with potentially moderate and high dependencies and impacts located? **Which** biomes and specific ecosystems do our direct operations, and moderate and high dependency and impact value chains and sectors, interface with?	**E3 Dependency and impact measurement** — **What** is the scale and scope of our dependencies on nature? **What** is the severity of our negative impacts on nature? What is the scale and scope of our positive impacts on nature?	**A3 Risk and opportunity measurement and prioritisation** — **Which** risks and opportunities should be prioritised?	**P3 Reporting** — What will we disclose in line with the TNFD recommended disclosures?
L4 Interface with sensitive locations — **Which** of our organisation's activities in moderate and high dependency and impact value chains and sectors are located in ecologically sensitive locations? **And which** of our direct operations are in these sensitive locations?	**E4 Impact materiality assessment** — **Which** of our impacts are material?	**A4 Risk and opportunity materiality assessment** — **Which** risks and opportunities are material and therefore should be disclosed in line with the TNFD recommended disclosures?	**P4 Presentation** — Where and how do we present our nature-related disclosures?

Engagement with Indigenous Peoples, Local Communities and affected stakeholders

Scenario analysis

Classificação: Público

ASESSING THE NATURE-RELATED RISKS

Physical Risks are those arising from the **degradation of nature**, resulting, for example, from changes in ecosystem balances, degradation of soil quality and species composition, with the consequent loss of ecosystem services on which economic activities depend. These risks can be **chronic**, such as a gradual decline in pollinator species diversity, which results in decreased agricultural productivity or water shortages, or **acute**, such as natural disasters or wildfires.

Transition Risks result from several actions by economic agents aimed at protecting, restoring and/or reducing negative impacts on nature. They may originate, for example, from changes in regulation and policy, legal precedents, technology or investor demands and consumer preferences. There is also the risk of liability, which considers possible financial losses resulting directly or indirectly from lawsuits.

Systemic Risks arise from the **collapse of the entire system** and are caused by individual tipping points that combine indirectly to produce major failures, where one loss results in a chain of others, preventing the system from returning to its previous balance. They can be divided into **Ecosystem Stability Risk**: risk of an event that leads to **the destabilization of a critical natural system**, so that it can no longer provide ecosystem services in the same way as before and **Financial Stability Risk**: risk that the materialization and the combination of physical and/or transition risks leads to **the destabilization of an entire financial system**.

Classificação: Público

ASESSING THE NATURE-RELATED RISKS

Nature-related risks are potential threats to an organization, resulting from dependencies and impacts on nature, associated with the company targeted for assessment and society in general and can be classified as: **physical risks, transition risks or systemic risks**

RISKS	Physical	Acute or chronic
	Transition	Political, Market, Technological, Reputational and Liability
	Systemic	Ecosystem stability risk and financial stability risk
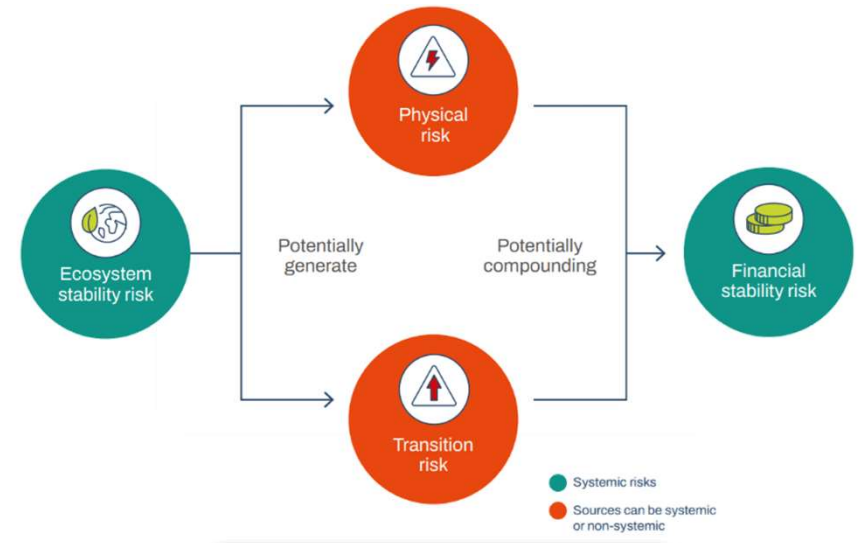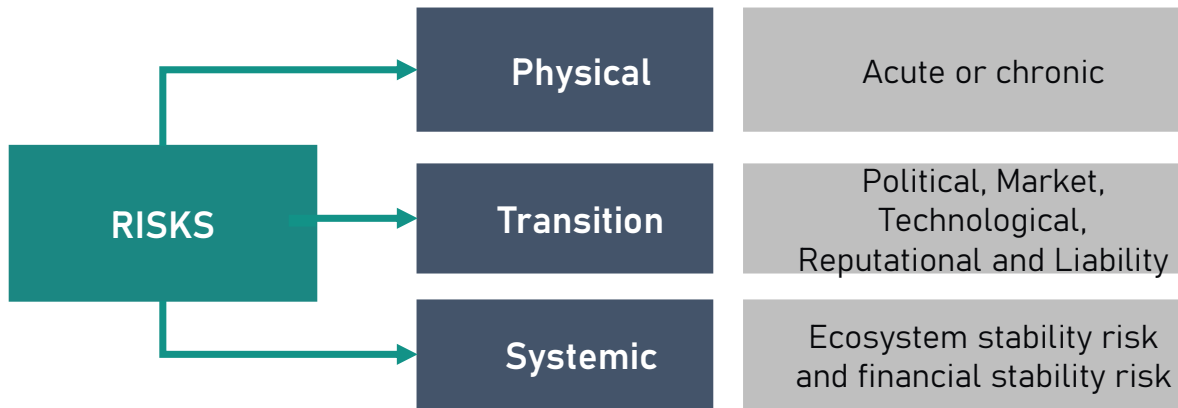
MAIN STAGES OF WORK – PRELIMINARY RISK ANALYSIS
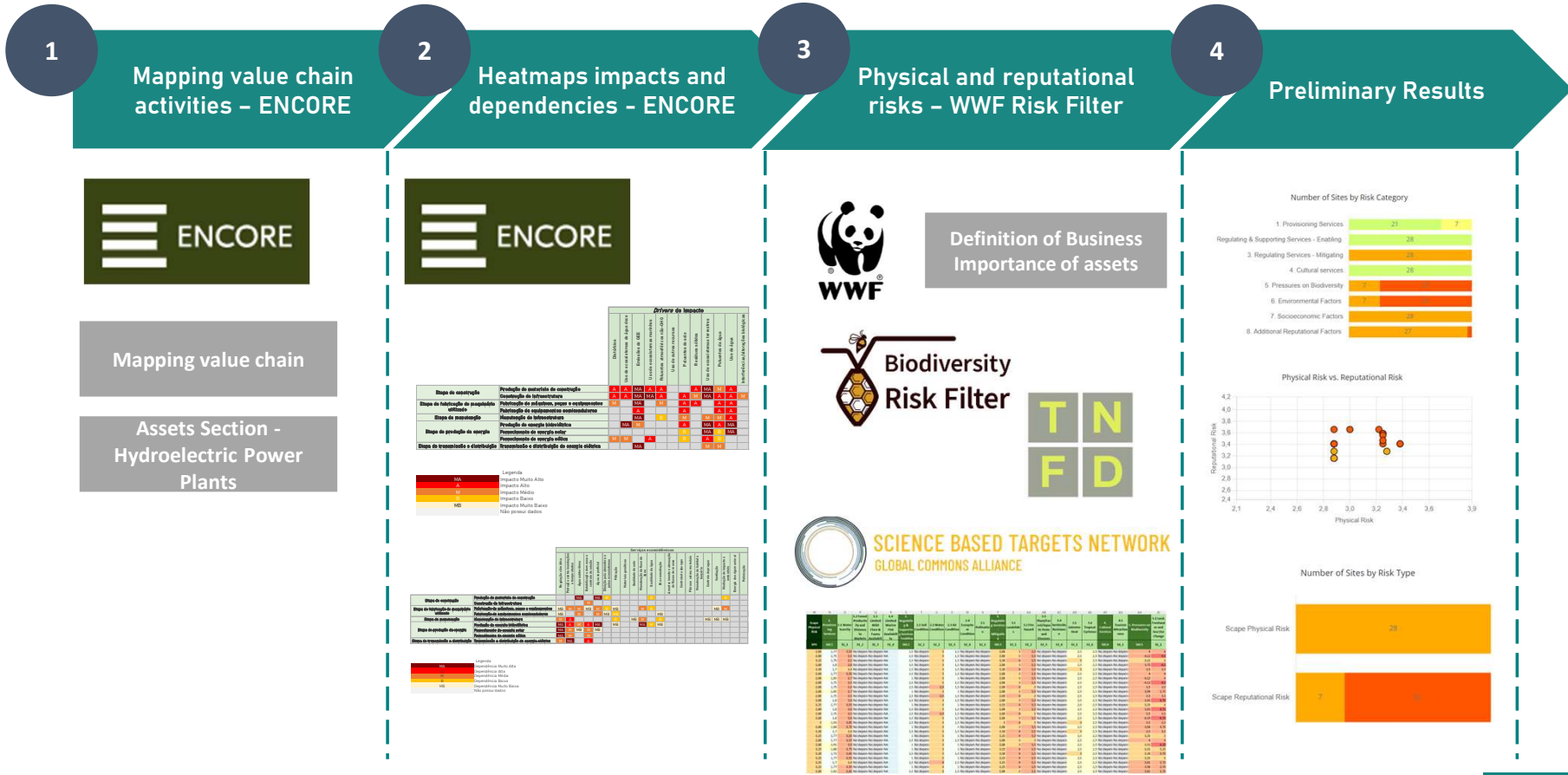
1 Mapping value chain activities – ENCORE

2 Heatmaps impacts and dependencies – ENCORE

3 Physical and reputational risks – WWF Risk Filter

4 Preliminary Results

ENCORE

Mapping value chain

Assets Section - Hydroelectric Power Plants

ENCORE

WWF

Definition of Business Importance of assets

Biodiversity Risk Filter

TNFD

SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE

Number of Sites by Risk Category

Physical Risk vs. Reputational Risk

Number of Sites by Risk Type

1. MAPPING OF ACTIVITIES OF VALUE CHAIN

As previously mentioned, the risks of an organization are identified after the stage of assessing the impacts and dependencies of the business on nature.

The identification of **impacts and dependencies** of Cemig was assessed, in a preliminary way, for the business model of the company related to the **production of electricity through hydroelectric power plants**, using the **ENCORE tool** (Exploring Natural Capital Opportunities, Risks and Exposure).

The platform provides, on a sectoral basis and with data collected at a global level, information on **how economic activities depend on ecosystem services and how these activities can impact biodiversity**.

The analysis considers 12 impact drivers and 21 ecosystem services, and can be used to identify impacts and dependencies by stage of the value chain of different industries.
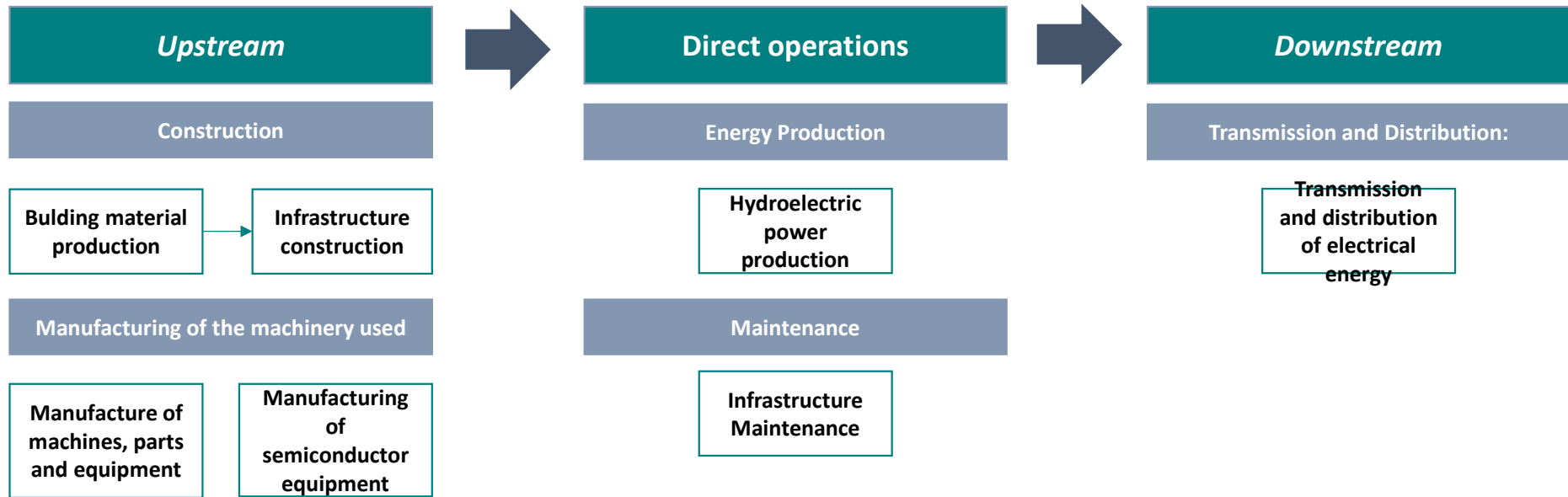
Classificação: Público

1. MAPPING OF ACTIVITIES OF VALUE CHAIN

Regarding the business model of Cemig related to the production of electricity by hydroelectric power plants, the stages of the value chain considered for the analysis involve the following activities:

- **Civil Construction:** considers construction activities themselves, such as excavations, use of explosives and chemicals, movement of machinery and burning of fossil fuels, among other aspects. In addition to activities related to obtaining construction materials, such as cement manufacturing and extraction of raw materials;

- **Machinery manufacturing:** considers the activities of manufacturing equipment and machines, including semiconductors, and takes into account manufacturing operations, the use of chemicals, consumption of water, raw materials, fuels, etc.;

- **Infrastructure maintenance:** considers the activities necessary for the maintenance of buildings, such as the use of machinery and the burning of fossil fuels, use of solvents, paints, disposal of special waste, use of water, among others;

- **Hydroelectric power production:** considers activities related to the creation and operation of the reservoir, taking into account the increase in aquatic habitat with the consequent reduction in terrestrial habitat and possible changes in the water balance of the region;

- **Transmission and distribution of generated energy:** considers activities related to the suppression of vegetation for the installation of structures and the operation of the system.

Classificação: Público

1. MAPPING OF ACTIVITIES OF VALUE CHAIN

Upstream → **Direct operations** → **Downstream**

Upstream	Direct operations	Downstream
Construction	Energy Production	Transmission and Distribution:

Upstream

Construction
- Bulding material production → Infrastructure construction

Manufacturing of the machinery used
- Manufacture of machines, parts and equipment
- Manufacturing of semiconductor equipment

Direct operations

Energy Production
- Hydroelectric power production

Maintenance
- Infrastructure Maintenance

Downstream

Transmission and Distribution:
- Transmission and distribution of electrical energy

CEMIG

1. MAPPING OF ACTIVITIES OF VALUE CHAIN

ENCORE

CHAIN STAGE	ACTIVITY
Construction stage	Bulding material production
	Infrastructure construction
Manufacturing stage of the machinery used	Manufacture of machines, parts and equipment
	Manufacturing of semiconductor equipment
Maintenance stage	Infrastructure maintenance
Energy production stage	Hydroelectric power production
Transmission and distribution stage	Transmission and distribution of electrical energy

Classificação: Público

2. HEATMAPS IMPACTS AND DEPENDENCIES

A heatmap is a graphical representation of data in which individual values are represented by colors, used to visualize the density or intensity of information in a two-dimensional space, helping to identify patterns, correlations and concentrations of data in an intuitive and visually appealing way.

The attribution of impact and dependence levels is carried out separately, being classified as: very low; low; average; high; very high; and has no data.

As it is a tool built at a sectoral level with data collected globally, some impacts or dependencies may not be fully adherent to the local reality of the business and, especially, to the context of a mega-biodiverse country.

For this reason, it was carried out, jointly to the technical team of Cemig, a calibration of the results found by ENCORE in order to bring the results closer to the reality of the operations of the company in Brazil.

Nível de impacto/dependência
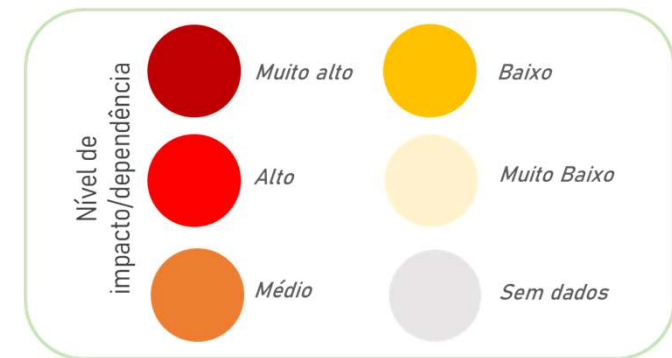
- Muito alto
- Alto
- Médio
- Baixo
- Muito Baixo
- Sem dados

Legenda

MA	Impacto Muito Alto
A	Impacto Alto
M	Impacto Médio
B	Impacto Baixo
MB	Impacto Muito Baixo
	Não possui dados

		Distúrbios	Uso de ecossistemas de água doce	Emissões de GEE	Uso de ecossistemas marinhos	Poluentes atmosféricos não-GHG	Uso de outros recursos	Poluentes do solo	Resíduos sólidos	Uso de ecossistemas terrestres	Poluentes da água	Uso da água	Interferências/alterações biológicas
Etapa de construção	Produção de materiais de construção	A	A	MA		A			A	MA	M	A	
Etapa de construção	Construção de infraestrutura	A	A	MA		A		A	M	MA	A	A	M
Etapa de fabricação do maquinário utilizado	Fabricação de máquinas, peças e equipamentos	M		MA		M		A	A		A	A	
Etapa de fabricação do maquinário utilizado	Fabricação de equipamentos semicondutores			A				A			A	A	
Etapa de manutenção	Manutenção de infraestrutura			B		B		M		M	M	A	
Etapa de produção da energia	Produção de energia hidrelétrica	M	MA	MB						MA		MA	M
Etapa de transmissão e distribuição	Transmissão e distribuição de energia elétrica	M		MA						M			

Drivers de impacto

Classificação: Público

Legenda

MA	Dependência Muito Alta
A	Dependência Alta
M	Dependência Média
B	Dependência Baixa
MB	Dependência Muito Baixa
	Não possui dados

Serviços ecossistêmicos

Etapa	Atividade	Regulação climática	Proteção contra inundações e tempestades	Água subterrânea	Estabilização de massa e controle de erosão	Água superficial	Diluição pela atmosfera e pelos ecossistemas	Filtração	Materiais genéticos	Qualidade do solo	Manutenção do fluxo de água	Qualidade da água	Bio-remediação	Amortecimento e atenuação de fluxos de massa	Controle de doenças	Fibras e outros materiais	Manutenção de habitats berçário	Controle de pragas	Ventilação	Mediação de impactos sensoriais	Energia de origem animal	Polinização
Etapa de construção	Produção de materiais de construção			MA		MA	B					B								B		
Etapa de construção	Construção de infraestrutura	MB	B		M	M																
Etapa de fabricação do maquinário utilizado	Fabricação de máquinas, peças e equipamentos	MB	M	M	MB	M	B	MB			M	B							MB	M		
Etapa de fabricação do maquinário utilizado	Fabricação de equipamentos semicondutores	MB		M		M	MB	MB					MB									
Etapa de manutenção	Manutenção de infraestrutura	M	A		M		B			MB	M	B							MB	MB		
Etapa de produção da energia	Produção de energia hidrelétrica	MA	A	M	A	MA		MB			MA	M	MB									
Etapa de transmissão e distribuição	Transmissão e distribuição de energia elétrica	MA	MA		A																	

Classificação: Público

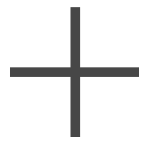# 3. PHYSICAL AND REPUTATIONAL RISKS – WWF BIODIVERSITY RISK FILTER (BRF)

- **Data Integration:** It combines robust scientific data with risk analysis tools.

- **Identification of Critial Areas:** It identifies critical areas of impact on biodiversity.

- **Factors Considered:**
  - Habitat degradation, loss of species and overexploitation of natural resources.

- **Informed Decisions:** It helps companies to understand and minimize environmental impacts.

- Alignment with **TNFD, SBTN, ESRE**

- Integration with **ENCORE, IBAT, RepRisk**
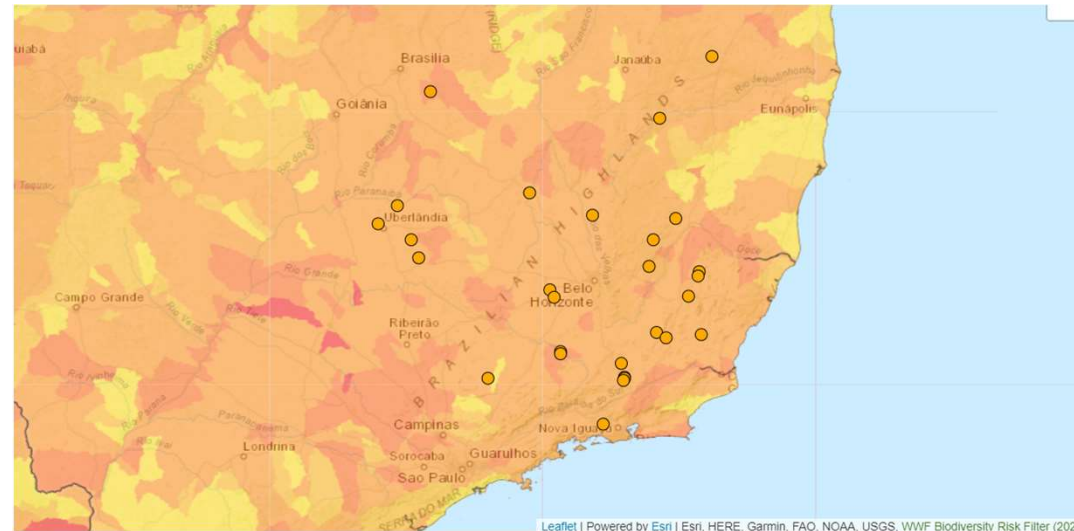
Proxies considered:

– Protected areas
– Key Biodiversity Areas
– Other areas relevant to conservation
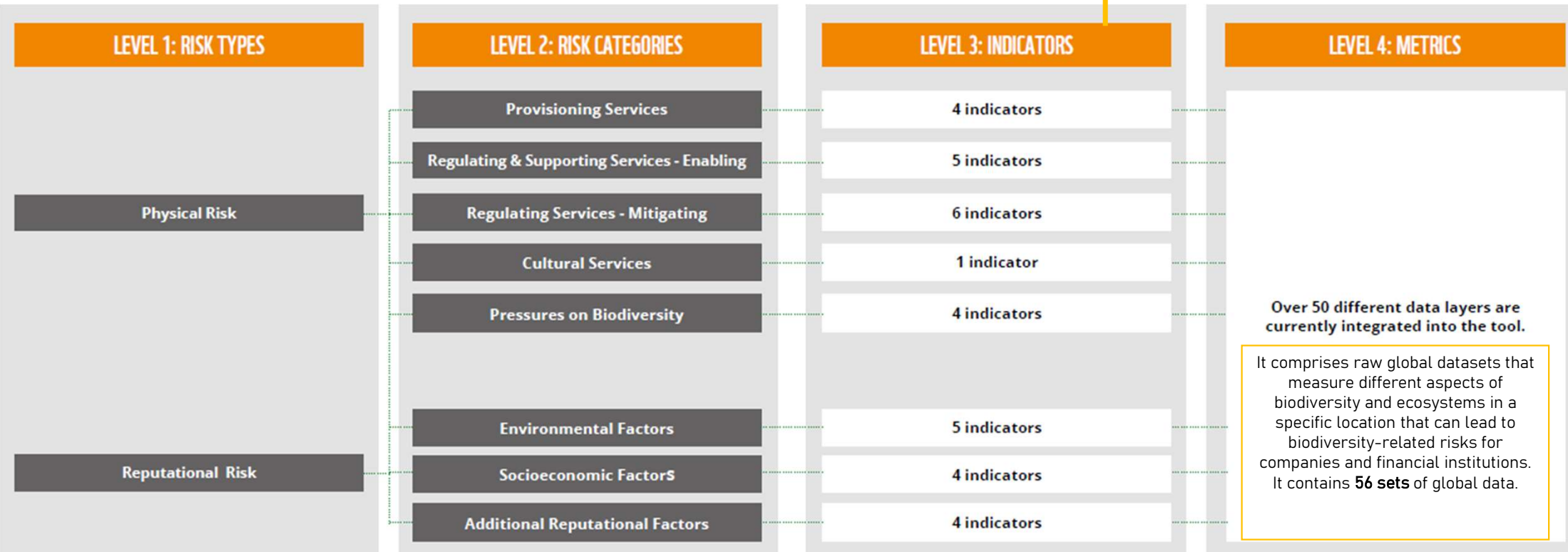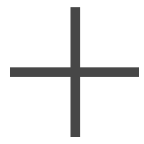– Ecosystem condition
– Rarity range

3. PHYSICAL AND REPUTATIONAL RISKS – WWF BIODIVERSITY RISK FILTER (BRF)

The calculation of risk scores is based on the following **risk hierarchy** of BRF:

It provides information about the importance and integrity of local biodiversity aspects, spatially (dis)aggregated to an assessment unit and translated into a risk score ranging from 1 to 5.

LEVEL 1: RISK TYPES	LEVEL 2: RISK CATEGORIES	LEVEL 3: INDICATORS	LEVEL 4: METRICS
	Provisioning Services	4 indicators	
	Regulating & Supporting Services - Enabling	5 indicators	
Physical Risk	Regulating Services - Mitigating	6 indicators	
	Cultural Services	1 indicator	
	Pressures on Biodiversity	4 indicators	**Over 50 different data layers are currently integrated into the tool.**
	Environmental Factors	5 indicators	
Reputational Risk	Socioeconomic Factors	4 indicators	It comprises raw global datasets that measure different aspects of biodiversity and ecosystems in a specific location that can lead to biodiversity-related risks for companies and financial institutions. It contains **56 sets** of global data.
	Additional Reputational Factors	4 indicators	

Source: WWF Biodiversity Risk Filter (2023). WWF Biodiversity Risk Filter Methodology Documentation, January 2023

Classificação: Público

3. PHYSICAL AND REPUTATIONAL RISKS – WWF BIODIVERSITY RISK FILTER (BRF)

BRF provides an assessment of **25 industrial sectors**, covering the entire spectrum of corporate activity. The 25 industrial sectors were defined based on a harmonized list of different industry classification standards.

For this analysis, the specific assessment for the hydroelectric energy industry was used.

The following are the processes associated with this industry within the tool:

Electric energy production – hydropower	Infrastructure holdings
	Hydropower production
	Electric/nuclear power transmission and distribution

Source: WWF Biodiversity Risk Filter (2023). WWF Biodiversity Risk Filter Methodology Documentation, January 2023.

For each of the 25 industry sectors, a **dependency and/or impact rating is assigned to each of the 33 indicators in the risk hierarchy of BRF**, resulting in a total of **825 pairs of sectoral indicators**.

Classification is performed on a scale of 1 to 5: an industry materiality of 5 indicates a very high dependence or impact on the specific indicator, while an industry materiality of 1 indicates a very low dependence or impact. If an industry has no dependency on or impact on a specific indicator, it is assigned an industry materiality rating of 0.

The definition of industry materiality classifications for the assessment of dependencies was based on work carried out by ENCORE (2022), and for the assessment of impacts it was based on the work of SBTN (2020), and were minimally adjusted after assessments with experts of WWF.

Source: WWF Biodiversity Risk Filter (2023). WWF Biodiversity Risk Filter Methodology Documentation, January 2023.

3. PHYSICAL AND REPUTATIONAL RISKS – WWF BIODIVERSITY RISK FILTER (BRF)

Site Name	Business Importance
Cajuru	Low
Camargos	Medium
Coronel Domiciano	Low
Emborcação	High
Ervália	Low
Gafanhoto	Medium
Irapé	High
Itutinga	Medium
Joasal	Medium
Machado Mineiro	Low
Marmelos	Low
Martins	Medium
Fog	Low
Nova Ponte	High
Paciência	Low
Pai Joaquim	Medium
Paracambi	Medium
Paraúna	Low
Piau	Medium
Pipoca	High
Poço Fundo	Medium
Queimado	High
Rosal	High
Salto Grande	High
Sinceridade	Low
Sá Carvalho	High
Tronqueiras	Medium
Três Marias	High

- **Business Importance**

  o Evaluated according to the generation potential of the asset

  o Classification carried out using the method Jenk's Natural Breaks

- **Location**

  o It coordinates extracted from asset shapefiles made available by Cemig

- Total of 28 assets considered

3. PHYSICAL AND REPUTATIONAL RISKS – WWF BIODIVERSITY RISK FILTER (BRF)

Some of the data entered into the tool for each asset:

Site Name	Industry	Country	Province	Land or Seascape
Cajuru	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Sao Francisco
Camargos	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Grande
Coronel Domiciano	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Emborcação	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Paranaiba
Ervália	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Gafanhoto	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Sao Francisco
Irapé	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Itutinga	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Grande
Joasal	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Machado Mineiro	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Marmelos	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Martins	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Paranaiba
Neblina	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Nova Ponte	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Paranaiba
Paciência	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Pai Joaquim	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Paranaiba
Paracambi	Electric Energy Production - Hydropower	Brazil	Rio de Janeiro	South Atlantic (353)
Paraúna	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Sao Francisco
Piau	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Pipoca	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Poço Fundo	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Grande
Queimado	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Sao Francisco
Rosal	Electric Energy Production - Hydropower	Brazil	Espírito Santo	South Atlantic (352)
Salto Grande	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Sinceridade	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Sá Carvalho	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Tronqueiras	Electric Energy Production - Hydropower	Brazil	Minas Gerais	South Atlantic (352)
Três Marias	Electric Energy Production - Hydropower	Brazil	Minas Gerais	Sao Francisco

Classificação: Público

Scape risk is a risk score, on a scale of 0 to 5, that assesses a specific aspect of biodiversity in a specific location for a specific industry.

It is determined by two factors:

(a) Materiality of the sector and
(b) The state of biodiversity aspects at the site.

For each site, all 33 physical and reputation risk indicators are calculated by the WWF BRF tool.

This calculation is represented as follows:

There are 2 assumptions:

1) The higher the classification of materiality of the sector, the greater the potential exposure to risk;
2) The higher the risk score for an indicator, the greater the potential threat.

This means that the **Scape risk** for each indicator varies according to the location and sectoral classification of a company,

$$Scape\ risk_{i,s} = \frac{IM_{i,s} + IA_{i,l}}{2}$$

Where:
IM = Sector materiality (impact/dependence) of the industry
i = indicator
S = industrial sector
IA = indicator assessment
L = site (location)

Classificação: Público

4. PRELIMINARY RESULTS OF PHYSICAL RISKS

SRC 5 contributed most to the final Physical risk index, followed by SRC 3.

ANALYZED ASSETS	PHYSICAL MEDIUM RISK	1. Provisioning Services	2. Regulating & Supporting Services - Enabling	3. Regulating Services - Mitigating	4. Cultural Services	5. Pressures on Biodiversity
		SRC1	SRC2	SRC3	SRC4	SRC5
Cajuru	2.88	1.77	1.5	2.88	ND	4
Camargos	2.88	1.75	1.5	2.88	ND	4.12
Coronel Domiciano	3.22	1.75	1.5	3.38	ND	3.22
Emborcação	2.88	1.8	1.5	2.88	ND	3.75
Ervália	3.38	1.7	1.5	3.38	ND	3.5
Gafanhoto	2.88	1.77	1.5	2.88	ND	4
Irapé	2.88	1.85	1	2.88	ND	4.12
Itutinga	2.88	1.75	1.5	2.88	ND	4.12
Joasal	2.88	1.75	1.5	2.88	ND	3.5
Machado Mineiro	2.88	1.85	1	2.88	ND	3.94
Marmelos	2.88	1.75	1.5	2.88	ND	3.5
Martins	2.88	1.8	1.5	2.88	ND	3.81
Fog	3.25	1.77	1	3.25	ND	3.25
Nova Ponte	2.88	1.8	1.5	2.88	ND	3.81
Paciência	2.88	1.75	1.5	2.88	ND	3.5
Pai Joaquim	2.88	1.8	1.5	2.88	ND	4.19
Paracambi	3	1.93	1.5	3	ND	3.5
Paraúna	2.88	1.88	1	2.88	ND	3.56
Piau	3.38	1.7	1.5	3.38	ND	3.5
Pipoca	3.25	1.77	1	3.25	ND	3.25
Poço Fundo	2.88	1.77	1.5	2.88	ND	4
Queimado	2.88	1.95	1	2.88	ND	3.31
Rosal	3.25	1.88	1	3.25	ND	3.31
Salto Grande	3.28	1.73	1.5	3.38	ND	3.28
Sinceridade	3.25	1.77	1	3.25	ND	3.25
Sá Carvalho	3.25	1.7	1.5	3.25	ND	3.81
Tronqueiras	3.25	1.77	1	3.25	ND	3.56
Três Marias	2.88	1.82	1.5	2.88	ND	3.81

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

CEMIG

ANALYZED ASSETS	1. Provisioning Services	1.1 Water Scarcity	1.2 Forest Productivity and Distance to Markets	1.3 Limited Wild Flora & Fauna Availability	1.4 Limited Marine Fish Availability
	SRC1	S1_1	S1_2	S1_3	S1_4
Cajuru	1.77	3.55	No dependency or impact	No dependency or impact	NA
Camargos	1.75	3.5	No dependency or impact	No dependency or impact	NA
Coronel Domiciano	1.75	3.5	No dependency or impact	No dependency or impact	NA
Emborcação	1.8	3.6	No dependency or impact	No dependency or impact	NA
Ervália	1.7	3.4	No dependency or impact	No dependency or impact	NA
Gafanhoto	1.77	3.55	No dependency or impact	No dependency or impact	NA
Irapé	1.85	3.7	No dependency or impact	No dependency or impact	NA
Itutinga	1.75	3.5	No dependency or impact	No dependency or impact	NA
Joasal	1.75	3.5	No dependency or impact	No dependency or impact	NA
Machado Mineiro	1.85	3.7	No dependency or impact	No dependency or impact	NA
Marmelos	1.75	3.5	No dependency or impact	No dependency or impact	NA
Martins	1.8	3.6	No dependency or impact	No dependency or impact	NA
Fog	1.77	3.55	No dependency or impact	No dependency or impact	NA
Nova Ponte	1.8	3.6	No dependency or impact	No dependency or impact	NA
Paciência	1.75	3.5	No dependency or impact	No dependency or impact	NA
Pai Joaquim	1.8	3.6	No dependency or impact	No dependency or impact	NA
Paracambi	1.93	3.85	No dependency or impact	No dependency or impact	NA
Paraúna	1.88	3.75	No dependency or impact	No dependency or impact	NA
Piau	1.7	3.4	No dependency or impact	No dependency or impact	NA
Pipoca	1.77	3.55	No dependency or impact	No dependency or impact	NA
Poço Fundo	1.77	3.55	No dependency or impact	No dependency or impact	NA
Queimado	1.95	3.9	No dependency or impact	No dependency or impact	NA
Rosal	1.88	3.75	No dependency or impact	No dependency or impact	NA
Salto Grande	1.73	3.45	No dependency or impact	No dependency or impact	NA
Sinceridade	1.77	3.55	No dependency or impact	No dependency or impact	NA
Sá Carvalho	1.7	3.4	No dependency or impact	No dependency or impact	NA
Tronqueiras	1.77	3.55	No dependency or impact	No dependency or impact	NA
Três Marias	1.82	3.65	No dependency or impact	No dependency or impact	NA

Detailing of Physical Risk values by risk category:

SRC1 – Provisioning Services

Only indicator 1.1 was relevant to assets. No impacts or dependencies were identified for the other indicators of this SRC.

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

ANALYZED ASSETS	2. Regulating & Supporting Services - Enabling	2.1 Soil Condition	2.2 Water Condition	2.3 Air Condition	2.4 Ecosystem Condition	2.5 Pollination
	SRC2	S2_1	S2_2	S2_3	S2_4	S2_5
Cajuru	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Camargos	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Coronel Domiciano	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Emborcação	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Ervália	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Gafanhoto	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Irapé	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Itutinga	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Joasal	1.5	No dependency or impact	3.5	1.5	No dependency or impact	No dependency or impact
Machado Mineiro	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Marmelos	1.5	No dependency or impact	3.5	1.5	No dependency or impact	No dependency or impact
Martins	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Fog	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Nova Ponte	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Paciência	1.5	No dependency or impact	3.5	1.5	No dependency or impact	No dependency or impact
Pai Joaquim	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Paracambi	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Paraúna	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Piau	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Pipoca	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Poço Fundo	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Queimado	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Rosal	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Salto Grande	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact
Sinceridade	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Sá Carvalho	1.5	No dependency or impact	4	1.5	No dependency or impact	No dependency or impact
Tronqueiras	1	No dependency or impact	3	1	No dependency or impact	No dependency or impact
Três Marias	1.5	No dependency or impact	3	1.5	No dependency or impact	No dependency or impact

Detailing of Physical Risk values by risk category:

SRC2 – Regulating & Supporting Services - Enabling

Only indicators 2.2 and 2.3 were relevant to assets, with 2.2 being the highest risk.

No impacts or dependencies were identified for the other indicators of this SRC.

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

ANALYZED ASSETS	3. Regulating Services - Mitigating	3.1 Landslides	3.2 Fire Hazard	3.3 Plant/Forest/Aquatic Pests and Diseases	3.4 Herbicide Resistance	3.5 Extreme Heat	3.6 Tropical Cyclones
	SRC3	S3_1	S3_2	S3_3	S3_4	S3_5	S3_6
Cajuru	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Camargos	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Coronel Domiciano	3.38	4	3.5	No dependency or impact	No dependency or impact	3	2.5
Emborcação	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Ervália	3.38	4	3.5	No dependency or impact	No dependency or impact	3	2.5
Gafanhoto	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Irapé	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Itutinga	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Joasal	2.88	4	3	No dependency or impact	No dependency or impact	2.5	2.5
Machado Mineiro	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Marmelos	2.88	4	3	No dependency or impact	No dependency or impact	2.5	2.5
Martins	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Fog	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Nova Ponte	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Paciência	2.88	4	3	No dependency or impact	No dependency or impact	2.5	2.5
Pai Joaquim	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Paracambi	3	4	3	No dependency or impact	No dependency or impact	3	2.5
Paraúna	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Piau	3.38	4	3.5	No dependency or impact	No dependency or impact	3	2.5
Pipoca	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Poço Fundo	2.88	3	3	No dependency or impact	No dependency or impact	2.5	2.5
Queimado	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Rosal	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Salto Grande	3.38	4	3.5	No dependency or impact	No dependency or impact	3	2.5
Sinceridade	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Sá Carvalho	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Tronqueiras	3.25	4	3.5	No dependency or impact	No dependency or impact	2.5	2.5
Três Marias	2.88	3	3.5	No dependency or impact	No dependency or impact	2.5	2.5

Detailing of Physical Risk values by risk category:

SRC3 – 3. Regulating Services - Mitigating

Indicator 3.2 was the most relevant for this SRC. No impacts or dependencies related to indicators 3.3 and 3.4 were identified. Indicator 3.1 also registered a high level of risk for some assets.

LEGEND

1.0 <= x >= 1.8 Very low risk
1.8 < x >= 2.6 Low risk
2.6 < x >= 3.4 Medium risk
3.4 < x >= 4.2 High risk
4.2 < x >= 5.0 Very high risk

ANALYZED ASSETS	4. Cultural Services	4.1 Tourism Attractiveness
	SRC4	S4_1
Cajuru	No dependency or impact	No dependency or impact
Camargos	No dependency or impact	No dependency or impact
Coronel Domiciano	No dependency or impact	No dependency or impact
Emborcação	No dependency or impact	No dependency or impact
Ervália	No dependency or impact	No dependency or impact
Gafanhoto	No dependency or impact	No dependency or impact
Irapé	No dependency or impact	No dependency or impact
Itutinga	No dependency or impact	No dependency or impact
Joasal	No dependency or impact	No dependency or impact
Machado Mineiro	No dependency or impact	No dependency or impact
Marmelos	No dependency or impact	No dependency or impact
Martins	No dependency or impact	No dependency or impact
Fog	No dependency or impact	No dependency or impact
Nova Ponte	No dependency or impact	No dependency or impact
Paciência	No dependency or impact	No dependency or impact
Pai Joaquim	No dependency or impact	No dependency or impact
Paracambi	No dependency or impact	No dependency or impact
Paraúna	No dependency or impact	No dependency or impact
Piau	No dependency or impact	No dependency or impact
Pipoca	No dependency or impact	No dependency or impact
Poço Fundo	No dependency or impact	No dependency or impact
Queimado	No dependency or impact	No dependency or impact
Rosal	No dependency or impact	No dependency or impact
Salto Grande	No dependency or impact	No dependency or impact
Sinceridade	No dependency or impact	No dependency or impact
Sá Carvalho	No dependency or impact	No dependency or impact
Tronqueiras	No dependency or impact	No dependency or impact
Três Marias	No dependency or impact	No dependency or impact

Detailing of Physical Risk values by risk category:

SRC4 – Cultural Services

No impacts or dependencies were identified for the indicators of this SRC.

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

Classificação: Público

ANALYZED ASSETS	5. Pressures on Biodiversity	5.1 Land, Freshwater and Sea Use Change	5.2 Tree Cover Loss	5.3 Invasives	5.4 Pollution
	SRC5	S5_1	S5_2	S5_3	S5_4
Cajuru	4	4	4	2.5	3.12
Camargos	4.12	4.5	4	2.5	3.12
Coronel Domiciano	3.22	3	3.5	2.5	3.12
Emborcação	3.75	4.5	3.5	2.5	3.12
Ervália	3.5	3.5	3.5	2.5	3.12
Gafanhoto	4	4	4	2.5	3.12
Irapé	4.12	4	4.5	2.5	2.88
Itutinga	4.12	4.5	4	2.5	3.12
Joasal	3.5	3.5	3.5	2.5	3.12
Machado Mineiro	3.94	3.75	4.5	2.5	2.88
Marmelos	3.5	3.5	3.5	2.5	3.12
Martins	3.81	4.75	3.5	2.5	3.12
Fog	3.25	3	4	2.5	2.88
Nova Ponte	3.81	4.75	3.5	2.5	3.12
Paciência	3.5	3.5	3.5	2.5	3.12
Pai Joaquim	4.19	4.75	4	2.5	3.12
Paracambi	3.5	3.5	3.5	2.5	3.12
Paraúna	3.56	3.75	3.5	2.5	2.88
Piau	3.5	3.5	3.5	2.5	3.12
Pipoca	3.25	3	4	2.5	2.88
Poço Fundo	4	4	4	2.5	3.12
Queimado	3.31	4.25	3	2.5	2.88
Rosal	3.31	3.25	3.5	2.5	2.88
Salto Grande	3.28	3.75	2.5	2.5	3.12
Sinceridade	3.25	3	4	2.5	2.88
Sá Carvalho	3.81	3.75	4	2.5	3.12
Tronqueiras	3.56	3.75	3.5	2.5	2.88
Três Marias	3.81	3.75	4	2.5	3.12

Detailing of Physical Risk values by risk category:

SRC5 – Pressures on Biodiversity

Indicator 5.1 was the most relevant for this SRC, followed by indicator 5.2. This SRC had the highest values considering all indicators, among the SRCs of Physical Risk.

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

CEMIG

ANALYZED ASSETS	REPUTATIONAL MEDIUM RISK	REPUTATIONAL HIGH RISK	6. Environmental Factors SRC6	7. Socioeconomic Factors SRC7	8. Additional Reputational Factors SRC8
Cajuru		3.41	3.5	2.88	3.31
Camargos		3.41	3.5	2.88	3.31
Coronel Domiciano		3.66	4	2.88	3.31
Emborcação	3.16		3	2.88	3.31
Ervália		3.41	3.5	2.88	3.31
Gafanhoto		3.41	3.5	2.88	3.31
Irapé	3.16		3	2.88	3.31
Itutinga		3.41	3.5	2.88	3.31
Joasal		3.41	3.5	2.88	3.31
Machado Mineiro	3.28		3.25	2.88	3.31
Marmelos		3.41	3.5	2.88	3.31
Martins	3.16		3	2.88	3.31
Fog		3.59	3.88	2.88	3.31
Nova Ponte	3.16		3	2.88	3.31
Paciência		3.41	3.5	2.88	3.31
Pai Joaquim		3.41	3.5	2.88	3.31
Paracambi		3.66	4	2.88	3.31
Paraúna		3.66	4	2.88	3.31
Piau		3.41	3.5	2.88	3.31
Pipoca		3.59	3.88	2.88	3.31
Poço Fundo		3.41	3.5	2.88	3.31
Queimado		3.41	3.5	2.88	3.31
Rosal		3.47	3.62	2.88	3.31
Salto Grande	3.28		3.25	2.88	3.31
Sinceridade		3.59	3.88	2.88	3.31
Sá Carvalho		3.56	3.5	2.88	3.62
Tronqueiras		3.41	3.5	2.88	3.31
Três Marias	3.16		3	2.88	3.31

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

Classificação: Público

CEMIG

ANALYZED ASSETS	6. Environmental Factors	6.1 Protected/ Conserved Areas	6.2 Key Biodiversity Areas	6.3 Other Important Delineated Areas	6.4 Ecosystem Condition	6.5 Range Rarity
	SRC6	S6_1	S6_2	S6_3	S6_4	S6_5
Cajuru	3.5	3	2.5	3.5	3.12	4
Camargos	3.5	3	2.5	3.5	3	3.5
Coronel Domiciano	4	3	3	3.5	4	4
Emborcação	3	3	2	3.5	2.75	2.5
Ervália	3.5	3	3	3.5	3.5	4
Gafanhoto	3.5	3	2.5	3.5	3.12	4
Irapé	3	2.5	2	3.5	3	3
Itutinga	3.5	3	2.5	3.5	3	3.5
Joasal	3.5	3.5	3	3.5	3.38	4
Machado Mineiro	3.25	2.5	2	3.5	3.25	3
Marmelos	3.5	3.5	3	3.5	3.38	4
Martins	3	3	2	3.5	2.75	3
Fog	3.88	3	3	3.5	3.88	4
Nova Ponte	3	3	2	3.5	2.75	3
Paciência	3.5	3.5	3	3.5	3.38	4
Pai Joaquim	3.5	3	3	3.5	2.75	4
Paracambi	4	4	3	3.5	3.62	4
Paraúna	4	4	3.5	3.5	3	4
Piau	3.5	3	3	3.5	3.5	4
Pipoca	3.88	3	3	3.5	3.88	4
Poço Fundo	3.5	3.5	2	3.5	3.38	3.5
Queimado	3.5	3	3.5	3.5	3	3.5
Rosal	3.62	3	3	3.5	3.62	4
Salto Grande	3.25	2.5	2	3.5	3.25	3
Sinceridade	3.88	3	3	3.5	3.88	4
Sá Carvalho	3.5	3.5	3	3.5	3.25	4
Tronqueiras	3.5	3	2	3.5	3.25	4
Três Marias	3	3	3	3.5	3	3

Details of Reputational Risk values by risk category:

SRC6 – Environmental Factors

SRC 6.3 was the one that contributed most to the final Reputational risk index, with all assets having a High risk in this category.

LEGEND

1.0 <= x >= 1.8	Very low risk
1.8 < x >= 2.6	Low risk
2.6 < x >= 3.4	Medium risk
3.4 < x >= 4.2	High risk
4.2 < x >= 5.0	Very high risk

Classificação: Público

4. PRELIMINARY RESULTS OF REPUTATIONAL RISKS

CEMIG

ANALYZED ASSETS	7. Socioeconomic Factors	7.1 Indigenous Peoples (IPs); Local Communities (LCs) Lands and Territories	7.2 Resource Scarcity: Food - Water - Air	7.3 Labor/Human Rights	7.4 Financial Inequality
	SRC7	S7_1	S7_2	S7_3	S7_4
Cajuru	2.88	NA	2	2.75	3
Camargos	2.88	NA	2	2.75	3
Coronel Domiciano	2.88	NA	2	2.75	3
Emborcação	2.88	NA	2	2.75	3
Ervália	2.88	NA	2	2.75	3
Gafanhoto	2.88	NA	2	2.75	3
Irapé	2.88	NA	2	2.75	3
Itutinga	2.88	NA	2	2.75	3
Joasal	2.88	NA	2	2.75	3
Machado Mineiro	2.88	NA	2	2.75	3
Marmelos	2.88	NA	2	2.75	3
Martins	2.88	NA	2	2.75	3
Fog	2.88	NA	2	2.75	3
Nova Ponte	2.88	NA	2	2.75	3
Paciência	2.88	NA	2	2.75	3
Pai Joaquim	2.88	NA	2	2.75	3
Paracambi	2.88	NA	2	2.75	3
Paraúna	2.88	NA	2	2.75	3
Piau	2.88	NA	2	2.75	3
Pipoca	2.88	NA	2	2.75	3
Poço Fundo	2.88	NA	2	2.75	3
Queimado	2.88	NA	2	2.75	3
Rosal	2.88	NA	2	2.75	3
Salto Grande	2.88	NA	2	2.75	3
Sinceridade	2.88	NA	2	2.75	3
Sá Carvalho	2.88	NA	2	2.75	3
Tronqueiras	2.88	NA	2	2.75	3
Três Marias	2.88	NA	2	2.75	3

Details of Reputational Risk values by risk category:

SRC7 – Socioeconomic Factors

There was no data regarding indicator 7.1. For the other indicators, 7.2 registered as Low risk for all assets and 7.3 and 7.4 as Medium for all assets.

LEGEND

- 1.0 <= x >= 1.8 Very low risk
- 1.8 < x >= 2.6 Low risk
- 2.6 < x >= 3.4 Medium risk
- 3.4 < x >= 4.2 High risk
- 4.2 < x >= 5.0 Very high risk

4. PRELIMINARY RESULTS OF REPUTATIONAL RISKS

ANALYZED ASSETS	8. Additional Reputational Factors	8.1 Media Scrutiny	8.2 Political Situation	8.3 Sites of International Interest	8.4 Risk Preparation
	SRC8	S8_1	S8_2	S8_3	S8_4
Cajuru	3.31	3.5	3.25	2	2.5
Camargos	3.31	3.5	3.25	2	2.5
Coronel Domiciano	3.31	3.5	3.25	2	2.5
Emborcação	3.31	3.5	3.25	2	2.5
Ervália	3.31	3.5	3.25	2	2.5
Gafanhoto	3.31	3.5	3.25	2	2.5
Irapé	3.31	3.5	3.25	2	2.5
Itutinga	3.31	3.5	3.25	2	2.5
Joasal	3.31	3.5	3.25	2	2.5
Machado Mineiro	3.31	3.5	3.25	2	2.5
Marmelos	3.31	3.5	3.25	2	2.5
Martins	3.31	3.5	3.25	2	2.5
Fog	3.31	3.5	3.25	2	2.5
Nova Ponte	3.31	3.5	3.25	2	2.5
Paciência	3.31	3.5	3.25	2	2.5
Pai Joaquim	3.31	3.5	3.25	2	2.5
Paracambi	3.31	3.5	3.25	2	2.5
Paraúna	3.31	3.5	3.25	2	2.5
Piau	3.31	3.5	3.25	2	2.5
Pipoca	3.31	3.5	3.25	2	2.5
Poço Fundo	3.31	3.5	3.25	2	2.5
Queimado	3.31	3.5	3.25	2	2.5
Rosal	3.31	3.5	3.25	2	2.5
Salto Grande	3.31	3.5	3.25	2	2.5
Sinceridade	3.31	3.5	3.25	2	2.5
Sá Carvalho	3.62	3.5	3.25	4	2.5
Tronqueiras	3.31	3.5	3.25	2	2.5
Três Marias	3.31	3.5	3.25	2	2.5

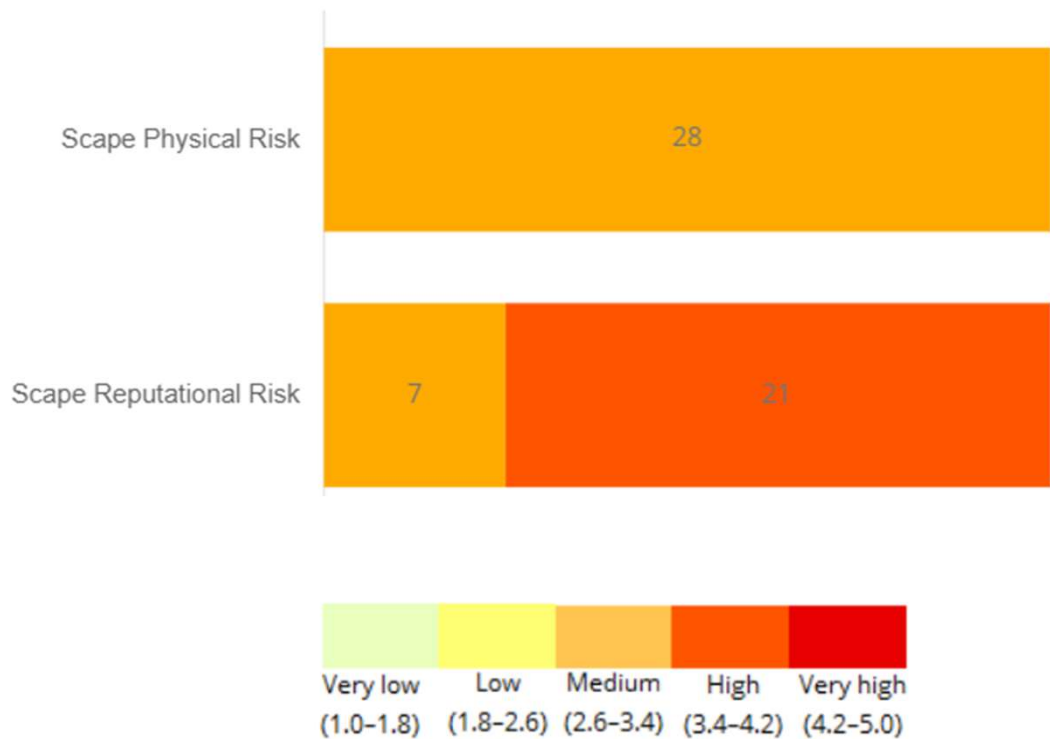Details of Reputational Risk values by risk category:

SRC8 – Additional Reputational Factors

Indicator 8.1 was the one that contributed most to the score of this SRC, since all assets had a High risk. It should be noted that the asset Sá Carvalho, which was the only one that registered a High risk for indicator 8.3. All others had Low risk for the same indicator.

LEGEND

- 1.0 <= x >= 1.8 Very low risk
- 1.8 < x >= 2.6 Low risk
- 2.6 < x >= 3.4 Medium risk
- 3.4 < x >= 4.2 High risk
- 4.2 < x >= 5.0 Very high risk

4. PRELIMINARY RESULTS OF RISKS

Number of Sites by Risk Type

Scape Physical Risk	28
Scape Reputational Risk	7 / 21

Color legend:
| Very low (1.0–1.8)	Low (1.8–2.6)	Medium (2.6–3.4)	High (3.4–4.2)	Very high (4.2–5.0)

A high overall score of **Physical Risk** is driven by a **high dependence on ecosystem services** (risk categories 1–4) OR **high impact pressures on biodiversity** (risk category 5), as well as **compromised ecosystem services** OR **existing high pressures on biodiversity at site locations.**

A high overall score of **Reputational Risk** is driven by a **high impact on environmental assets and socioeconomic conditions** (risk categories 7 to 8) **OR high dependence on additional reputational factors** (risk category 8), in combination with the presence of environmental assets and **poor socioeconomic conditions** OR **aggravating additional factors** of reputation in the localities.

Classificação: Público

Physical Risk vs. Reputational Risk
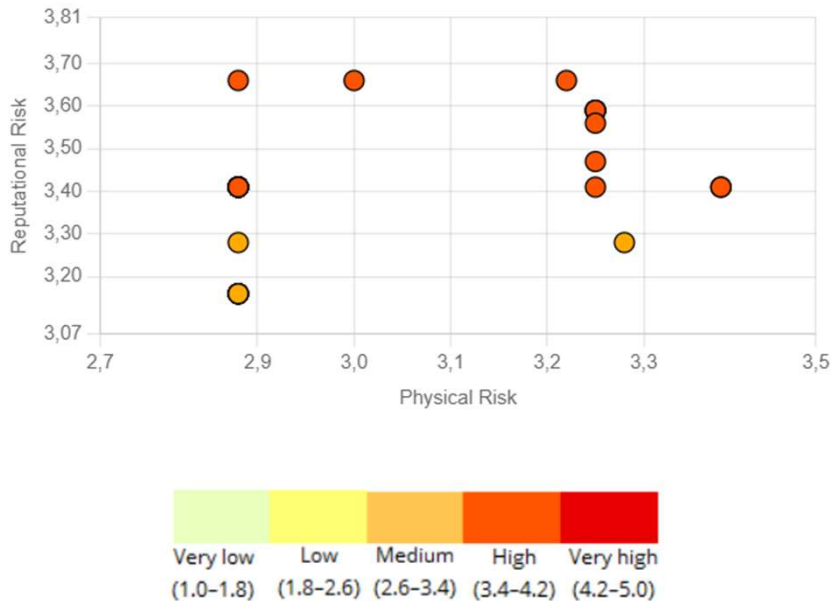
The chart compares physical risk scores to reputational risk scores for all company assets.

It is observed that the majority of assets received a high rating, indicated by the orange color (between 3.4 – 4.2). Some points represent more than one asset (exemplified in the stretch below), as the tool aggregates assets when the result values are the same.

Very low (1.0–1.8)	Low (1.8–2.6)	Medium (2.6–3.4)	High (3.4–4.2)	Very high (4.2–5.0)
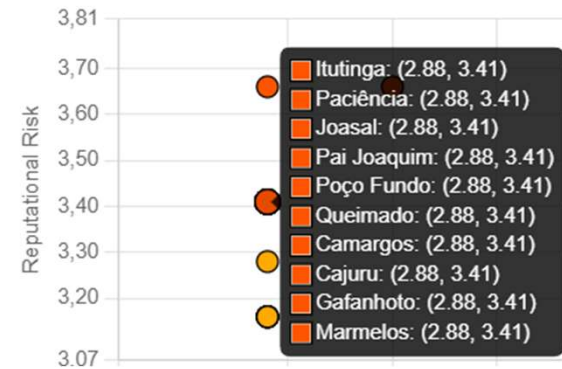
Overall, **Reputational Risks were higher than Physical Risks for all assets**.

This result is demonstrated in SRC results tables presented previously, where it is possible to see, by asset, the indicators that contributed to the Reputational risks being higher than the Physical ones. This information is also summarized in the following graphs.
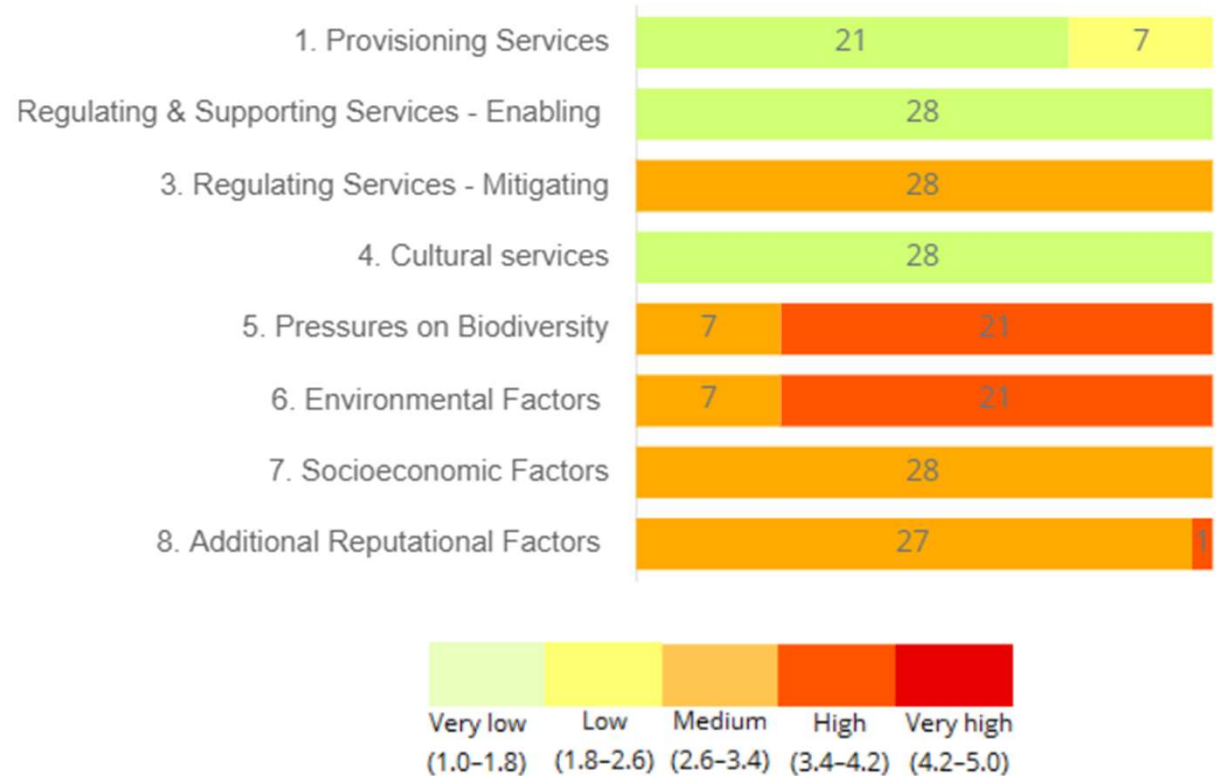
Classificação: Público

PRELIMINARY RESULTS OF RISKS

The graph on the side shows a summary of the distribution of assets in each risk category, and the respective degree of risk.

It was observed that the most relevant degrees of risk were in the categories of **Pressure on Biodiversity – SRC 5 of Physical Risks** (21 assets classified as High and 7 as Medium) and **Environmental Factors – SRC6 of Reputational Risks** (21 assets classified as High and 7 as Medium).

Generally, **Reputational Risks are more material for the organization,** with all assets having medium or high levels for all SRCs of this type of risk.
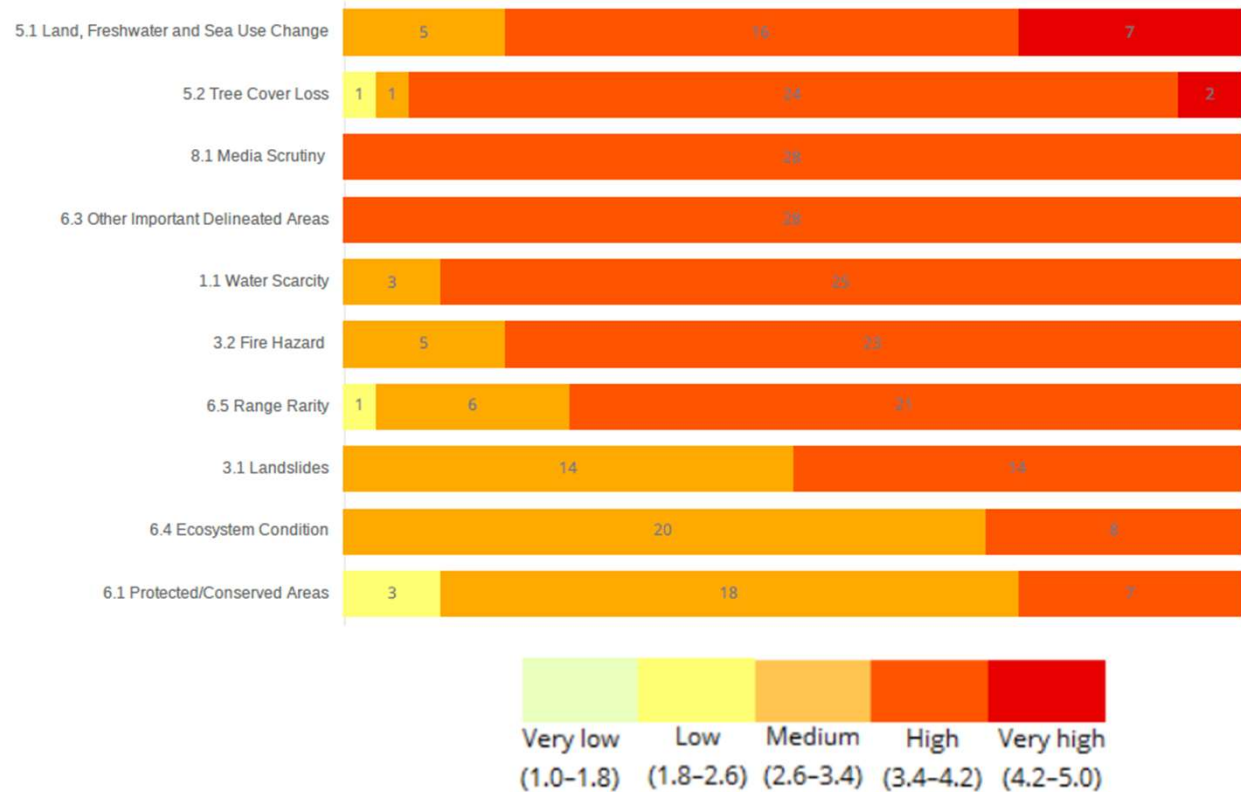
Number of Sites by Risk Category

Category	Value 1	Value 2
1. Provisioning Services	21	7
Regulating & Supporting Services - Enabling	28	
3. Regulating Services - Mitigating	28	
4. Cultural services	28	
5. Pressures on Biodiversity	7	21
6. Environmental Factors	7	21
7. Socioeconomic Factors	28	
8. Additional Reputational Factors	27	1

Very low (1.0–1.8)	Low (1.8–2.6)	Medium (2.6–3.4)	High (3.4–4.2)	Very high (4.2–5.0)

Classificação: Público

The graph on the side shows the distribution of assets among the indicators, and the respective degree of risk. This is a more detailed view than the previous graph, allowing you to understand which indicator within the Physical and Reputational risk categories is most material for the company.

Indicator 5.1, referring to changes in land use patterns and aquatic environments, showed a greater number of assets with a Very High level of risk (7 assets) and 16 assets with a High level.

Indicator 5.2 referring to the loss of tree cover was the only other indicator that recorded a Very High level of risk, but for only 2 assets. However, 24 other assets were classified as High risk for this indicator. Thus, it was still the second most material indicator.
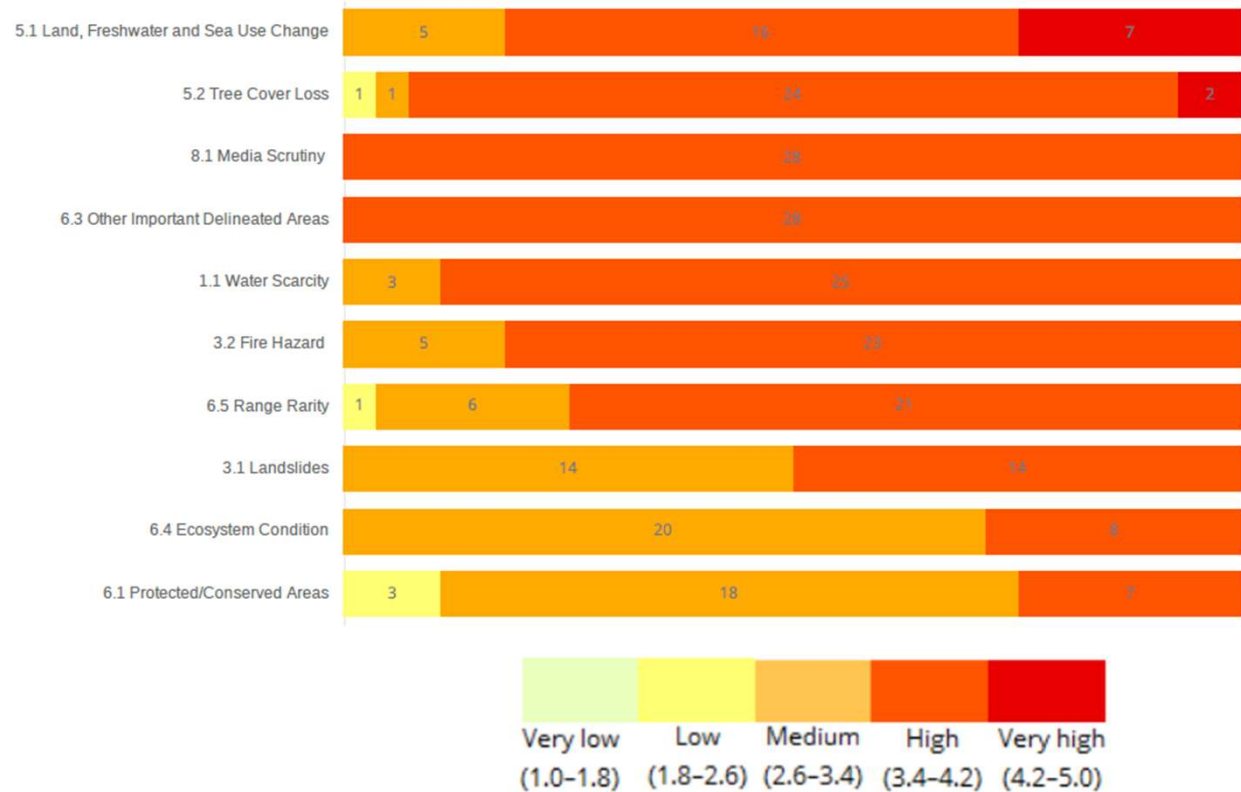
Number of sites by top 10 risk indicators

Indicator		
5.1 Land, Freshwater and Sea Use Change	5 / 16 / 7	
5.2 Tree Cover Loss	1 / 1 / 24 / 2	
8.1 Media Scrutiny	29	
6.3 Other Important Delineated Areas	29	
1.1 Water Scarcity	3 / 25	
3.2 Fire Hazard	5 / 23	
6.5 Range Rarity	1 / 6 / 21	
3.1 Landslides	14 / 14	
6.4 Ecosystem Condition	20 / 8	
6.1 Protected/Conserved Areas	3 / 18 / 7	

Very low (1.0–1.8)	Low (1.8–2.6)	Medium (2.6–3.4)	High (3.4–4.2)	Very high (4.2–5.0)

Classificação: Público

Still on this graph, it is worth highlighting indicator 1.1, classified as the 5th most material, with 25 assets classified as High risk. Although SRC 1 did not contain a compiled risk score greater than Low for any asset (see previous graph), it is important to look at this specific indicator, as it represents a point of attention for the organization, as the lack of water can represent very material consequences for the operation.

### Number of sites by top 10 risk indicators

Indicator			
5.1 Land, Freshwater and Sea Use Change	5	18	7
5.2 Tree Cover Loss	1 / 1	34	2
8.1 Media Scrutiny		28	
6.3 Other Important Delineated Areas		28	
1.1 Water Scarcity	3	25	
3.2 Fire Hazard	5	23	
6.5 Range Rarity	1 / 6	21	
3.1 Landslides	14	14	
6.4 Ecosystem Condition	20	8	
6.1 Protected/Conserved Areas	3	18	7

Very low (1.0–1.8)	Low (1.8–2.6)	Medium (2.6–3.4)	High (3.4–4.2)	Very high (4.2–5.0)

Classificação: Público

The matrix on the side presents the matrix of preliminary risk results demonstrating the value of physical x reputational risk per asset.

Some assets that obtained the same result for some risks were represented at the same point.

The points closest to the upper right quadrant (marked) indicate the assets that had the highest scores for both types of risk, indicating the highest priority.

Matriz de Riscos Físicos x Reputacionais

Classificação: Público
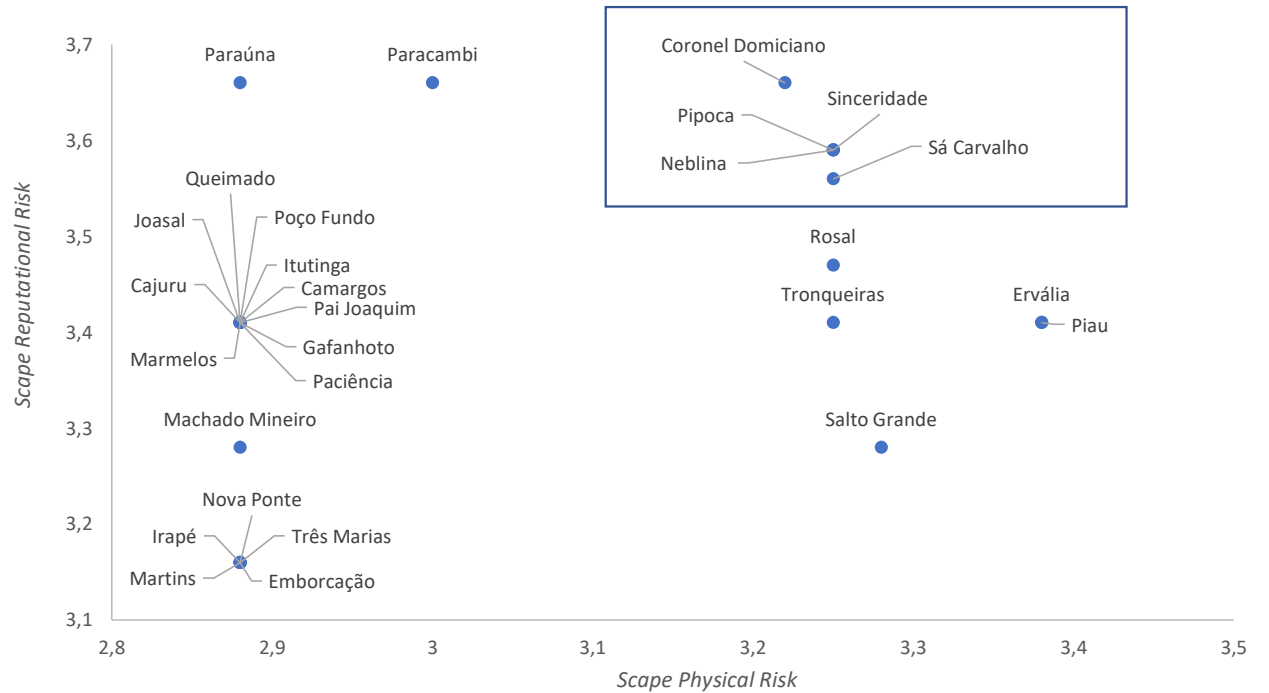
BIODIVERSITY EXPOSURE & ASSESSMENT

Then, Cmig has analysed the risk for all the hydropower (28), with total area 227,866 hectares.

ANALYZED ASSETS	Area (há)
Cajuru	2.096
Camargos	7.609
Cel Domiciano	3
Ervalia	23
Gafanhoto	60
Irape	13.618
Itutinga	177
Joasal	6
Machado Mineiro	2.193
Marmelos	4
Martins	11
Neblina	13
Nova Ponte	44.035
Paciencia	15
Pai Joaquim	26
Paracambi	235
Parauna	96
Piau	23
Pipoca	85
Poco Fundo	271
Queimado	3.839
Rosal	176
Sa Carvalho	101
Salto Grande	624
Sinceridade	12
TCS	47.366
Três Marias	105.100
Tronqueiras	61
	227,866

Exposure

Of the sites assessed, these sites have a significant biodiversity impact, or are in proximity to critical biodiversity

Significant biodiversity impact	Area ha
Cel Domiciano	3
Neblina	13
Pipoca	85
Sa Carvalho	101
Sinceridade	13
Area (ha)	215

All these site have management plan related to the impacts on biodiversity. These plan are related to prevent accident with fish (Peixe Vivo program, flora conservation and water resources)

Management

Cemig manages biodiversity through environmental programs that seek to protect the environmental resources in the vicinity of the undertakings. These programs involve knowledge of the fauna and flora through inventories and monitoring; the interaction of fauna species with fragmented environments and the survival capacity of critical species; raising the awareness of local residents with a view to reducing deforestation and increasing connectivity between fragments; promotion of the environmental recovery of degraded habitats through nucleation techniques and planting of native seedlings; of water quality and associated aquatic organisms.

We are working to achieve, in the long term, a neutral net impact on biodiversity, respecting the principle of no net loss, thus contributing to the Organization's Sustainable Development Goal 15 (Safety of Life on Earth) of the United Nations – UN. We develop programs and studies aimed at preventing and controlling the impacts of invasive non-native species and implementing strategies to compensate for deforestation, aiming to achieve zero net deforestation (no net deforestation), resulting from our activities to expand our energy generation and distribution businesses electric.

We reinforce our commitment to purchase products from suppliers that promote the conservation of natural ecosystems, monitoring suppliers in their supply chain. The Supplier Policy of Cemig, in compliance with the environmental principles of Cemig, has specific guidelines related to pollution prevention and waste management, biodiversity and combating deforestation, in addition to soil conservation. It defines the duty of contracted companies and partners to ensure the adoption of sustainable practices in their activities, ensuring the implementation of measures to mitigate environmental risks and constant monitoring of them. With the purpose of communicating its values and expectations to the supplier market, the Best Suppliers award is promoted annually at Cemig, recognizing and honoring those who remained aligned with the company's strategy, mainly in the development of Sustainability Projects in the Social and Environmental.

Furthermore, the company has an extensive range of partnerships with public and private institutions, with the purpose of developing environmental education programs; protecting flora, wild fauna and water resources, inhibiting hunting and capture of animals, combating deforestation, illegal fishing and clandestine occupations; using environmental risk management tools with the population. We develop initiatives and carry out research, technological development and innovation projects, contributing to the improvement of the environmental performance of activities related to the supply of electric energy, aiming at the conservation of biodiversity.

NEXT STEPS IN IMPLEMENTING TNFD

IN PROGRESS
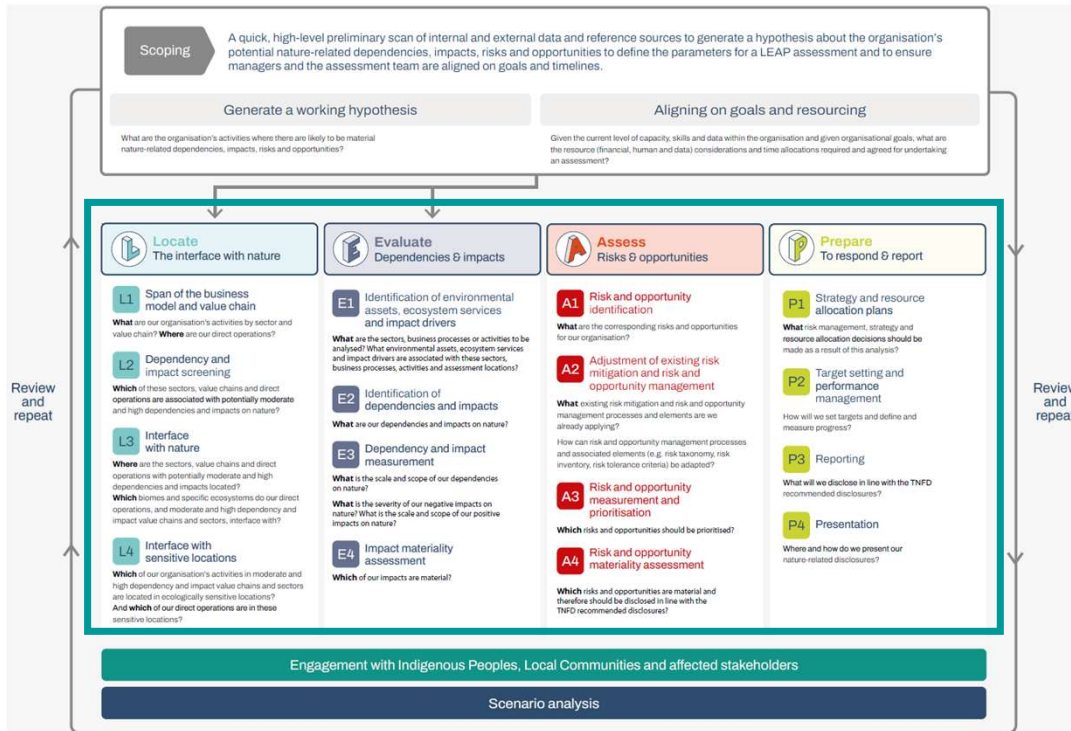
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