REDE D'OR

Climate Risk Scenarios and Matrix

June 2023

Introduction

Climate change caused by increased greenhouse gas (GHG) emissions represents one of the greatest global challenges we face today. They affect the environment, food security, human health, the economy and social justice. Mitigating GHG emissions and adopting adaptation measures are crucial to reducing the impacts of climate change and promoting a sustainable and resilient future.

Climate scenarios play a crucial role in understanding and assessing possible climate change futures. They are hypothetical constructions that represent different trajectories of greenhouse gas (GHG) emissions and other factors that affect the climate, such as physical and socioeconomic changes. Scenarios are important tools for informing policies, assessing impacts, guiding research, and setting climate goals and commitments.

Physical climate scenarios and transitional climate scenarios are two distinct approaches to modeling climate change. The fundamental difference between the two types is in the scope and information considered. While physical climate scenarios focus on physical climate changes in response to GHG emissions, transition climate scenarios also take into account the socioeconomic and political implications of transitioning to a low-carbon economy. Both types of scenarios are important for understanding and addressing climate change comprehensively.

The climate risk matrix based on climate scenarios plays a crucial role in understanding and assessing the risks associated with climate change, providing a systematic framework to identify and analyze the potential impacts of climate change on different sectors, geographic regions and natural systems and allowing the implementation of measures to face the challenges caused by climate change.

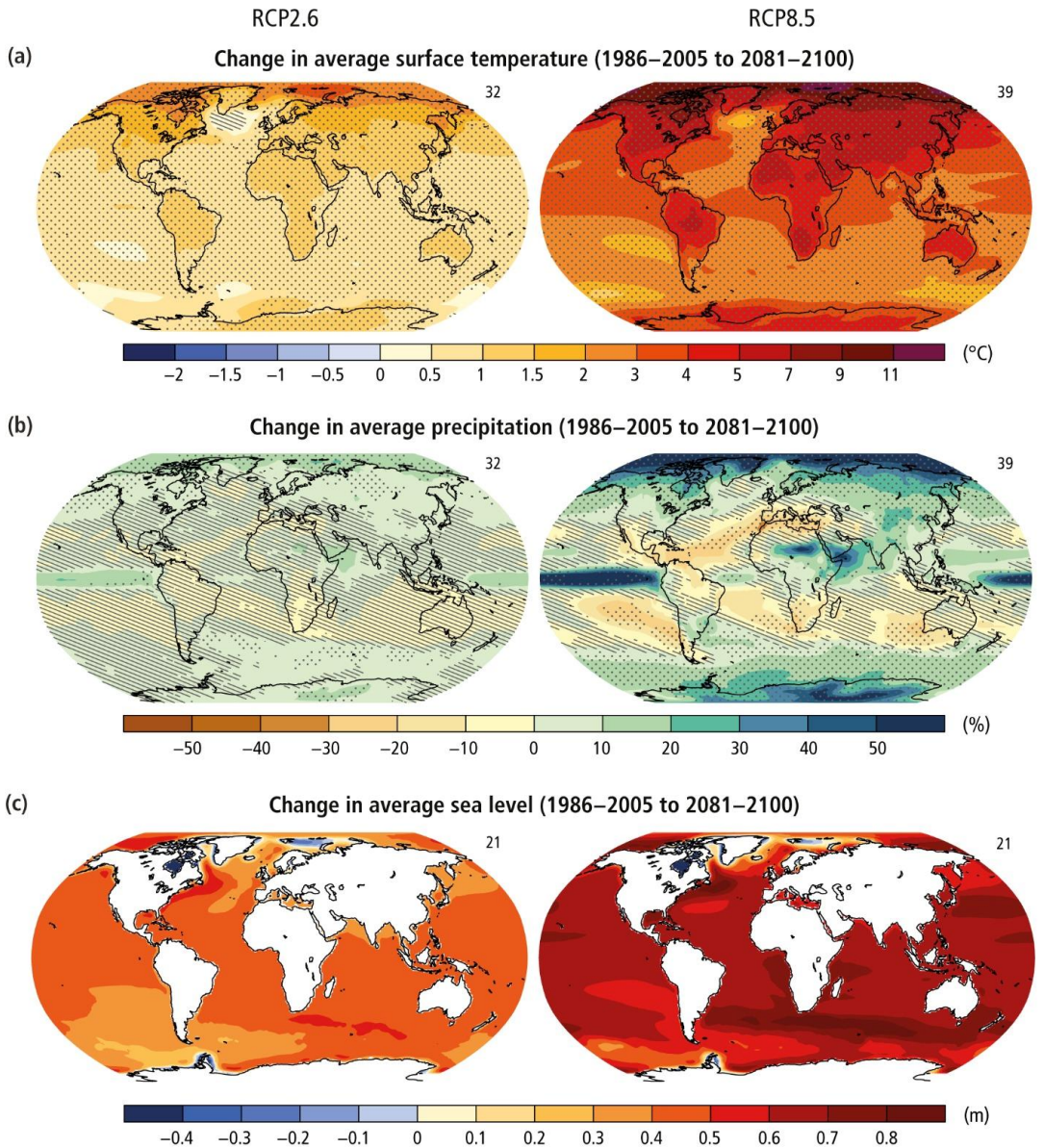
Physical Climate Scenarios

RCP 2.6: This emission path represents scenarios that lead to very low GHG concentration levels.

This is a more optimistic scenario. Its radioactive forcing level, ie the flux of radiation over the earth, first predicts a value of about 3.1 W/m2 by mid-century and then goes to

2.6 W/m2 by 2100. levels of radioactive forcing, GHG emissions are substantially reduced over time.

RCP 8.5: This RCP is a scenario considered pessimistic and is characterized by an increase in GHG emissions over time, representing a scenario that leads to high levels of GHG concentration in the atmosphere.



Physical scenarios: identified impact factors and variables

(RPC 2.6 and RPC 8.5)

	Determined factor for analysis	Reason for analysis
Physical climate factors	**Increase in temperatures / Heat waves**	It is known that, over the last few years, temperatures have already been higher and the trend, according to the scenarios worked, is that they increase even more over the years.
	Precipitation	An increase in evaporation levels and intensification of the hydrological cycle is expected, generated by the greater amount of available energy caused by the increase in temperature.
	Sea level rise	Regarding changes in sea level, research shows that between the years 1850 and 2010 the sea level rose by an average of 24 centimeters. This happens due to the thaw of polar ice caps and continental glaciers, which demonstrates an increasing trend even greater for the coming years if GHG emissions do not reduce.

	Variable determined for analysis	Reason for analysis
Impact variables	**Economical**	Economic consequences for the company in the climate scenarios for each physical climatic factor.
	Infrastructure	Consequences for the infrastructure of the company's units.
	Health Impacts	Harmful consequences of climate change on well-being as well as the appearance/worsening of related diseases.

Physical scenarios: Base-matrix coding

Risk Code = Factor Code-Risk Code.Impact Code (Scenario Code_Region Code)

Factor code	Physical factor
A	Increase in temperatures / Heat waves
B	Precipitation
C	Sea level rise

Impact Code		
E	**I**	**S**
Economical	Infrastructure	Health impacts

Risk Code	Type of risk
RF	Physical risk

Opportunity Code	Type of Opportunity
OPF	Physical scenario opportunity

Scenario code
RCP 2.6
RCP 8.5

Region code	Region
RC	Rainy region
RS	Dry region

	RF/OPF	Impact variables		
		E	**I**	**S**
Physical climatic factors	**A**	A-RF/ OPF.E (Scenario Code_Region Code)	A-RF/ OPF.I (Scenario Code_Region Code)	A-RF/ OPF.S (Scenario Code_Region Code)
	B	B-RF/ OPF.E (Scenario Code_Region Code)	B-RF/ OPF.I (Scenario Code_Region Code)	B-RF/ OPF.S (Scenario Code_Region Code)
	C	C-RF/ OPF.E (Scenario Code_Region Code)	C-RF/ OPF.I (Scenario Code_Region Code)	C-RF/ OPF.S (Scenario Code_Region Code)

Physical scenarios Rede D'Or: base-matrix

		Risks (threats)			Opportunities		
		Impact variables					
		Economical (E)	Infrastructure (I)	Health impacts (S)	Economical (E)	Infrastructure (I)	Health impacts (S)
Physical climatic factors	**Increase in temperatures / Heat waves (A)**	**A-RF.E**: Removal of employees due to health problems; increased energy demand for refrigeration; Higher expenses with maintenance and refills of refrigerant equipment)	**A-RF.I:** Electrical overload in equipment; Overloading of electrical systems	**A-RF.S:** Favoring vector reproduction; Increased demand for care due to higher incidence of respiratory, cardiovascular and renal diseases; Loss of patients from the region (climate refugees)	**A-OPF.E:** Training of employees to operate in adverse weather conditions; Acquisition of own generators*; Investments and savings by water and energy efficiency	**A-OPF.I:** Investment and savings in energy and water efficiency projects	**A-OPF.S:** Offer of new services for patients with diseases caused by vectors; expansion of beds for the care of patients with respiratory, cardiovascular and renal diseases; Receiving patients from other regions (climate refugees)
	Precipitation (B)	**B-RF.E:** Increase in electricity tariffs; Increased costs in the supply chain*; Contracting of alternative sources of water; Operational paralyzing by blocking accesses; Commitment of electricity supply; loss of patients from the region (climate refugees)	**B-RF.I:** Flooding damage; Blocking of accesses; Interruption of the electricity supply.	**B-RF.S:** Favoring vector reproduction; Increased demand for care due to higher incidence of zoonoses; Prohibitions in access to health units; Loss of patients from the region (climate refugees	**B-OPF.E:** Investments in self- electricity generation; Expansion of the vendor list of suppliers*; Training of employees to operate in adverse weather conditions; Acquisition of own generators; Investments and savings for water and energy efficiency;	**B-OPF.I:** Adapting infrastructure to become more resilient to acute weather events; Training of employees to operate in adverse weather conditions (case of access blockages); Acquisition of own generators*	**B-OPF.S:** Offer of new services for patients with diseases caused by vectors; expansion of beds for the care of patients with respiratory, cardiovascular and renal diseases; Training for care teams in hospitals; Receiving patients from other regions (climate refugees)
	Sea level rise (C)	**C-RF.E:** Operational paralization by blocking access.	**C-RF.I:** Flooding damage; Blocking access	**C-RF.S:** Prohibitions in access to health units; Loss of patients from the region (climate refugees	**C-OPF.E:** Receiving patients from other regions (climate refugees)	**C-OPF.I:** Adapting infrastructure to become more resilient to acute weather events;	**C-OPF.S:** Receiving patients from other regions (climate refugees); Training for care teams in hospitals;

**We are studying how to measure the financial impact*

Physical scenarios: impact criteria, possibility of occurrence and level of criticality for climate scenarios

Level of consequence (impact)				
Classification		**A** – Quantitative finance (R$)	**B** – Image	**C** – Life
Grade 1	Low	Based on specific financial modeling for climate risks and opportunities, according to scenarios.	Company regions are ranked in descending order of image impact for the Company.	The Company's units are ranked in descending order of image impact for the Company.
Grade 2	Medium			
Grade 3	High			
Grade 4	Critical			

Possibility of occurrence (probability)		
Classification		**Possibility of occurrence**
Grade 1	Unlikely	Defined according to the literature for the scenarios of physical risks and energy transition risks.
Grade 2	Possible	
Grade 3	Likely	
Grade 4	Almost certain	

	Possibility of occurrence (probability)			
Level of consequence (impact)	**Unlikely**	**Possible**	**Likely**	**Almost certain**
Critical	medium	high	critical	critical
High	medium	high	high	critical
Medium	low	medium	high	high
Low	low	low	medium	medium

Layout based on literature, with structure of the corporate matrix

Criticality level (low, medium, high, critical) =

consequence level
X
possibility of occurrence

Energy Transition Climate Scenarios

In addition to physical scenarios, there are also energy transition scenarios. The energy transition comprises a set of technological, economic, political and social changes. One of the main references within energy transition scenarios is Net-Zero by 2050 (NZE 2050) by the International Energy Agency (IEA), which discusses the main strategies to ensure a path compatible with climate goals by 2050 NZE 2050 includes the first detailed IEA modeling of what it would take over the next ten years to put global CO2e emissions on track to net zero by 2050. This scenario works with an 8% drop in energy demand even with a two-year economy times bigger. The difference is the result of changes in behavior, efficiency gains, electrification and a massive insertion of renewables, which will account for 67% of the global energy matrix in 2050. According to this scenario, it is possible to reach net zero emissions by 2050. NZE 2050 projects that 50% of the emission reductions needed to achieve net zero emissions climate targets in 2050 will come from technologies still under development. In addition, this scenario also meets the main Sustainable Development Goals (SDGs) of the United Nations related to energy.

A second transition scenario is the Stated Policies Scenario (STEPS), this scenario is considered more pessimistic because it has a more conservative reference for the future, not considering that governments will achieve all announced goals. STEPS is based on current policies and assumes that world primary energy demand will grow at a rate of 0.8% per year through 2040, with oil and natural gas meeting 54% of global needs by 2030 and 53% by 2040.

Transition scenarios: identified impact factors and variables

(NZE 2050 and STEPS)

	Factor determined for analysis	Reason for analysis
Transition factors	**Energy demand (electricity)**	Global energy demand in 2050 would be around 8% less than today.
	Consumption of fossil fuels	Fossil fuel prices changed by supply and demand.
	Use of nitrous oxide in anesthesia	Widely consumed resource in hospital units due to anesthesia, being one of the main sources of greenhouse gas emissions, with high representativeness in Scope 1.

	Variable determined for analysis	Reason for analysis
Transition impact variables	**Economical**	Economic consequences for the company in climate scenarios for each transition factor
	Image	Stakeholder pressure for the company's position on climate change for each transition factor
	Political /Legal	Legal obligations for each transition factor

Transition scenarios: Base-matrix coding

Risk Code = Factor Code-Risk Code.Impact Code (Scenario Code)

Factor code	Transition factor
A	Energy demand (electricity)
B	Consumption of fossil fuels
C	Use of nitrous oxide in anesthesia

Risk Code	Type of risk
RT	Transition risk

Opportunity code	Type of opportunity
OPT	Transition scenario opportunity

Impact code		
E	**I**	**P**
Economical	Image	Policital/Legal

Scenario code
(NZE-2050)
(STEPS)

	RT/OPT	Impact variables		
		E	**I**	**P**
Transition factors	**A**	A-RT/ OPT.E (Scenario Code)	A-RT/ OPT.I (Scenario Code)	A-RT/ OPT.P (Scenario Code)
	B	B-RT/ OPT.E (Scenario Code)	B-RT/ OPT.I (Scenario Code)	B-RT/ OPT.P (Scenario Code)
	C	C-RT/ OPT.E (Scenario Code)	C-RT/ OPT.I (Scenario Code)	C-RT/ OPT.P (Scenario Code)

Transition scenarios Rede D'Or: base-matrix

		Risks (threats)			Opportunities		
		Impact variables					
		Economical (E)	Image (I)	Political /Legal (P)	Economical (E)	Image (I)	Political /Legal (P)
Transition Factors	**Energy demand (electricity) (A)**	**A-RT.E**: Reduction (for optimistic scenario) or increase (for pessimistic scenario) of energy demand, having impacts on energy values	**A-RT.I:** Perception of energy insecurity for customer service*	**A-RT.P:** Future possibilities for legislation requiring energy efficiency projects	**A-OPT.E:** Adherence to the MLE (Free Energy Market): reduction of the value of the bill for incentivized energy vs. captive energy	**A-OPT.I:** Disclosure of efficiency projects, implemented and being developed, and goals*	**A-OPT.P:** Savings by energy efficiency projects
	Consumption of fossil fuels (B)	**B-RT.E:** Reduction (for optimistic scenario) and increase – following the current trend (for pessimistic scenario) of fossil fuel consumption, having an impact on its value	**B-RT.I:** Perception of lack of engagement of the company with the reduction of fossil fuel consumption*;	**B-RT.P:** Future possibilities of legislation requiring the total or partial purchase of renewable or clean energy	**B-OPT.E:** Investments in renewable or clean energy, self-production or distributed generation	**B-OPT.I:** Disclosure that a portion (or that total) of the energy purchase comes from renewable or clean energy*	**B-OPT.P:** Additional investment by replacing fossil fuels with biofuels (BRL) in the year
	Use of nitrous oxide in anesthesia (C)	**C-RT.E:** Continuous N2O consumption	**C-RT.I:** Research delay and reduction of N2O-associated emissions*	**C-RT.P:** Possibility of legal requirements to reduce emissions in accordance with Sectoral Mitigation Plans	**C-OPT.E:** Total annual reduction of N2O expenses	**C-OPT.I:** Disclosure of non-use and reduction of GHG (N2O) emissions*	**C-OPT.P:** Average cost savings per carbon tax on N2O emissions (Sweden benchmarking)

**We are studying how to measure the financial impact*

Transition scenarios: impact criteria, possibility of occurrence and level of criticality for climate scenarios

Level of consequence (impact)				
Classification		**A** – Quantitative finance (R$)	**B** - Image	**C** – Life
Grade 1	Low	Based on specific financial modeling for climate risks and opportunities, according to scenarios.	Company regions are ranked in descending order of image impact for the Company.	The Company's units are ranked in descending order of image impact for the Company.
Grade 2	Medium			
Grade 3	High			

Possibility of occurrence (probability)		
Classification		**Possibility of occurrence**
Grade 1	Unlikely	Defined according to the literature for the scenarios of physical risks and energy transition risks.
Grade 2	Possible	
Grade 3	Likely	

	Possibility of occurrence (probability)		
Level of consequence (impact)	**Unlikely**	**Possible**	**Likely**
High	medium	high	critical
Medium	low	medium	high
Low	low	low	medium

Criticality level (low, medium, high, critical) =

consequence level
X
possibility of occurrence

Layout based on literature, with structure of the corporate matrix


Climate Risk
Management

Processes for climate risk management

The risk assessment process of the company and its subsidiaries is set out in the description of the Rede D'Or Risk Policy (PT-BR/ENG versions), and is structured through the following steps:

(i) Risks identification*;

(ii) Risks analysis and assessment*;

(iii) Risks treatment;

(iv) Monitoring and critical analysis of risks; and

(v) Registration and reporting to interested parties (stakeholders).

The company analyzes and evaluates the identified risks, classifying them in quadrants linked to the level of criticality in a Risk Matrix. Once the risk factors have been identified and/or reviewed, the Risks and Internal Controls Department analyzes the probability of occurrence and the impact of the risk assessed for each Unit of the company and allocates said risks in the quadrant referring to their degree of risk in a Risk Matrix (low, medium, high and critical).

In this first moment of maturity of the company's climate risk management in which we have prepared a matrix of risks and opportunities based on climate scenarios, the study presented here focused on steps (i) and (ii).

Processes for climate risk management

- **Regarding analyzed physical climate scenarios:** **RCP 2.6** (low emissions) and **RCP 8.5** (high emissions). For each of these scenarios, the hospital units of Rede D'Or were analyzed **separated into rainy regions (Southeast and South) and dry regions (Midwest and Northeast),** with these geographical criteria determined based on the literature. For these scenarios **4x4 matrices** were prepared aligned to corporate matrix;

- **Regarding analyzed energy transition climate scenarios:** **NZE-2050** (optimistic scenario and **STEPS** (pessimistic scenario). For each of these scenarios, hospital units were analyzed in a consolidated manner, without separation by region **(entire Brazil).** Unlike the physical scenarios, **3x3 matrices** were elaborated for these scenarios, as they are scenarios of greater uncertainty in relation to the complex dynamics of socioeconomic systems and interactions between different variables;

- **Climatic factors and impact variables of physical and transition scenarios:** In order to identify the **factors that are most aligned to the reality of Rede D'Or's business**, an extensive study was carried out in the literature and internal studies, covering the **TCFD guidelines** which are laid out in the Sustainability Report, both for *physical climate risks* and *transitional climate risks*.

Processes for climate risk management

- **Identification of climate risks and opportunities for physical and transition scenarios**: based on the studies regarding the **establishment of climate impact factors and variables for each scenario**, and considering the **TCFD reccomendations (see below)**, the risks were **qualitatively** identified and the respective climate opportunities based on the Company's internal documents, internal technical assessment of the company's business perception, as well as external technical assessment by a consultancy specializing in the subject..

- **Types of climate-related risks included in the risk assessment:**

a) Regulations in force;
b) Emerging regulations;
c) Technology Risk;
d) Legal Risk;
e) Market Risk;
f) Reputational Risk;
g) Acute Physical Risk;
h) Chronic Physical Risk.

- **Valuen Chain covered:**

a) Own operations only.

- **Time horizon(s) covered by the climate risk assessment:**

a) Short term;
b) Medium term;
c) Long term.

Processes for climate risk management

- **Prioritization of risks and opportunities for physical and transition scenarios:** with the risks and opportunities identified, **the prioritization of them was based on risk/opportunity matrices for each evaluated scenario**, which is a tool adopted in corporate risk management. This matrix was created with axes of **impact (Y axis)** and **probability (X axis),** que foram which were named according to the literature as “consequence level” and “possibility of occurrence”, respectively. The intersection of these axes results in **criticality** in order to prioritizing risks and opportunities. We emphasize that **matrices for the physical scenarios of each region analyzed in the respective scenario (rainy and dry regions)**, and **matrices for transition scenarios for the company as a whole (Brazil)**. For both the matrices of physical and transition scenarios, it was possible to elaborate **consolidated matrices**.

Climate risk/opportunity matrix	**Possibility of occurrence (probability)**			
Level of consequence (impact)				

Layout of the analyzed literature, with structure of the corporate matrix | For opportunity matrices, the colors and nomenclatures of criticality are reversed, as well as the probability axis.

Processes for climate risk management

- **Qualitative and quantitative assessment of the level of consequence (impact):** n line with corporate risk management, **three of the four corporate criteria** were considered: ‘(i) financial’; ‘(ii) life’; and ‘(iii) image’. The (iv) licencing impact does not apply to this analysis. These impacts were distributed in levels; for matrices of physical scenarios, there are impact levels from 1 to 4; for transition scenarios, levels from 1 to 3. The financial impact was obtained quantitatively and monetarily (BRL) in financial modeling*, while the impacts on life and image were the same adopted and obtained quantitatively and qualitatively by corporate risk management , adapting them to the levels of region and Brazil. For purposes of simplifying the matrix, the final impact adopted is the result of the sum of these impacts..

Financial modeling of risks and opportunities:

The financial impact was quantitatively estimated (BRL); this process was carried out from the crossing of unit and quantitative costs, in which internal indicators were used considering specific characteristics of the evaluated region, such as price and number of hospitals in the region. For unit costs, where it was not possible to adopt internal references, benchmarking, public references and market references were used. Therefore, it is important to highlight that the costs were estimated and, when necessary, extrapolated..

The definition of risks in monetary values is complex due to the number of factors and uncertainties about the markets involved. In view of this, this impact assessment methodology was simplified, therefore, the mitigation actions adopted by the company were disregarded, and the measurement was carried out without the interposition of factors.

For this specific estimate, a time horizon of one (1) year was adopted and, although some impact is subject to more than one risk factor, it was attributed to only one factor.

Processes for climate risk management

- **Qualitative and quantitative evaluation of the possibility of occurrence (probability)**: he probabilities of the physical and transition scenarios were obtained through **literature definitions**, these possibilities being “outside-in”; **specifically on the probability of transition scenarios**, as they are more distant and uncertain, another criterion was also considered as an additional weight, which considers the vision of the company's businesses, that is, possibilities from the “inside out”. For matrices of physical scenarios, there are levels of possibility from 1 to 4; for transition scenarios, levels 1 to 3..

- **Integration of the identification, assessment and management of climate risks with the corporate risk management of Rede D'Or**: the modeling of climate risk management is **a specific process of climate change risk management, that is, a documented process that considers separate climate change risks and opportunities from other business risks and opportunities**. However, as it is a thematic that is already considered as a corporate risk at Rede D'Or, as well as a material sustainability theme, it is the result of the unfolding of an **already structured process integrated with multidisciplinary risk management processes throughout the company** in which risks and opportunities from climate change are integrated into the company's centralized enterprise risk management program.

*The risk matrix is a tool used by Rede D'Or, and is based on two main criteria to determine its relevance: the **impact** and the **probability** ((possibility of occurrence) of the organization in relation to the risk. The identification and mapping of climate risks with the preparation of the respective matrix was based on the corporate risk management procedure. There are five (5) stages in corporate risk management, according to Rede D'Or Risks Policy (PT-BR/ENG versions), and the present study covers the first two stages: (i) risk identification and (ii) risk analysis and assessment.*

Integration of the identification, assessment and management of climate risks with the Rede D'Or corporate risk management

Corporate risk management steps

(i) Risks identification → **(ii)** Risks analisys and assessment → **(iii)** Risks treatments → **(iv)** Risk monitoring and critical analysis → **(v)** Registration and reporting to interested parties (stakeholders)

Climate risk management steps

(i) Identification of climate risks/opportunities:

a) Determination of climatic factors;

b) Determination of climate impact variables;

c) Qualitative identification of climate risks;

d) Combination of qualitative and quantitative classifications in a risk matrix

→

(ii) Analysis and assessment of climate risks/opportunities:

a) Classification of risks in quadrants linked to the level of criticality for prioritization;

b) Impact Analysis: based on corporate criteria;

c) robability analysis: climate assessments based on scenarios, and view from the perspective of business impacts

(iii) Treatment of climate risks and (iv) Risk monitoring and critical analysis:

a) Prioritization of matrix risks;

b) Carbon emissions KPIs, metrics and targets;

c) Corporate risk mitigation instruments;

b) Corporate Greenhouse Gas Emissions Management Program;

c) Physical climate risks plan

d) Action plans;

e) Training;

→

(v) Registration and reporting to interested parties (stakeholders):

a) Emission inventories (RPE - Public Registry of Emissions/FGV);

b) TCFD reports;

c) CDP questionnaires;

d) Sustainability Reports;

e) Various stakeholder questionnaires and sustainability indices;

f) Websites and corporate social media.

g) Among others.

Consolidated results

Physical scenarios: Base-matrix coding

Risk Code = Factor Code-Risk Code.Impact Code (Scenario Code_Region Code)

Factor code	Physical factor
A	Increase in temperatures / Heat waves
B	Precipitation
C	Sea level rise

Impact Code		
E	**I**	**S**
Economical	Infrastructure	Health impacts

Risk Code	Type of risk
RF	Physical risk

Opportunity Code	Type of Opportunity
OPF	Physical scenario opportunity

Scenario code
RCP 2.6
RCP 8.5

Region code	Region
RC	Rainy region
RS	Dry region

	RF/OPF	Impact variables		
		E	**I**	**S**
Physical climatic factors	**A**	A-RF/ OPF.E (Scenario Code_Region Code)	A-RF/ OPF.I (Scenario Code_Region Code)	A-RF/ OPF.S (Scenario Code_Region Code)
	B	B-RF/ OPF.E (Scenario Code_Region Code)	B-RF/ OPF.I (Scenario Code_Region Code)	B-RF/ OPF.S (Scenario Code_Region Code)
	C	C-RF/ OPF.E (Scenario Code_Region Code)	C-RF/ OPF.I (Scenario Code_Region Code)	C-RF/ OPF.S (Scenario Code_Region Code)

Physical scenarios: consolidated results

Matrix of risks and opportunities (**RPC 2.6 | RPC 8.5 scenarios**)

Rainy and dry regions

Matrix approved by the Board of Directors of the Risks and Internal Controls Department

	Risks (threats)				Opportunities			
	Unlikely	Possible	Likely	Almost certain	Higher prioritization	High priority	Medium prioritization	Low priority
Critical		B-RF.I (RCP 2.6_RS)	B-RF.I (RCP 2.6_RC) B-RF.I (RCP 8.5_RS) C-RF.I (RCP 2.6_RC) C-RF.I (RCP 2.6_RS)	B-RF.I (RCP 8.5_RC) C-RF.I (RCP 8.5_RC) C-RF.I (RCP 8.5_RS)	B-OPF.I (RCP 8.5_RC) C-OPF.I (RCP 8.5_RC) C-OPF.I (RCP 8.5_RS)	A-OPF.S (RCP 8.5_RS) C-OPF.E (RCP 8.5_RS) C-OPF.S (RCP 8.5_RS) B-OPF.I (RCP 2.6_RC) B-OPF.I (RCP 8.5_RS) C-OPF.I (RCP 2.6_RC) C-OPF.I (RCP 2.6_RS) B-OPF.I (RCP 2.6_RS)	C-OPF.S (RCP 8.5_RC) C-OPF.E (RCP 8.5_RC) B-OPF.S (RCP 8.5_RC) B-OPF.E (RCP 8.5_RC) A-OPF.I (RCP 8.5_RC) A-OPF.S (RCP 8.5_RC) A-OPF.I (RCP 8.5_RS) A-OPF.E (RCP 8.5_RC) A-OPF.E (RCP 8.5_RS) A-OPF.S (RCP 2.6_RS) B-OPF.E (RCP 8.5_RS) B-OPF.S (RCP 8.5_RS) C-OPF.E (RCP 2.6_RS) C-OPF.S (RCP 2.6_RS) A-OPF.E (RCP 2.6_RC) A-OPF.E (RCP 2.6_RS) A-OPF.I (RCP 2.6_RC) A-OPF.I (RCP 2.6_RS) A-OPF.S (RCP 2.6_RC) B-OPF.E (RCP 2.6_RC) B-OPF.S (RCP 2.6_RC) C-OPF.E (RCP 2.6_RC) C-OPF.S (RCP 2.6_RC) B-OPF.E (RCP 2.6_RS) B-OPF.S (RCP 2.6_RS)	
High		B-RF.S (RCP 2.6_RS) B-RF.E (RCP 2.6_RS)	A-RF.I (RCP 2.6_RS) A-RF.I (RCP 2.6_RC) B-RF.E (RCP 2.6_RC) B-RF.S (RCP 2.6_RC) B-RF.E (RCP 8.5_RS) B-RF.S (RCP 8.5_RS) C-RF.E (RCP 2.6_RC) C-RF.E (RCP 2.6_RS) C-RF.S (RCP 2.6_RC) C-RF.S (RCP 2.6_RS)	A-RF.I (RCP 8.5_RS) A-RF.I (RCP 8.5_RC) B-RF.E (RCP 8.5_RC) B-RF.S (RCP 8.5_RC) C-RF.E (RCP 8.5_RC) C-RF.S (RCP 8.5_RC) C-RF.E (RCP 8.5_RS) C-RF.S (RCP 8.5_RS)				
Medium			A-RF.S (RCP 2.6_RC) A-RF.S (RCP 2.6_RS)	A-RF.S (RCP 8.5_RC) A-RF.S (RCP 8.5_RS)				
Low			A-RF.E (RCP 2.6_RC) A-RF.E (RCP 2.6_RS)	A-RF.E (RCP 8.5_RC) A-RF.E (RCP 8.5_RS)				

Physical scenarios: consolidated results

Heatmap of Risks and Opportunities (**RPC 2.6 | RPC 8.5 scenarios**)

Rainy and dry regions

Matrix approved by the Board of Directors of the Risks and Internal Controls Department

			Risks (threats)			Opportunities		
			Economical (E)	Infrastructure (I)	Health impacts (S)	Economical (E)	Infrastructure (I)	Health impacts (S)
RCP 2.6	Dry regions	Increase in temperatures / Heat waves (A)	A-RF.E (RCP 2.6_RS)	A-RF.I (RCP 2.6_RS)	A-RF.S (RCP 2.6_RS)	A-OPF.E (RCP 2.6_RS)	A-OPF.I (RCP 2.6_RS)	A-OPF.S (RCP 2.6_RS)
	Rainy regions		A-RF.E (RCP 2.6_RC)	A-RF.I (RCP 2.6_RC)	A-RF.S (RCP 2.6_RC)	A-OPF.E (RCP 2.6_RC)	A-OPF.I (RCP 2.6_RC)	A-OPF.S (RCP 2.6_RC)
	Dry regions	Precipitation (B)	B-RF.E (RCP 2.6_RS)	B-RF.I (RCP 2.6_RS)	B-RF.S (RCP 2.6_RS)	B-OPF.E (RCP 2.6_RS)	B-OPF.I (RCP 2.6_RS)	B-OPF.S (RCP 2.6_RS)
	Rainy regions		B-RF.E (RCP 2.6_RC)	B-RF.I (RCP 2.6_RC)	B-RF.S (RCP 2.6_RC)	B-OPF.E (RCP 2.6_RC)	B-OPF.I (RCP 2.6_RC)	B-OPF.S (RCP 2.6_RC)
	Dry regions	Sea level rise (C)	C-RF.E (RCP 2.6_RS)	C-RF.I (RCP 2.6_RS)	C-RF.S (RCP 2.6_RS)	C-OPF.E (RCP 2.6_RS)	C-OPF.I (RCP 2.6_RS)	C-OPF.S (RCP 2.6_RS)
	Rainy regions		C-RF.E (RCP 2.6_RC)	C-RF.I (RCP 2.6_RC)	C-RF.S (RCP 2.6_RC)	C-OPF.E (RCP 2.6_RC)	C-OPF.I (RCP 2.6_RC)	C-OPF.S (RCP 2.6_RC)
RCP 8.5	Dry regions	Increase in temperatures / Heat waves (A)	A-RF.E (RCP 8.5_RS)	A-RF.I (RCP 8.5_RS)	A-RF.S (RCP 8.5_RS)	A-OPF.E (RCP 8.5_RS)	A-OPF.I (RCP 8.5_RS)	A-OPF.S (RCP 8.5_RS)
	Rainy regions		A-RF.E (RCP 8.5_RC)	A-RF.I (RCP 8.5_RC)	A-RF.S (RCP 8.5_RC)	A-OPF.E (RCP 8.5_RC)	A-OPF.I (RCP 8.5_RC)	A-OPF.S (RCP 8.5_RC)
	Dry regions	Precipitation (B)	B-RF.E (RCP 8.5_RS)	B-RF.I (RCP 8.5_RS)	B-RF.S (RCP 8.5_RS)	B-OPF.E (RCP 8.5_RS)	B-OPF.I (RCP 8.5_RS)	B-OPF.S (RCP 8.5_RS)
	Rainy regions		B-RF.E (RCP 8.5_RC)	B-RF.I (RCP 8.5_RC)	B-RF.S (RCP 8.5_RC)	B-OPF.E (RCP 8.5_RC)	B-OPF.I (RCP 8.5_RC)	B-OPF.S (RCP 8.5_RC)
	Dry regions	Sea level rise (C)	C-RF.E (RCP 8.5_RS)	C-RF.I (RCP 8.5_RS)	C-RF.S (RCP 8.5_RS)	C-OPF.E (RCP 8.5_RS)	C-OPF.I (RCP 8.5_RS)	C-OPF.S (RCP 8.5_RS)
	Rainy regions		C-RF.E (RCP 8.5_RC)	C-RF.I (RCP 8.5_RC)	C-RF.S (RCP 8.5_RC)	C-OPF.E (RCP 8.5_RC)	C-OPF.I (RCP 8.5_RC)	C-OPF.S (RCP 8.5_RC)

Critical | High | Medium | Low

Higher prioritization | High priority | Medium priority | Low priority

Conclusions – physical scenarios

Physical scenarios:

The **physical risk matrices** presented medium, high and critical criticality levels for Rede D'Or**.** The **opportunities** identified were at higher, high and medium priorization levels.

Regarding **critical risks,** it is recommended to consider the following actions:

- Carry out a mapping of each of the business units, to verify vulnerability to sea level rise and precipitation and determine the potential impact on the facilities.
- Promote awareness of risks and the importance of preparedness for critical events and among staff and patients on the importance of responsible water use; Conduct regular training for hospital staff on emergency procedures related to sea level rise.
- Carry out an assessment of the hospitals' infrastructure, including electrical systems and essential equipment, thinking about the necessary adaptations to make them more resistant to flooding.
- Develop a specific adaptation and contingency plan to deal with risks arising from sea level rise, which may include evacuation measures, temporary relocation of patients and equipment, and emergency procedures; develop specific emergency plans to deal with situations of water scarcity or flooding caused by heavy rains – define operational and contingency protocols to ensure the continuity of essential hospital services in these conditions.

When preparing for **physical and transitional climate risks**, it is important that Rede D'Or pay attention to the **opportunities** that may arise and seek ways to foster these opportunities that may be related to technological innovation, energy efficiency, strategic partnerships, differentiated healthcare – attracting new demands and relevance in the market.

Transition scenarios: Base-matrix coding

Risk Code = Factor Code-Risk Code.Impact Code (Scenario Code)

Factor code	Transition factor
A	Energy demand (electricity)
B	Consumption of fossil fuels
C	Use of nitrous oxide in anesthesia

Risk Code	Type of risk
RT	Transition risk

Opportunity code	Type of opportunity
OPT	Transition scenario opportunity

Impact code		
E	**I**	**P**
Economic	Image	Policital/Legal

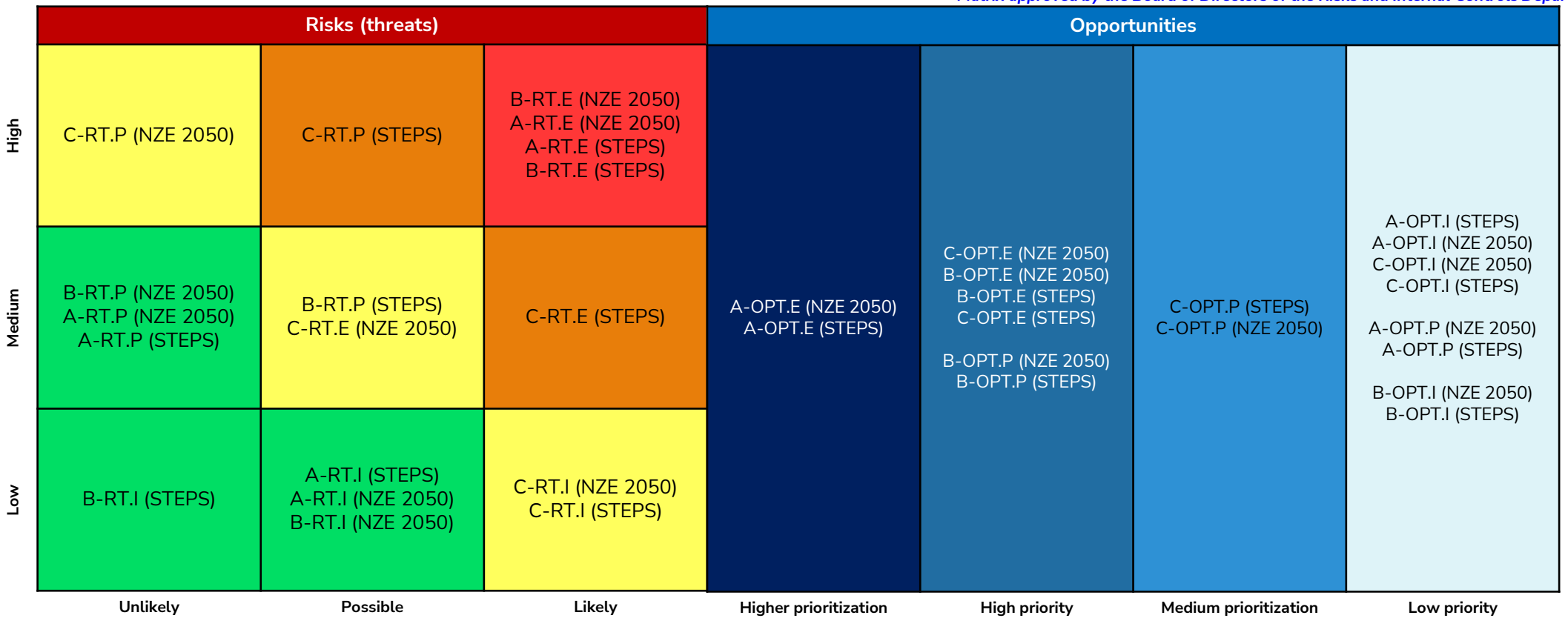
Scenario code
(NZE-2050)
(STEPS)

	RT/OPT	Impact variables		
		E	**I**	**P**
Transition factors	**A**	A-RT/ OPT.E (Scenario Code)	A-RT/ OPT.I (Scenario Code)	A-RT/ OPT.P (Scenario Code)
	B	B-RT/ OPT.E (Scenario Code)	B-RT/ OPT.I (Scenario Code)	B-RT/ OPT.P (Scenario Code)
	C	C-RT/ OPT.E (Scenario Code)	C-RT/ OPT.I (Scenario Code)	C-RT/ OPT.P (Scenario Code)

Transition scenarios: consolidated results

Matrix of risks and opportunities (**NZE 2050 | STEPS scenarios**)

Matrix approved by the Board of Directors of the Risks and Internal Controls Department



Transition scenarios: consolidated results

Heatmap of risks and opportunities (**NZE 2050 | STEPS scenarios**)

Matrix approved by the Board of Directors of the Risks and Internal Controls Department

	Riscos (threats)			Opportunities		
	Economical (E)	Image (I)	Political/ Legal (P)	Economical (E)	Image (I)	Political/ Legal (P)
Energy demand (electricity) (A)	A-RT.E (NZE 2050)	A-RT.I (NZE 2050)	A-RT.P (NZE 2050)	A-OPT.E (NZE 2050)	A-OPT.I (NZE 2050)	A-OPT.P (NZE 2050)
	A-RT.E (STEPS)	A-RT.I (STEPS)	A-RT.P (STEPS)	A-OPT.E (STEPS)	A-OPT.I (STEPS)	A-OPT.P (STEPS)
Consumption of fossil fuels (B)	B-RT.E (NZE 2050)	B-RT.I (NZE 2050)	B-RT.P (NZE 2050)	B-OPT.E (NZE 2050)	B-OPT.I (NZE 2050)	B-OPT.P (NZE 2050)
	B-RT.E (STEPS)	B-RT.I (STEPS)	B-RT.P (STEPS)	B-OPT.E (STEPS)	B-OPT.I (STEPS)	B-OPT.P (STEPS)
Use of nitrous oxide in anesthesia (C)	C-RT.E (NZE 2050)	C-RT.I (NZE 2050)	C-RT.P (NZE 2050)	C-OPT.E (NZE 2050)	C-OPT.I (NZE 2050)	C-OPT.P (NZE 2050)
	C-RT.E (STEPS)	C-RT.I (STEPS)	C-RT.P (STEPS)	C-OPT.E (STEPS)	C-OPT.I (STEPS)	C-OPT.P (STEPS)

Critical · High · Medium · Low

Higher prioritization · High priority · Medium priority · Low priority

Conclusions – transition scenarios

Transition scenarios:

The **transition risks** and **opportunities** matrices presented ratings at all levels: **low, medium , high** and **critical/ higher priorization** for Rede D'Or**.**

Regarding **critical risks**, it is recommended consider the following actions:

- Carry out a mapping of each of the business units to verify the vulnerability related to the possibility of increased demand of energy and reducing consumption of fossil fuels, taking into account supply and economic impacts.
- Continue to implement energy efficiency projects, reducing the consumption of energy and fossil fuels.
- Invest in renewable energy sources, giving preference to distributed generation, to contribute to the mitigation of GHG emissions in generation and to prevent risks associated with rising energy costs.
- Develop an integrated management plan for the company's energy-related economic and financial risks, including budget planning for energy expenditure projections and the possibility of investing in technologies and infrastructure to reduce energy and fossil fuel consumption.

When preparing for **physical and transitional climate risks**, it is important that Rede D'Or pay attention to the **opportunities** that may arise and seek ways to foster these opportunities that may be related to technological innovation, energy efficiency, strategic partnerships, differentiated healthcare – attracting new demands and relevance in the market.

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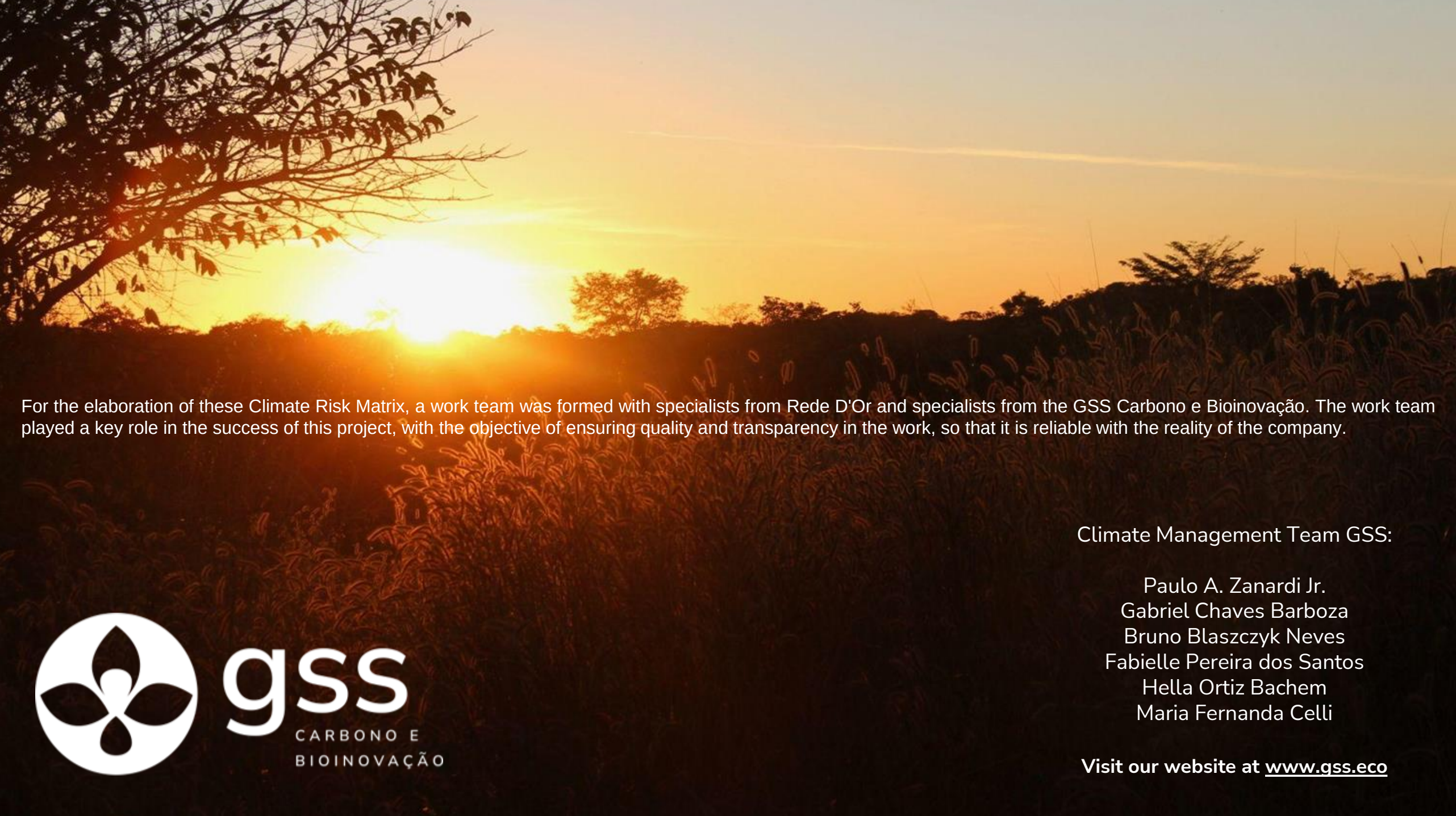

For the elaboration of these Climate Risk Matrix, a work team was formed with specialists from Rede D'Or and specialists from the GSS Carbono e Bioinovação. The work team played a key role in the success of this project, with the objective of ensuring quality and transparency in the work, so that it is reliable with the reality of the company.

gss
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