CLIMATE
Action Report
2022

CSN

Employee at an Area of Relevant Ecological Interest in the Cicuta forest (RJ)

About this Report

CSN GROUP'S CLIMATE ACTION REPORT PRESENTS, IN DETAIL, THE DECARBONIZATION STRATEGY OF CSN IN ALL ITS OPERATIONAL SEGMENTS AND HOW WE ARE MANAGING THE COMPANY'S MAIN CLIMATE RISKS.

As one of Brazilian's largest integrated steel mills and the second-largest cement producer in the country, we recognize the importance of mitigating our emissions and managing the physical and transition risks associated with climate change. The Group operates in multiple sectors – Mining, Steel, Cement, Energy and Logistics – but due to the relevance of Greenhouse Gas (GHG) emissions, the Steel, Cement and Mining segments have specific decarbonization journeys, which are presented in greater detail in this report.

Currently, we report the information associated with climate change in the Integrated Report – CSN, which last edition was published in 2022, audited by an independent third party and disclosed on the Company's website and in other comunication vehicles. Other information can also be obtained in greater detail in public responses to CDP – Disclosure,

Cicuta Forest in
Volta Redonda (RJ)

Insight, Action. CSN obtained a B grade in the Climate Change module of CDP, which represents the recognition of its high degree of management and governance under climate change issues, reflecting a good management of GHG emissions and risks and opportunities in the teme. The Company's performance can also be measured through the performance in ratings and indices, such as Sustainalytics, MSCI, S&P, ISS ESG, Transition Pathway Initiative, Vigeo Eiris, FTSE4Good and ICO2, from B3.

This report focuses on CSN's decarbonization strategy and is complementary to the aforementioned ratings and indicess. The report was elaborated following the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and presents Global Reporting Initiative (GRI) indicators correlated to the theme. The Company's Greenhouse Gas inventory has also been subjected to external auditing since its second edition in 2014.

In addition to the emissions data of the last three years present in this report, the Company's emissions history can be visualized on the website of the Public Emissions Registry of GHG Protocol Brazil[1].

All operational units[2] of CSN were included in this Climate Action Report, from historical data to facts that occurred until December 31, 2022. We disclose in this report the Group's position on the Climate Change issue, the individualized strategy by segment and the decarbonization journey of the main sectors in which it operates, including the medium and long-term emission reduction targets, MAC curves (marginal abatement cost) and the main climate action projects analyzed not only from the perspective of emission reduction, but also in relation to the cost of implementation. To ensure full adherence to the TCFD, the report covers the assessment of physical and transition risks through the analysis of climate scenarios, the main metrics used and the governance and risk management structure.

NOTA 1: It should be noted that the company's inventory is presented with two cutouts to avoid double counting of emission sources: (i) one considering the inventory of the CSN group, encompassing all operating units, except CSN Mineração; (ii) an exclusive inventory for CSN Mineração. The emissions of international units (SWT and Lusosider) are disclosed separately in the Public Emissions Registry of GHG Protocol Brazil and more details of these can be found in CDP 2022 and in the Integrated Report – CSN 2022;

NOTA 2: csn's administrative units (e.G. Offices) and distribution centers (dcs) are not included in this report due to their low representation in the theme.

Operations at Prada
Santo Amaro (SP)

Summary

Message from the CFO

IT IS WITH GREAT SATISFACTION THAT WE RELEASE OUR FIRST CLIMATE ACTION REPORT, WHICH CONSOLIDATES THE MAIN INFORMATION ABOUT CLIMATE CHANGE AT CSN.

This report reflects our efforts to measure, manage and reduce greenhouse gas (GHG) emissions from our operations, as well as detailing how we are managing our risks and opportunities related to climate change.

After advances in the decarbonization journey in recent years, such as the creation of targets and ambitions for the main segments in which we operate, in 2022, we restructured our strategy of action with the objective of guiding our efforts in combating climate change. The new strategy is divided into three pillars: Mitigation, Adaptation and Engagement with Stakeholders and has a governance that spread out responsibilities from the company's leadership to our operations. Through the creation of a management structure dedicated to the theme (the Decarbonization Management and the Climate Change and Air Group), we began an even more rigorous control of indicators, making it possible for the company's senior leadership to monitor them periodically.

We are a company in constant evolution, with multisectoral and integrated performance between businesses, always aimigto promote eco-efficiency. As an example of this strategy, since 2009 we have been reusing blast furnace slag for cement production in Volta Redonda, which significantly reduces GHG emissions in the manufacturing process, which places the company as one of the most efficient industries worldwide in this aspect. We also have been reusing the gases generated in the steel process at the Presidente Vargas Steelworks for power generation through two Thermoelectric Power Plants, with a generation capacity of 245 MW. The Company already had a stake in hydroelectric power generation assets to meet the demand of its operations, but it was in 2022, through the acquisition of new wind and hydroelectric power assets, in a total investment of R$4 billion, that it was possible to become fully self-sufficient in electricity from renewable sources. In 2022, almost 17% of our stell production was classified as "green steel", with an emission factor lower than 0.2 ton CO_2/ ton steel. In addition to this, we were also the first mining company in Brazil to zero our scope 2 GHG emissions and test 100% electric trucks in our truck off-road fleet. These are notable examples of how CSN has always considered sustainability and decarbonization as part of its business strategy.

We were the first Brazilian steelmaker to publicly present targets for reducing our GHG emissions. For each segment in which the Company operates, a specific target was established aiming at monitoring and making more appropriate decisions. We have been reporting our greenhouse gas emissions for more than a decade, following all recognized national and international protocols, thereby achieving the GHG Protocol's gold seal since 2014. In 2022, we achieved a B grade in the CDP climate change questionnaire, which demonstrates our commitment to good data management, acknowledging our environmental impacts and implementing measures to minimize them.

Innovation is one of the drivers of our decarbonization journey, so the company seeks to position itself at the forefront of the transition to a low-carbon economy. Through CSN Inova Tech, we have implemented innovative projects such as UTIS, a technology that uses Green Hydrogen to improve the efficiency of the furnaces used to manufacture cement, which resulted in a significant reduction in our GHG emissions. In 2023, the same technology will be tested in an innovative way in our steel production operations. Through CSN Inova Ventures, we invest in start-ups aligned with the Company's decarbonization strategy, such as ISystem, 1s1 Energy and H2Pro, which develops solutions through the useof artificial intelligence and technologies for low-cost hydrogen production. The use of these technologies is also foreseen in our roadmap for the coming years.

Based on the maturity acquired on the topic of Climate Change, we started to incorporate this variable, its aspects, risks and opportunities in the decision-making process of the group's strategic decisions. To insure this, we carry out cyclically detailed studies of Climate Risks and Opportunities for current and future businesses. We use tools such as the Task Force on Climate Related Financial Disclosures (TCFD) to disclose to our investors and other stakeholders our practices in risk management, strategy and governance on the subject. Thus, we can manage and allocate capital much more soberly, aware to the new demands of the market and the scenarios drawn from climate change.

We recognize the impact of our emissions, but also the key role we play for society. And that is why we seek excellence in the management of our emissions, in the implementation of mitigation projects and in transparent communication with the market, investors and everyone interested in the subject.

There were several demands from our stakeholders on the climate issue. I hope this report demonstrates the seriousness and awareness with which we listen to your opinions, demands and questions, and how committed we are to providing solutions and answers to all of them.

I invite you to be part of this journey with us and I wish you all a good read!

Marcelo Cunha Ribeiro
CSN's CFO

Do it well. Do it more. Do it always.

HIGHLIGHTS OF THE REPORT

CSN HAS A ROBUST DECARBONIZATION STRATEGY FOR ALL ITS OPERATIONS

The Climate Action Report is structured into four major sections. Initially, we present the **governance structure of CSN** associated with climate change, demonstrating how the theme is integrated into our internal processes and is under the supervision of the leadership. Next, in the **Mitigation Pillar**, we present a profile of GHG emissions and correlated KPIs, as well as the decarbonization journeys of steel, cement and mining segments. In the **Adaptation Pillar**, we portray the process of identifying climate risks and opportunities for the Company and how they are integrated into the climate scenarios elaborated. Finally, in the **Engagement with Stakeholder Pillar**, we present CSN's performance in ratings associated with climate change. For more details, we suggest you to navigate through each one of the sections of the Climate Action Report.

	STEEL	CEMENT	MINING
OUR TARGETS	REDUCE CO_2E EMISSIONS PER TON OF CRUDE STEEL BY 20% by 2035, adopting the World Steel Association (WSA) methodology.	REDUCE CO_2E EMISSIONS PER TON OF CEMENT BY 28% by 2030, adopting the Global Cement and Concrete Association (GCCA) methodology. REDUCE THE CLINKER FACTOR in cement by 16% by 2030.	REDUCE CO_2E EMISSIONS PER TON OF IRON ORE BY 30% BY 2035 (SCOPES 1 AND 2). BE CARBON NEUTRAL in Scope 1 and 2 emissions by 2044.
OUR ACTIONS IN 2022	EXPANSION OF THE APPLICATION OF GREEN HYDROGEN (UTIS TECHNOLOGY) in the Company's production processes, including testing at the Presidente Vargas Plant (UPV) scheduled for 2023.	START OF CO-PROCESSING IN CSN CIMENTOS - ARCOS allowing an average reduction of 50 $kgCO_2e/t$ cement at the unit.	TESTS OF ELECTRIC TRUCKS at CSN Mineração, in partnership with the Chinese multinational Sany.
OUR PERFORMANCE IN 2022	1.99 TCO_2E/T STEEL IN 2022. Reduction of 5% compared to the base year (2018).	481 $kgCO_2e/t$ CEMENT IN CSN CIMENTOS. Reduction of 8% compared to the base year (2020).	Self-sufficiency with 100% renewable ELECTRICITY BY 2021.
OTHER COMPANY HIGHLIGHTS IN 2022	INTERNALIZATION OF 100% OF THE RECOMMENDATIONS OF THE TCFD (Task Force on Climate-Related Financial Disclosures).	MANAGEMENT OF CLIMATE RISKS AND OPPORTUNITIES including analysis of Climate Scenarios for all units of the Company.	SELF-SUFFICIENCY WITH 100% RENEWABLE ELECTRICITY SELF-PRODUCTION with the acquisition of new assets.

SWT green steel in Germany

CSN's POSITION ON THE CLIMATE ISSUE

OUR AMBITION IS TO PROVIDE CARBON-NEUTRAL ESSENTIAL MATERIALS TO THE SOCIETY BY 2050.

CSN GROUP OPERATES IN SECTORS CONSIDERED CHALLENGING IN ABATING EMISSIONS. THEREFORE, MANY TECHNOLOGIES NECESSARY TO ACHIEVE THE OBJECTIVES OF THE PARIS AGREEMENT, TO LIMIT THE GLOBAL AVERAGE TEMPERATURE INCREASE TO 1.5°C IN RELATION TO THE PRE-INDUSTRIAL PERIOD, ARE NOT YET AVAILABLE ON A COMMERCIAL SCALE FOR THE MAIN SECTORS IN WHICH THE COMPANY OPERATES.

CSN'S POSITION ON THE CLIMATE ISSUE

CSN believes and acknowledges that:

- Climate change is directly associated with human activities.
- There is a climate urgency to reduce greenhouse gas emissions and limit global warming to 1.5°C, as set out in the Paris Agreement;
- Companies operating in the steel and cement production value chain play a key role in accelerating the transition to a low-carbon economy by offering products and services with low GHG emissions;
- The sectors in which the Company operates will be essential to ensure resilience to adversities related to climate changes;
- The challenges to limit global warming to 1.5°C will require from the Company a technological transformation in its current processes and this involves transition risks;
- There is a need to invest in innovation projects to catalyze business opportunities and mitigate GHG emissions;
- There is no single technology to solve CSN's decarbonization challenge;
- Steel, cement and mining industries are sectors that are difficult to reduce greenhouse gas (GHG) emissions due to: (1) high value of investments; (2) difficulty in obtaining financing with competitive financial conditions in developing countries (3) great longevity of assets (4) commercial alternatives and limited or low maturity technologies (5) lack of infrastructure to produce new products, such as Green Hydrogen and (6) access to technologies that are mostly developed internationally.

However, none of these factors are reasons for inaction.

Thus, CSN Group will:

- Invest in decarbonization projects to meet the targets established and disclosed in the Company's ESG reports;
- Maintain 100% of the electricity used by the group from renewable sources;
- Constantly seek opportunities to innovate, with investment in new technologies and in companies that collaborate to reduce GHG emissions;
- Develop transition business models to the low-carbon economy, with evaluation of strategic partners that support the Company's journey;
- Study new technologies that are and will be available to decarbonize any of CSN's business segments;
- Incorporate applicable technologies into the decarbonization roadmap in order to develop a real and tangible way of meeting the group's targets;
- To assess in detail the potential physical and transition risks related to the topic of Climate Change;
- Annually disclose the GHG emissions audited by a third party, so that the performance in relation to the commitments assumed by the Company is monitored by all stakeholders;
- Disclose information related to Climate Change in line with the TCFD framework, with continuous deepening on the analysis of climate scenarios based on the IPCC (Intergovernmental Panel on Climate Change) and IEA (International Energy Agency);
- Seek alignment with the decarbonization routes proposed by the Science Based Target initiative or by sectoral pathways in order to contribute to the reduction efforts necessary to meet the objectives of the Paris Agreement;
- Support partners and entities in discussions under the regulatory scope, public policies directly or indirectly related to the topic of Climate Change;
- Consider the topic of Climate Change in the Company's strategic decision-making, including M&A processes.

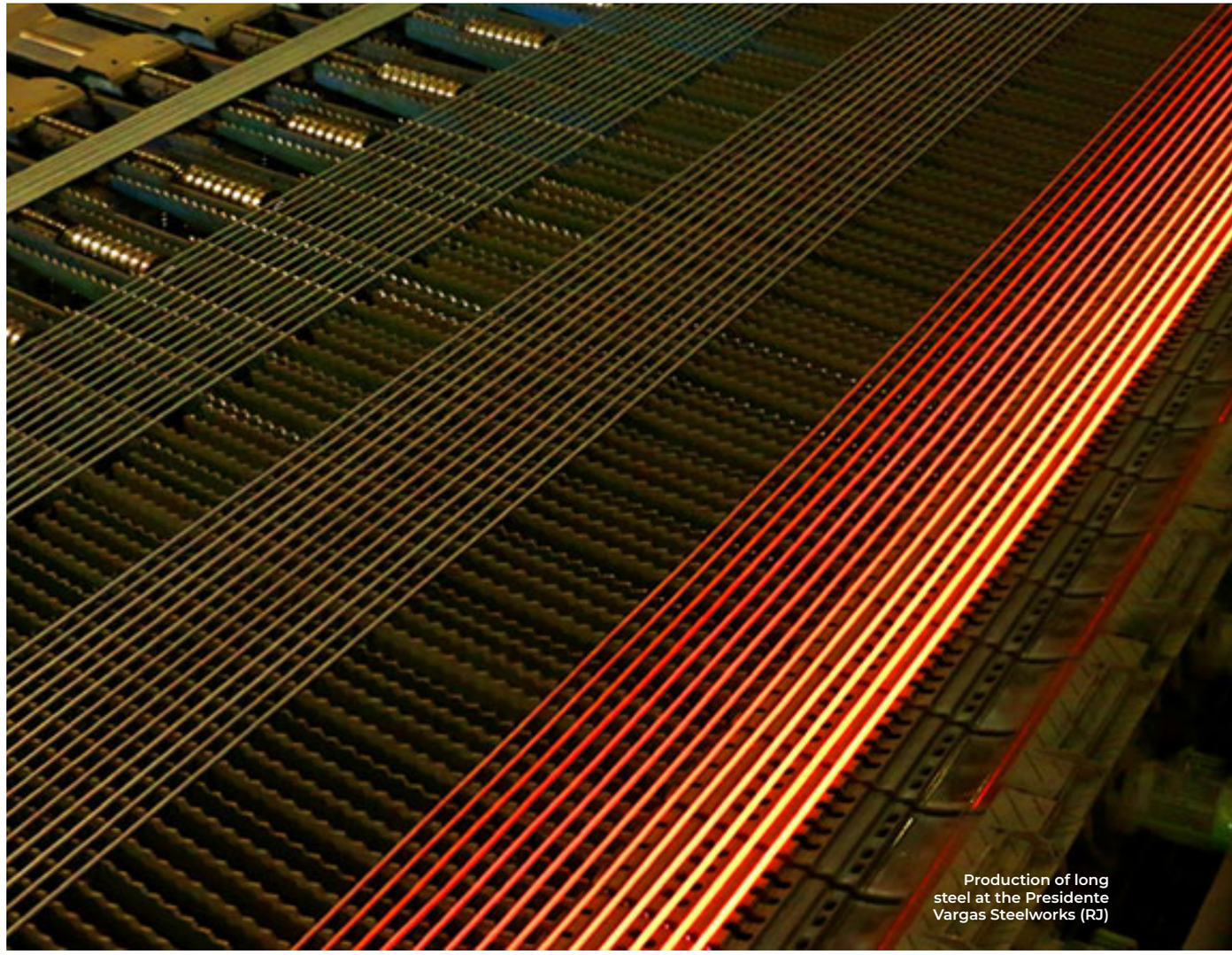
CSN JOURNEY

Since 2013, when csn's first ghginventory was published, the company has invested in the monitoring and management of its ghg emission sources following the principles of GHG Protocol and ISO 14,064.

In 2020, with the evolution of maturity of its ESG structure, CSN established decarbonization targets for its three main segments – Steel, Mining and Cement – covering 99% of Scope 1 and 2 emissions of CSN Group.

In the reporting year, the focus was on the development and implementation of the decarbonization initiatives mapped through the construction of strategic partnerships, the definition of a clearer governance strategy for the Climate Change issue and the structuring of a robust management of climate risks and opportunities completely aligned with the TCFD recommendations.
As a consequence, CSN has obtained external recognition in indexes and rating agencies that demonstrate that the company adopts transparent and good management practices.

Regarding ratings, CSN was the only Brazilian company in the steel, mining and construction sectors named by S&P to its 2023 Global Sustainability Yearbook, and was also categorized as "Industry Mover" in the steelmaking sector, because it was, according to the criteria of the agency, the company in the sector that has made the most progress in ESG practices in the world. In addition, CSN received a new classification by the Sustainalytics rating in 2022, reducing the score related to ESG risks from 39.1 to 25.9, when CSN reached the 6th best score in the sector out of 156 steelmaking and mining companies evaluated globally.



Production of long steel at the Presidente Vargas Steelworks (RJ)

CSN JOURNEY

2013

- First publication of the Greenhouse Gas Inventory, following the methodology of ISO 14,064 and meeting the specifications of the Brazilian GHG Protocol Program.

2014

- GOLD seal in the Greenhouse Gas Inventory by the Brazilian GHG Protocol Program;
- CSN's first publication in CDP.

2018

- Creation of CSN Inova.

2019

First assessment in the ratings:

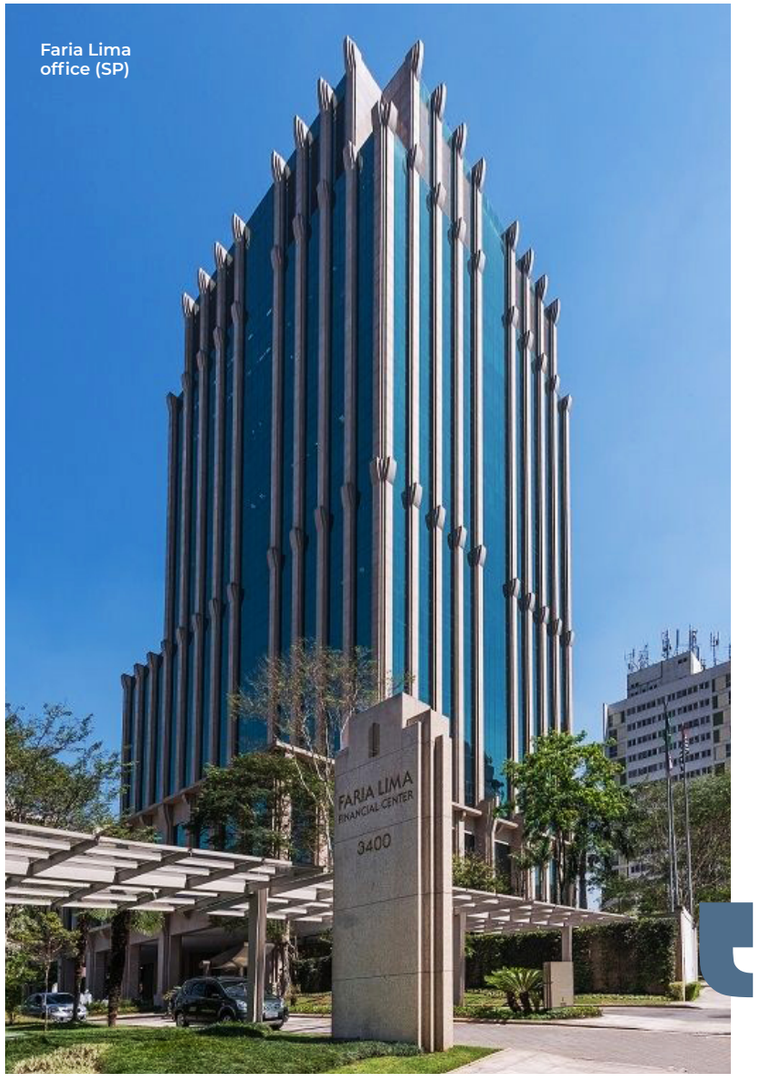
- S&P Global Ratings;
- Sustainalytics;
- Morgan Stanley Capital International (MSCI);
- Transition Pathway Initiative (TPI);
- Vigeo Eiris.

2021

- CSN Mineração IPO;
- Publication of the Company's decarbonization targets;
- Creation of the ESG Committee;
- Decarbonization Roadmaps (Steel, Cement and Mining);
- CSN Mineração's first publication independently in CDP;
- CSN Group integrates the portfolio of B3's Carbon Efficient Index – ICO2.

2022

- Management of Climate Risks and Opportunities including analysis of Climate Scenarios;
- Internalization of TCFD recommendations;
- CSN Mineração becomes part of B3's ICO2;
- Restructuring of the climate change strategy;
- Strategic partnerships for decarbonization;
- CSN classified as Industry Mover in the steelmaking sector and named to the S&P Sustainability Yearbook;
- 800,000 tons of green steel produced at SWT – Germany.



Faria Lima office (SP)

STRATEGY FOR MANAGING, COPING WITH AND MITIGATING CLIMATE CHANGE

CSN GROUP IS COMMITTED TO TRANSFORMING ITS BUSINESS TOWARDS A LOW-CARBON ECONOMY, THUS ASSESSING THE RISKS AND OPPORTUNITIES ASSOCIATED WITH DIFFERENT CLIMATE SCENARIOS, INCLUDING THE 1.5°C INCREASE.

To go through the journey towards carbon neutrality and to be prepared for the challenges involved in the climate change agenda, in 2022 CSN restructured its climate strategy based on three pillars (Mitigation, Adaptation and Stakeholder Engagement). 30 action fronts and about 180 activities that consolidate the Company's Climate Action Plan (PAC) are connected to the mentioned pillars.

BY REPOSITIONING YOUR CLIMATE STRATEGY, CSN SEEKS TO ENSURE THAT SOCIETY'S DEMAND IS MET IN RELATION TO THE NEED TO DECARBONIZE THE PLANET, AS WELL AS CATALYZE OPPORTUNITIES FOR A LOW-CARBON ECONOMY.

PILLARS OF THE CLIMATE STRATEGY

Mitigation

Focused on the constant search to mitigate greenhouse gas emissions over different time horizons. In this pillar are concentrated all actions related to the construction of the Decarbonization Journey, such as the development of sectoral roadmaps. Special attention is given to the quality of the data, to ensure their reliability so that they properly guide the Company's action plans.

MITIGATION CHAPTER

Adaptation

It aims to map climate risks and opportunities for the construction of adaptation measures, always considering the resilience of the CSN Group in face of different climate scenarios. In this context, physical and transitional risks and opportunities for a low-carbon economy are considered.

ADAPTATION CHAPTER

Stakeholders

It aims to build partnerships with new stakeholders in order to continuously incorporate external aspects to the CSN Group's strategy, such as market trends, new technologies and public policies. This pillar also focuses efforts on disseminating internal progress through reports, such as the Integrated Report, the CDP and the Climate Action Report to interested audiences. Thus, this pillar can be understood as the connection between CSN and its stakeholders.

ENGAGAMENT WITH STAKEHOLDER CHAPTER

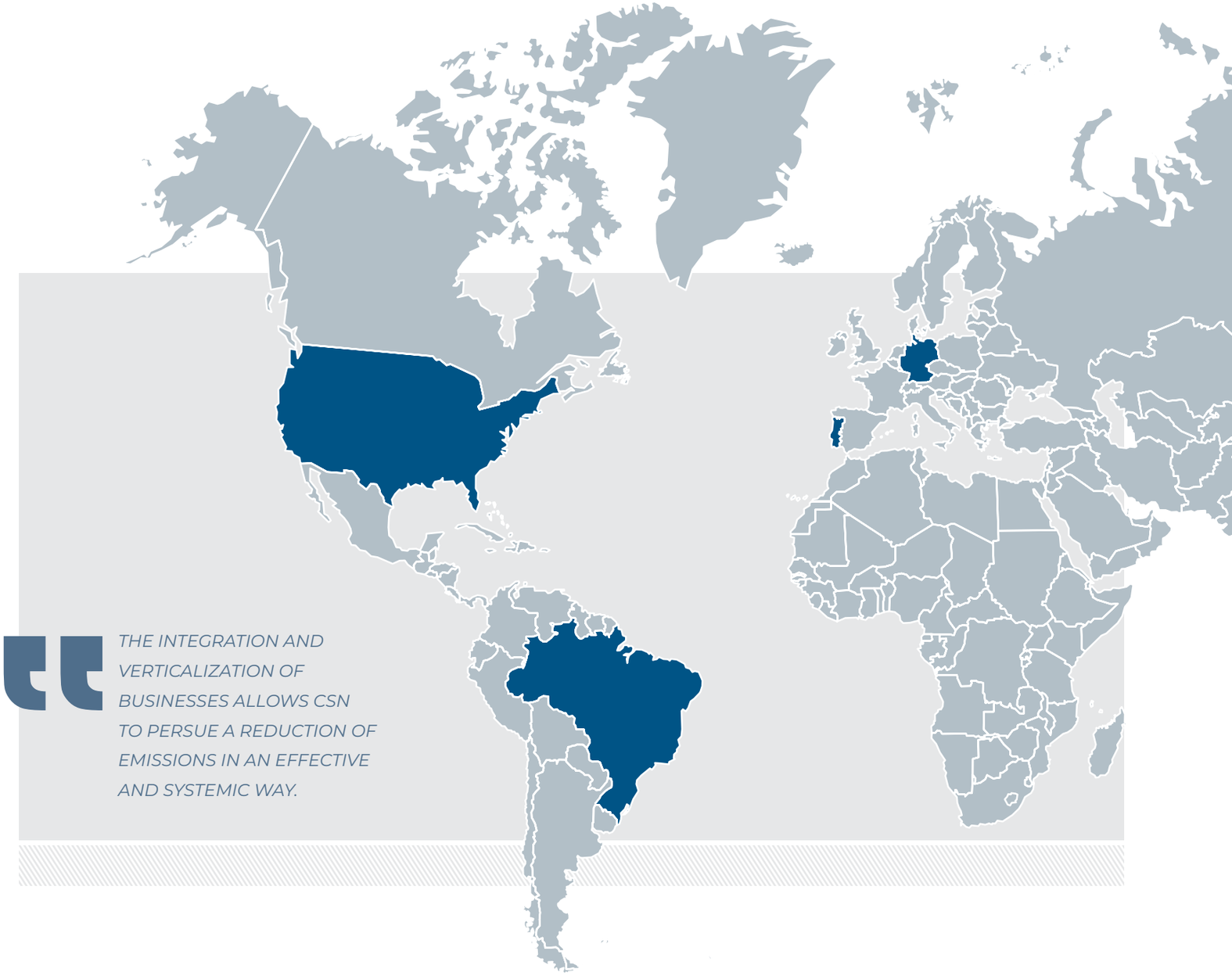
More information on CSN's performance are available on pages 27 and 28 of the 2022 Integrated Report.

MULTISECTORAL PERFORMANCE

CSN IS A BRAZILIAN COMPANY THAT OPERATES IN THE STEEL, MINING, CEMENT, LOGISTICS AND ENERGY SECTORS. IT ISLOCATED IN 16 BRAZILIAN STATES AND IN THREE OTHER COUNTRIES – GERMANY, PORTUGAL AND THE UNITED STATES.

The Company follows the path of continuous growth, with efforts converging with a bold investment thesis focused on business diversification and verticalization, which aims to mitigate the risks of market volatility and reduce the costs and inefficiencies of business chains from M&As and organic growth. Business diversification allows a synergistic performance and the reduction of GHG emissions in a systemic way.

By controlling an integrated steel complex, CSN has synergy between its processes, which allows a multiplicity of opportunities aimed at reducing its CO_2 emissions, when compared to other market players. The transport of products and raw materials also takes place efficiently, since the integrated logistics allows an optimization of the transport between the production plants and the distribution centers. The integration also guarantees opportunities to reuse products in the production chain, such as in the cement business, in which 100% of the blast furnace slag resulting from the steel process is used in the manufacture of cement, and the waste generated in the Company's production units is co-processed and used as an alternative fuel source, reducing CO_2 emissions in the production of cement.



THE INTEGRATION AND VERTICALIZATION OF BUSINESSES ALLOWS CSN TO PERSUE A REDUCTION OF EMISSIONS IN AN EFFECTIVE AND SYSTEMIC WAY.

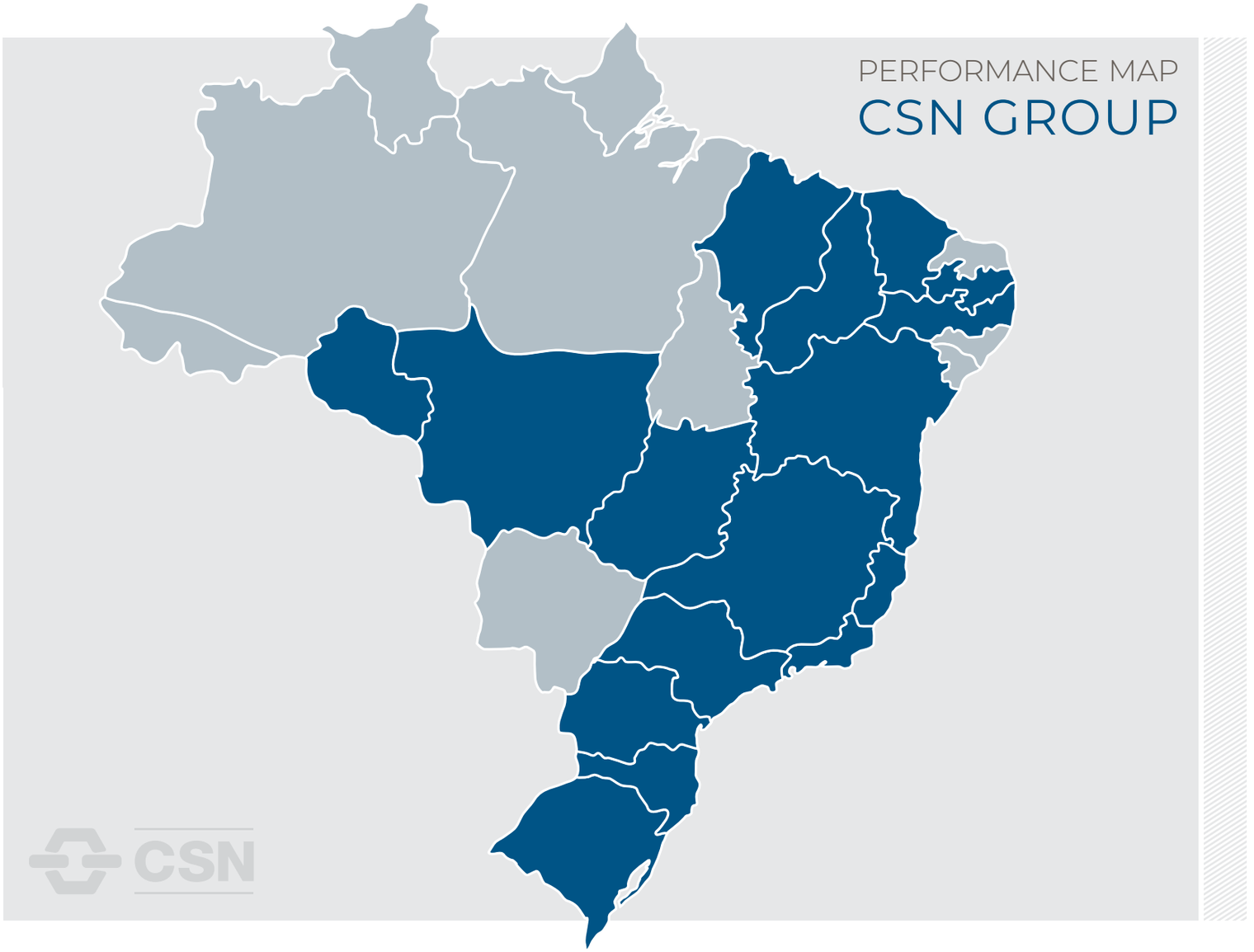
MULTISECTORAL PERFORMANCE

CSN Group performance map

Across its five business segments, the CSN Group has operational units in 16 Brazilian states, in the United States, Portugal and Germany.

Steel Mining Cement Energy Logistics

Click on the icon of each business segment to identify where the operational units are located.



STEEL. In the Steel segment, CSN produces flat, coated, galvanized, pre-painted steels, metal sheets and long steels (rebar and wire rod). The main asset is the Presidente Vargas Plant (UPV), located in Volta Redonda (RJ). With an installed capacity of 5.6 million tons of crude steel per year, it is considered one of the largest steel mills in Latin America. In 2022, the segment reached a net income of R$29.3 billion and R$6 billion of adjusted EBITDA. There are units located abroad, such asflat steel in Portugal (Lusosider) and long steel production in Germany (Stahlwerk Thüringen GmbH - SWT), with a production capacity of 1.1 million tons.

MINING. CSN Mineração S.A. (CSN Mineração) is the second largest iron ore exporter in Brazil and the seventh in the world. Headquartered in Congonhas (MG), it is the main subsidiary of Companhia Siderúrgica Nacional – CSN. It has an annual installed iron ore production capacity of 33 million tons, 22.5 million tons at the Central Plant in Casa de Pedra and 10.5 million at the dry plants in Pires. In 2022, it achieved a net revenue of R$12.5 billion and R$6 billion of EBITDA. CSN Mineração holds the concession to operate the TECAR port terminal, located in the Port of Itaguaí (RJ), which has an installed loading capacity of 45 million tons of iron ore and landing capacity of 4 million tons per year of reducers, such as coal and coke. In addition to CSN Mineração's operations, the CSN Group has the units of ERSA (RO), with tin production, and Minérios Nacional (MG), with iron ore production.

CEMENT. CSN Cimentos is currently the second largest producer of cement in Brazil. Until 2022, it operated with two integrated cement plants, in Arcos (MG) and Alhandra (PB), and a milling plant in Volta Redonda (RJ). With the acquisition of LafargeHolcim Brasil's assets in October 2022, five more integrated cement production units were incorporated, as well as five other mills in the Southeast, Northeast and Midwest regions, in addition to high quality limestone reserves and 19 concrete units and six aggregates, reaching an annual installed capacity of 17 million tons of cement.

ENERGY. CSN's generation portfolio is focused on both meeting internal energy demand and external commercialization. In Volta Redonda (RJ), at the Presidente Vargas Plant unit, there is a thermoelectric cogeneration plant that has a total installed capacity of 245 MW, with energy generated through waste gases from steel production. The Top Recovery Turbine (TRT), located in Blast Furnace 3 of the Plant, also takes advantage of the gas output pressure for power generation, with an installed generation capacity of 22 MW. In addition, CSN holds equity interests in two hydroelectric plants: Itá (428 MW) and Igarapava (38 MW). In 2022, new power generation plants were acquired: Santa Ana SHP (6 MW), Sacre II SHP (30 MW), Quebra-Queixo HPP (120 MW) and CEEE (1,134 MW). With the acquisitions, CSN will have enough renewable energy to support all its operations, with a balance traded in the market.

LOGISTICS. The CSN Group manages, at the Port of Itaguaí (RJ), the container terminal (Sepetiba TECON S.A.). In addition, it has a stake in MRS Logística S.A., operator of the railway network that connects the Quadrilátero Ferrífero and the south of Rio de Janeiro. All iron ore exported by CSN Mineração and all coal, coke and iron ore consumed by UPV are transported by MRS. The group also controls the Transnordestina Logística (FTL) Railway, with a total length of 4,534 km and current transport capacity of about 3.2 million tons per year, and Transnordestina Logística S.A. (TLSA).

Aerial photograph of CSN in Pedro Leopoldo (MG)

TARGETS
DECARBONIZATION

THE COMPANY'S DECARBONIZATION TARGETS DEMONSTRATE COMMITMENT TO THE CLIMATE MITIGATION ISSUE FOR THE MARKET AND SOCIETY. CSN HAS FEASIBLE TARGETS AND DIRECTED PATHS TO MEET THE ESTABLISHED CHALLENGES.

CSN has targets for the Steel, Mining and Cement segments that cover 99% of Scope 1 and 2 emissions of the Group.

To meet the targets, defined in 2020, the Company structured its Decarbonization Journey2 through a vast array of projects and the construction of Marginal Abatement curves (MAC curve), which resulted in a decarbonization roadmap by segment (Steel, Mining and Cement) capable of meeting the need of the Company to reduce GHG emissions. The main indicators for meeting the targets are monitored through monthly executive reporting for each one of the segments.

More details on how the Decarbonization Journey was built and how the emission reduction projects were planned and carried out can be found in the section "Mitigation Pillar".

ACCESS HERE THE DECARBONIZATION JOURNEY

FIRST BRAZILIAN STEELMAKER TO PUBLICLY PRESENT TARGETS FOR REDUCING ITS GREENHOUSE GAS EMISSIONS.

TARGET
DECARBONIZATION STEEL

For the Steel industry, it was defined a target to reduce 10% of CO_2 emissions per ton of crude steel by 2030 and 20% by 2035, with 2018 as the base year, following the guidelines of the methodology of the World Steel Association (WSA). It considersthe steel mills of the Presidente Vargas Plant (UPV), in Volta Redonda(RJ), and of the Stahlwerk Thüringen (SWT), located in Germany.

PERFORMANCE

2018 — BASE YEAR: 2.10 tCO_2e/t steel

2022 — 1.99 tCO_2e/t steel — -5% in relation to the base year.

2030 — TARGET YEAR: 1.89 tCO_2e/t steel — 10% reduction of CO_2 emissions and per ton of crude steel.*

2035 — TARGET YEAR: 1.68 tCO_2e/t steel — 20% reduction of CO_2 emissions and per ton of crude steel.*

*Note: in Steel the indicators are calculated through the World Steel Association (WSA) Methodology considering the indicator "w/o undecided credits".

TARGET
DECARBONIZATION MINING

In the Mining sector, the target is to reduce CO_2e emissions per ton of iron ore by 30% by 2035 and to be carbon neutral by 2044, considering Scopes 1 and 2, with 2019 as the base year. In this target, the mining activities of CSN Mineração are considered, which include the operations of Casa de Pedra and the Pires Complex. The Mining sector does not have a specific sectoral tool. Thus, the GHG Protocol methodology is used as a calculation basis.

PERFORMANCE

2019 — BASE YEAR: 5.77 kg CO_2e/t ore

2022 — 7.92 kg CO_2e/t ore — +37% in relation to the base year.

2035 — TARGET YEAR: 4.04 kg CO_2e/t ore — 30% reduction in CO_2 emissions and per ton of ore.*

2044 — CARBON NEUTRAL

*Note: the emission indicator does not consider the Land Use Change Category because the emissions occur occasionally in the operation.

TARGET
DECARBONIZATION CEMENT

In the Cement segment, the target is to reduce by 2030 28% of CO_2 emissions per ton of cement produced, reaching 375 kgCO_2e/t cement. This value is equivalent to the target defined in the report "Brazilian Cement Technology roadmap (2019)" for the year 2050. In this segment, the methodology of the Global Cement and Concrete Association (GCCA) is used, and the GCCA 75 indicator (Net CO_2 Intensity per ton of cement) is chosen for performance monitoring.

PERFORMANCE

2020 — ANO-BASE: 519 kg CO_2e/ t cement

2022 — 481 kg CO_2e/ t cement — -8% in relation to the base year.

2030 — ANO-META: 375 kg CO_2e/ t cement — 28% reduction in CO_2 emissions and per ton of cement.*

*Note: with the entry of Lafarge Holcim assets, the above numbers will be reviewed, as well as the decarbonization journey of the Cement segment.

CLIMATE GOVERNANCE

CSN HAS GOVERNANCE MECHANISMS, SUCH AS THE CLIMATE CHANGE AND AIR GROUP, ONE OF THE THEMATIC GROUP THAT INTEGRATE THE ESG COMMITTEE AND A CORPORATE MANAGEMENT AREA DEDICATED TO THE DECARBONIZATION , WHICH ALLOWS GREATER CAPILLARITY OF THE DECARBONIZATION STRATEGY IN THE COMPANY.

Under the coordination of this management, four subgroups were constituted: Climate Mining, Climate Steelmaking, Climate Cement and Climate Risks and Opportunities. These four subgroups are directly linked to the Climate Change and Air Group, which integratesthe ESG Committee. Each subgroup is composedof members of the Decarbonization and Climate Change Management, local agents from each segment (mainly including their respective operational teams), as well as other strategic focal points (such as the CSN Inova team). Exceptionally, the Risks and Opportunities subgroup acts as an exclusive discussion forum for the management of climate risks and opportunities, in synergy and cooperation with the Company's Risk Management Directorship .

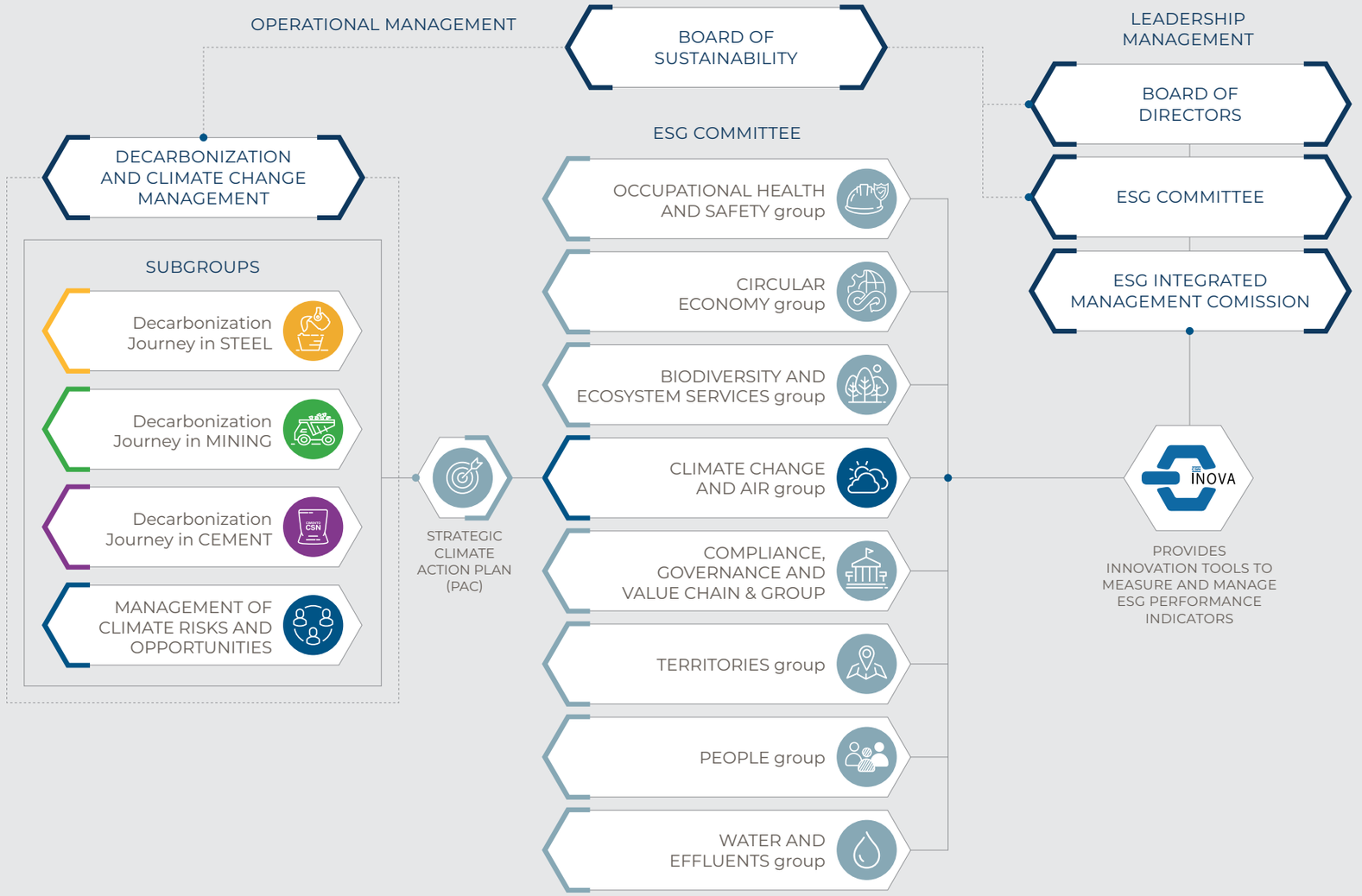
Monthly subgroups meet to discuss the main indicators: intensity of emissions, performance status and specific projects, relevant projects and trends related to the topic. As a result of these meetings, an executive report is prepared, addressed to the Board of Directors, the ESG[3] Committee, directors and executives who are connected to the theme.

In addition to managing and building climate indicators, the subgroups have a fundamental role to verticalize the Climate Change strategy and operationalize it into the work routine of operations. Thus, the Climate Change and Air Group and its subgroups play an important link between the operation and the company's leadership enablingthe Climate Change strategy has a capillarity in the organization.

CSN has mechanisms that connect topics on climate change and decarbonization with the Company's strategic decision-making processes, such as the presentation of climate risks and opportunities to the Audit Committee – an independent and advisory body to the Board of Directors – in 2022. The topic of climate change was also discussed in the ESG Committee, comprised by the Company's main executives, who report every six months the progress and discussions of this agenda to the Board of Directors, the highest body in the governance structure on the theme.

Employees at the Faria Lima office (SP)

CLIMATE GOVERNANCE



Assignments of Senior Leadership

- The Board of Directors is responsible for establishing strategic guidelines and deliberating on economic, social and environmental issues that have an impact on the Company's business, including the climate agenda.
- The ESG Committee advises the Board of Directors in defining the Company's ESG strategy, acting directly in the management of indicators, assessment of risks and opportunities and in the development of projects to leverage the climate agenda.
- The ESG Board leads several initiatives that propagate advances in the material themes of CSN.
- The ESG Integrated Management Commission standardizes concepts and disseminates good practices in all segments of activity, in addition to monitoring the main ESG innovation projects related to material topics, supervision of ESG communication actions and monitoring of targets.

Presidente Vargas Steelworks (RJ)

MITIGATION PILLAR

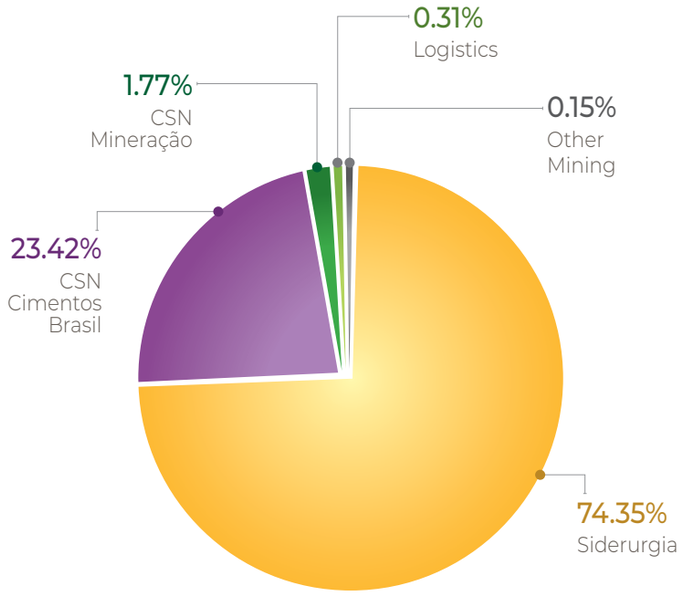
GREENHOUSE GAS EMISSIONS PROFILE AND CORRELATED KPIS

ACCORDING TO THE CARBON BRIEF*, BRAZIL IS RANKED IN 4TH POSITION AMONG THE COUNTRIES WITH THE HIGHEST ACCUMULATION OF EMISSIONS FROM 1850 TO 2021. HOWEVER, THE CEMENT AND STEELMAKING SECTOR TOGETHER REPRESENT ONLY 4% OF THE COUNTRY'S TOTAL EMISSIONS[1]. THIS REQUIRES THE CSN GROUP TO HAVE STRONG RESPONSES TO REDUCE ITS EXPOSURE TO POTENTIAL CLIMATE RISKS (PHYSICAL AND TRANSITION).

Decarbonization requires innovation from hard-to-abate sectors and a future medium- and long-term strategic vision in line with the transition to a low-carbon economy.

In 2022, the Company's total emissions (scope 1 and scope 2) (CSN Group + CSN Mineração) totaled approximately 11.8 million tCO_2e – of which the Steel industry corresponded to 8.8 million tCO_2e (74.3% of emissions), the Cement segment with 2.8 million tCO_2e (23.4% of emissions) and Mining with approximately 208.5 thousand tCO_2e (1.7% of emissions).

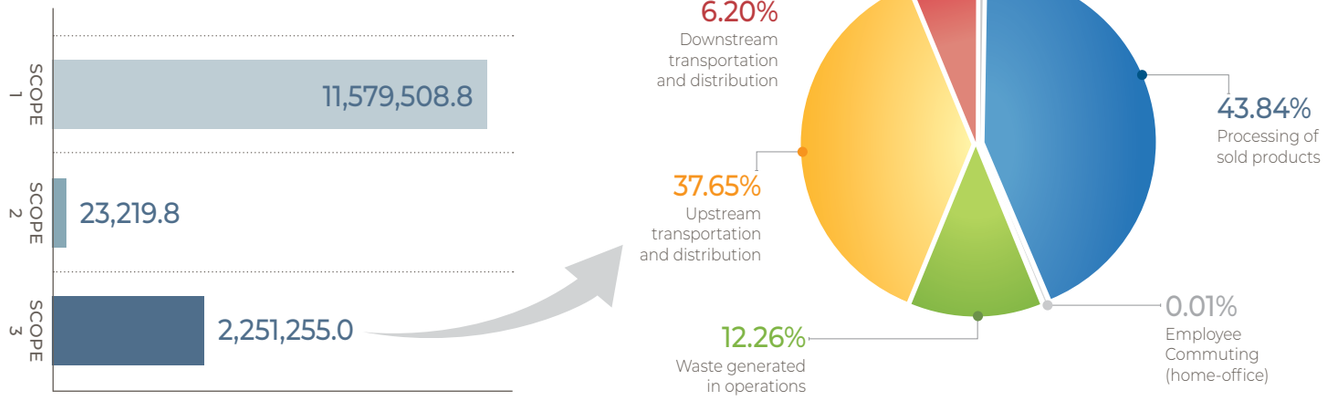
Thus, this report presents the decarbonization journeys in order of emission representativeness by segment (Steelmaking > Cement > Mining). In addition to being the most relevant in terms of GHG emissions, these three segments are also the most financially relevant for the CSN Group.



Employee at Presidente Vargas Steelworks in Volta Redonda (RJ)

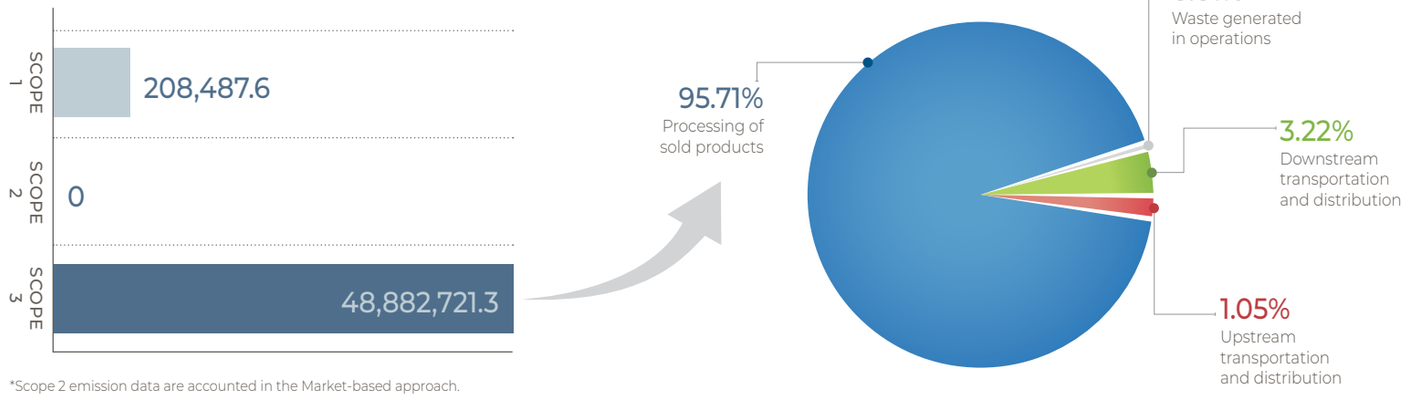
1. Source: Emissions Map | SEEG – Gas Emission Estimation System.
*One of the leading websites specialized in the science and policy of climate change

tCO_2 EMISSIONS BY SCOPE BY CSN GROUP 2022



EMISSIONS (tCO_2) BY CATEGORY AND SCOPE – CSN			
SCOPE	CATEGORY	EMISSION (tCO_2)	%
TOTAL SCOPE 1		11,579,508.8	–
TOTAL SCOPE 2		23,219.8	–
SCOPE 3	Purchased goods and services	986,868.4	43.84
	Employee Commutings (home-office)	310.4	0.01
	Waste generated in operations	276,081.2	12.26
	Downstream transportation and distribution	847,593.8	37.65
	Upstream transportation and distribution	139,685.2	6.20
	Business travel	716.0	0.03
TOTAL SCOPE 3		2,251,255.0	–

tCO_2 EMISSIONS BY SCOPE CSN MINERAÇÃO 2022



*Scope 2 emission data are accounted in the Market-based approach.

EMISSIONS (tCO_2) BY CATEGORY AND SCOPE – CSN MINERAÇÃO			
SCOPE	CATEGORY	EMISSION (tCO_2)	%
TOTAL SCOPE 1		208,487.6	–
TOTAL SCOPE 2		0	–
SCOPE 3	Processing of sold products	46,788,038.9	95.71
	Waste generated in operations	5,117.7	0.01
	Downstream transportation and distribution	1,576,419.9	3.22
	Upstream transportation and distribution	513,086.0	1.05
	Business travel	58.8	0.00
TOTAL SCOPE 3		48,882,721.3	–

MITIGATION PROJECTS

CEMENT

Co-processing at Arcos

DESCRIPTION. In 2022, the Company invested in works for the implementation of waste co-processing technology at the Arcos unit (MG). The process consists of the reuse of industrial waste to replace fossil fuels traditionally used in the clinker manufacturing process, providing an environmentally appropriate final destination for the waste. The implementation of co-processing began in June 2022. Since then, the project has provided a reduction of approximately 50 $kgCO_2$/t cement produced at the plant. This project contributed to a reduction in absolute terms of approximately 93.000 tCO_2e at the Arcos unit. Additionally, co-processing at the unit also provided an increase in the biomass replacement rate from 6% (2021) to 14.9% (2022), considering the Company's entire Cement segment. In the coming years, the coprocessing strategy will be intensified from the integration of the assets acquired from LafargeHolcim Brasil and its waste management platform, which has high expertise in the process, which is essential for the decarbonization journey.

2022

1. Beginning of the implementation of co-processing at the Arcos unit (MG).

2023

2. Consolidation of the thermal replacement strategy with projects of the new waste management platform, recently acquired by the Company together with the assets of LafargeHolcim Brazil.

CIMENTO CSN

CO-PROCESSING AT ARCOS

-50 kg CO_2/t cement

REDUCTION

CO_2

BENEFITS: from the implementation of co-processing at Arcos, in the second half of 2022, there was a reduction of approximately 50 $kgCO_2$/t cement.

Employee at CSN Cimentos in Alhandra (PB)

MITIGATION PROJECTS

MINING

Electric Trucks in Mining

DESCRIPTION. CSN Mineração has signed an agreement with the Chinese multinational Sany to test two 100% electric off-road trucks in its operations, replacing diesel oil with rechargeable batteries. The trucks have a load capacity of 60 tons (similar to the rest of the fleet) and will make up the Company's fleet of medium-sized vehicles, being used to transport ore and tailings at the Casa de Pedra mine in Congonhas - MG. The tests began in November 2022 and are expected to last until November 2023, with the first results indicating higher productivity when compared to the traditional model, which uses combustion engines. The challenge of decarbonizing CSN Mineração's activities involves the electrification of its fleet, based on the use of renewable electricity. Therefore, since 2020, 100% of the electricity consumed at CSN Mineração comes from renewable sources. With the acquisition of the new renewable energy assets that took place in 2022, the company reinforces its commitment to keep its Scope 2 emissions at zero.

2022

1. MOU* signed with Sany;
2. Start of testing of two 100% electric trucks.

2023

3. Expansion of the test to other areas of operation working under different conditions.

*MOU (Memorandum of Understanding)

ELETRIC TRUCKS

-279,261 tCO_2e up to 2035

REDUCTION CO_2

BENEFITS: considering the expansion of the projectfor current and future operation ,it is estimated a reduction of approximately 279,261 tons of CO_2 over a ten-year period (2025-2035), in addition to reducing operating costs.

Employee in an electric truck at CSN Mineração Casa de Pedra (MG)

MITIGATION PROJECTS

ENERGY

CSN 100% Renewable Energy

DESCRIPTION: The Company, in line with its strategy to advance the search for self-sufficiency of electricity generated by renewable sources, acquired in 2022 several hydroelectric and wind power generation assets, including the Companhia Estadual de Geração de Energia Elétrica (CEEE-G), located in Rio Grande do Sul. CEEE-G currently has 15 own assets, totaling 914MW of power and minority interests with 220 MW of power, three of which are interests in wind energy projects (Osório Wind Farm, Índios Wind Farm and Sangradouro Wind Farm). As a result, through this acquisition and through three other assets (Sacre, Santa Ana and Quebrá-Queixo), the CSN Group became 100% self-sufficient in renewable energy, significantly influencing the Company's greenhouse gas emissions in its scope 2. Only in the steel segment, this impact will be of approximately 47 thousand tCO_2e reduction in relation to the base year. The portfolio acquired by CSN is sufficient to meet current and future energy demand consideringthe Company's expansion plans.

2022

1. Acquisition of new renewable energy generating assets.

2023

2. CSN Group with 100% renewable energy.

RENEWABLE ENERGY

0 tCO_2 Scope 2

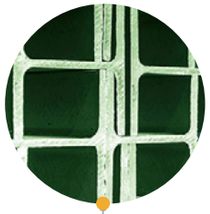
REDUCTION

CO_2

BENEFITS: with the acquisition, the Company has 100% renewable electricity and zero tCO_2 emission in scope 2 of greenhouse gases, considering the market-based approach.

Salto dam at
São Francisco de Paula (RS)

MITIGATION PROJECTS



STEEL

Green Steel Production at SWT Steel Plant

DESCRIPTION: In 2022, green steel represented 16.4% of all steel produced by CSN. Green steel production takes place at the SWT steel plant, located in Germany, with an intensity of 327kg CO_2 per ton of steel – assessed through life cycle analysis and declared through an EPD (Environmental Product Declaration). Due to its very low emission intensity, the unit, in partnership with Klöckner, one of its customers, obtained the "Green Steel" seal. When applying the WSA methodology to calculate its emissions, SWT reached a value of 210Kg CO_2e per ton of steel in 2022. SWT has developed its strategy for CSN green steel production focusing on the demands of customers seeking to reduce their carbon footprint. The strategy encompassed the following actions: (1) 100% consumption of renewable energy; (2) continuous improvement of processes through energy efficiency supported by ISO 50.001; (3) neutral logistics through partnerships with suppliers for transporting steel by rail to customers in various regions of Europe and (4) environmental product declaration. This strategy allows CSN to position itself as an important player in the supply of premium products, capturing even more value in the commercialization of its products. In order to further reduce its emissions, SWT plans a gradual replacement of natural gas with green hydrogen as soon as this input is available for use in Germany.

2022

Green Steel Production:

1. 100% renewable energy;
2. Life cycle assessment study;
3. Alternative to zero GHG emissions associated with steel transport for customers in various regions of Europe;
4. Environmental Product Declaration (EPD).

SWT
GREEN STEEL

800,000 tons
of green steel produced at SWT (Germany)

BENEFITS: in 2022, a portfolio of 16.4% of green steel production for CSN.

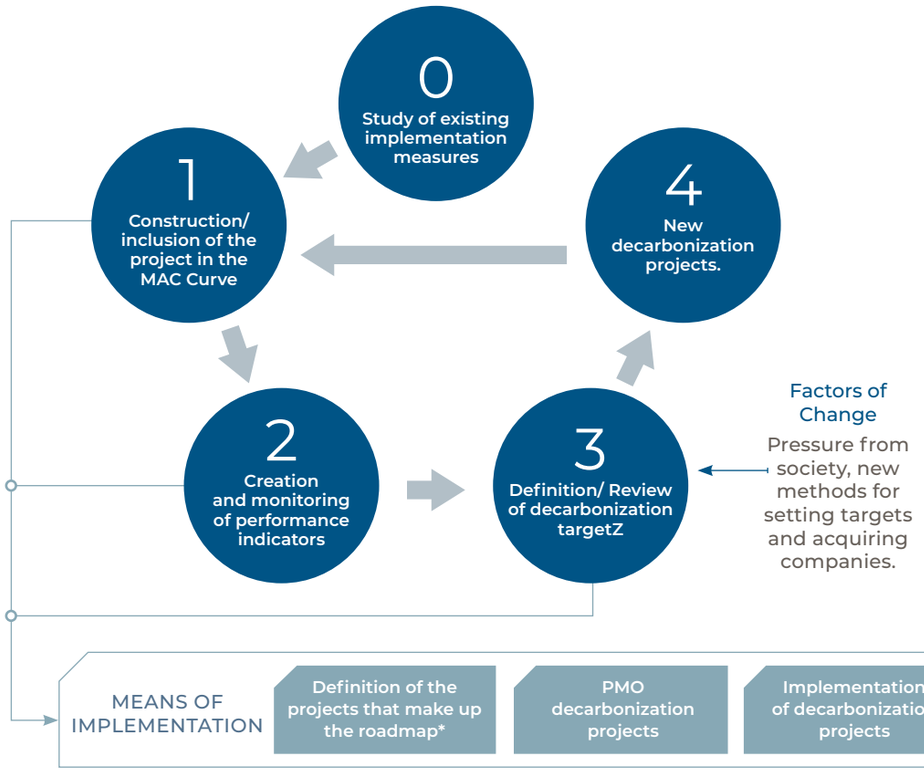
FOR THE FUTURE: use of green hydrogen to replace natural gas.

SWT green steel in Germany

DECARBONIZATION JOURNEY

ROADMAP CONSTRUCTION AND ENHANCEMENT

CONTINUOUS MANAGEMENT OF THE DECARBONIZATION ROADMAP



TYPE OF PROJECTS

- Structuring: projects that involve technological transformation of current routes, modify the Company's business model and involve large investments.
- Engineering: complex projects that include technologies that are already mature and applicable to current production routes, with the effective participation of the group's engineering teams.
- Inovation: disruptive projects led by CSN Inova teams. Currently, with higher risk or lower maturity and/or implementation costs still uncertain.

CLIMATE RISK AND OPPORTUNITY MANAGEMENT PROCESS

Within CSN's Climate Risk and Opportunity Management process, the "opportunity radar" was created. This tool allows the identification of new technologies and strategic market trends to assist/improve the construction of the Company's Decarbonization Journey on an ongoing basis.

DRIVING FORCES

Group of technological aspects that the Company identified to categorize decarbonization projects in a standardized way, aiming at transparency and clarity of the operating strategy of each segment.

Project Type Categorization

Check the synergy with the strategy.

Projects identified by operational needs that generate optimization and efficiency improvement (suggested by multiple areas).

STRATEGY BY PHASE

PHASE AND TIME HORIZON

- PHASE 1 BLUE 2018/2030 — Investments in continuity and operational efficiency.
- PHASE 2 OLIVE 2030/2035 — Technological changes and projects focused on reducing GHG.
- PHASE 3 GREEN 2035 onwards — New and disruptive technologies (currently with low TRL or scale/cost deficiency).

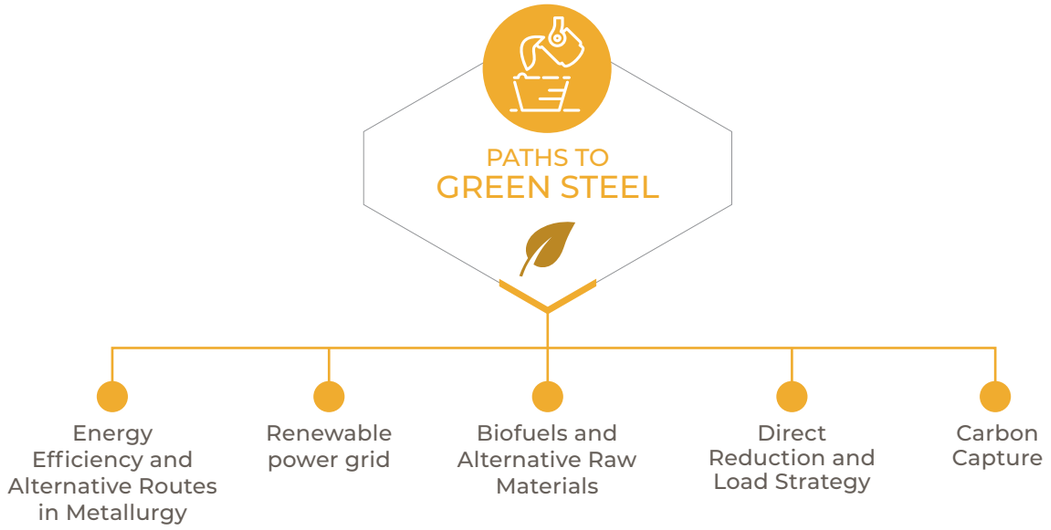
STEEL INDUSTRY DECARBONIZATION JOURNEY

Employee at Presidente Vargas Steelworks in Volta Redonda (RJ)

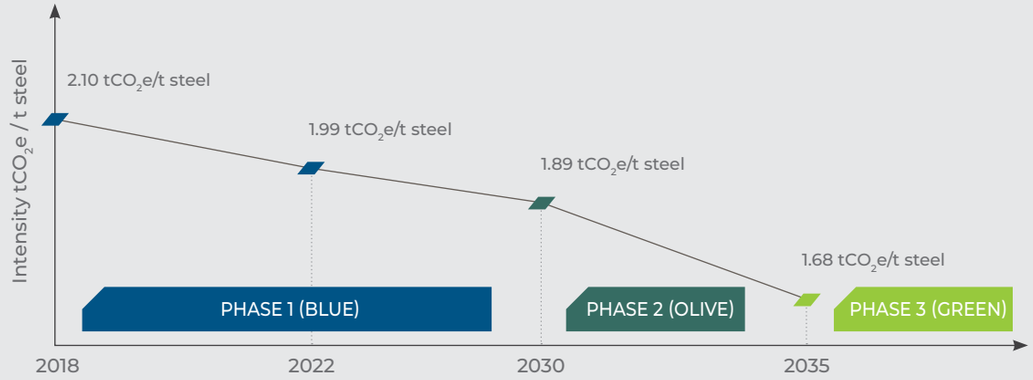
IN 2022, GREEN STEEL REPRESENTED 16.4% OF ALL STEEL PRODUCED BY CSN.

In steelmaking, the target of reducing 10% of specific emissions by 2030 and 20% by 2035 compared to the base year 2018 is based on a decarbonization journey divided into three phases: Blue, Olive and Green (see chart). To achieve the established target, the Company will work on five driving forces to build a path towards Green Steel. They are: 1. energy efficiency and alternative routes in metallurgy; 2. renewable electricity; 3. biofuels and alternative raw materials; 4. direct reduction and loading strategy and; 5. carbon capture and use.

The intensity of emissions per ton of steel is composed of the units of UPV (Brazil) and SWT (Germany). In 2022, the performance was 1.99 tCO_2e/t of steel, a 5% reduction in relation to the base year of the target. Regarding the performance of the UPV in 2022, the first half was marked by operational stops, causing an increase in the intensity of GHG emissions. However, in the second half of the year, the plant recovered its operational stability reaching a semiannual average of 2.29 tCO_2e/t steel. At SWT, we had an efficient operation throughout the year with an average intensity of 0.21 tCO_2e/t steel. With a stable and optimized operation in both production units, it was possible to reach 1.85 tCO_2e/t of steel in September. This performance is better than the target established for 2030 (1.89 tCO_2/t steel), demonstrating that the strategy foreseen in the blue phase of the decarbonization journey, with investments in projects that increase operational efficiency and add greater stability in the process, will be sufficient to achieve the defined CO_2 reduction target.



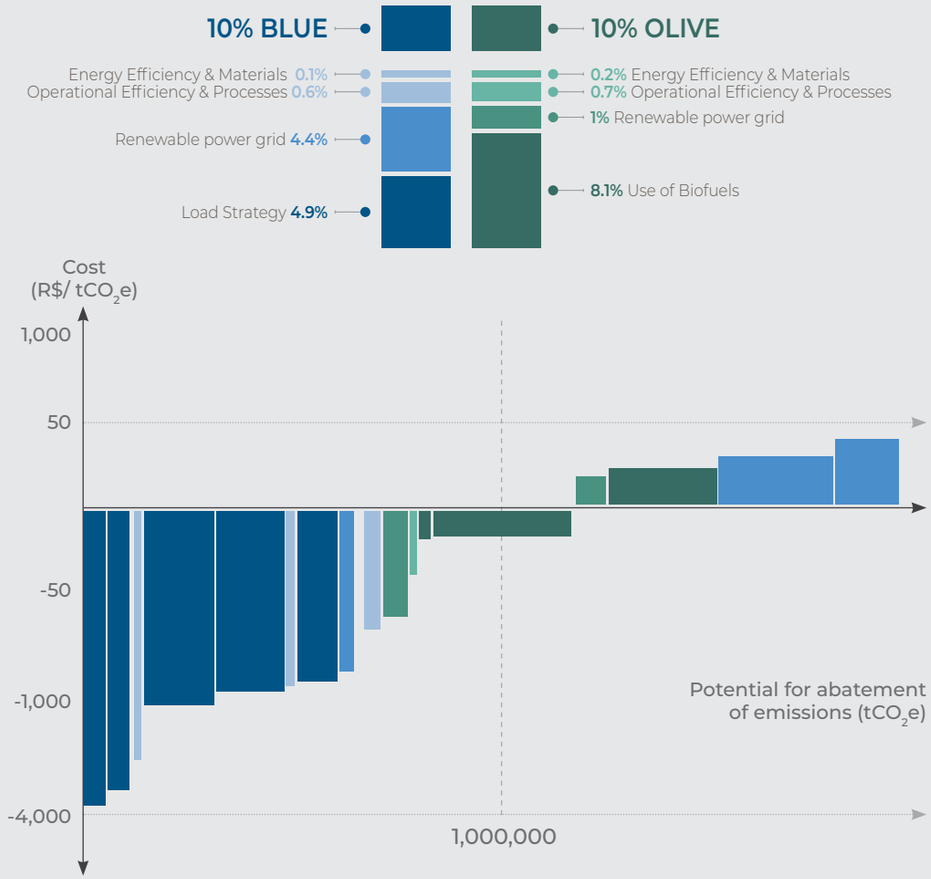
DECARBONIZATION ROADMAP FOR STEEL



2022 was also marked by the update of the MAC curve from the refinement of the assumptions to reduce emissions and costs of the most recent projects. As part of this work, SWT's projects became part of the Blue phase (until 2030). And because it is a primary tool to achieve the decarbonization of our operations, the MAC curve is revised at least every two years in order to keep the roadmap updated. In 2023, in order to continue exploring new technologies and strategies for decarbonization in steel industry in structuring projects, an internal forum was created to discuss Carbon Capture Use and Storage (CCUS) technologies, with the main objective of creating intellectual capital and envisioning market opportunities related to these technologies.

In addition, tests will be carried out for the use of charcoal in the blast furnaces of the Presidente Vargas Plant, an important Olive phase project. Through CSN Inova, projects have been developed for the use of Artificial Intelligence in the optimization of specific consumption in steelmaking furnaces and the Selene Project of green H2, conducted at CSN Paraná, which consists of the manufacture and use of green hydrogen to replace natural gas in the galvanizing operations of this unit. In addition to the production of green ammonia that will possibly be used as an input in the agricultural industry.

MAC CURVE OF THE DECARBONIZATION ROADMAP FOR THE BLUE AND OLIVE PHASES



INVESTMENTS IN 2022:

- Recovery of the top turbine of Blast Furnace 3 for electricity generation and fuel economy in the Thermoelectric Power Plant – CTE of UPV;
- Reforms in coke batteries, which will increase the production capacity of internal coke, improving the quality of this input used in the manufacture of steel, increasing efficiency in the blast furnace and bringing more availability of high-value steel gases;
- Investments in renewable energy generation assets, achieving self-sufficiency in their production for Brazil's assets and continuity of the purchase of renewable energy certificates at SWT – Germany.

PROJECTS IN 2023:

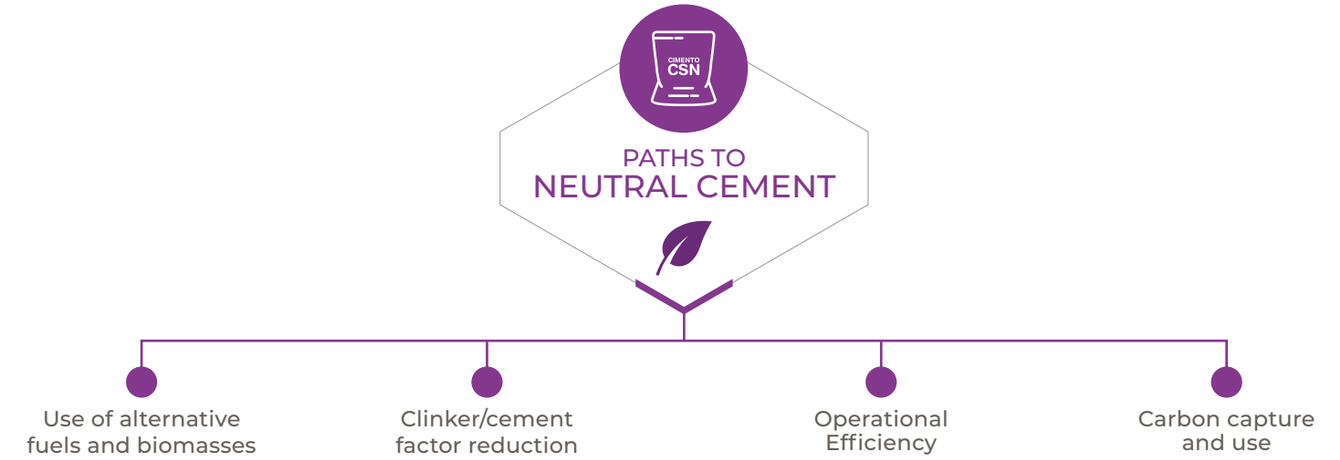
- Tests for the use of charcoal to replace PCI coal in blast furnaces 2 and 3 of the UPV;
- Reform of the UPV CTE boilers;
- Anticipation of project foreseen in the green phase, with the injection of green hydrogen in the regenerators of Blast Furnace 2 of the UPV, through the technology of the UTIS, already used in our cement operations;
- Evaluation of projects aimed at the capture and use of carbon through the group created for discussion of Carbon Capture Use and Storage;
- Hiring the conceptual engineer of the Selene Project, which aims to produce and use green hydrogen and ammonia at the CSN Paraná unit.

Employee in Arcos (MG)

ONE OF THE GREAT HIGHLIGHTS OF THE YEAR WAS THE BEGINNING OF CO-PROCESSING IN ARCOS, WHICH ALLOWED AN AVERAGE REDUCTION OF 50 KGCO_2E/T OF CEMENT IN THE UNIT. THERE WAS ALSO GREATER USE OF BIOMASS IN THE ARCOS UNIT DURING THE YEAR, GROWING FROM 6% IN 2021 TO 15% IN 2022 AND SHOULD REACH 23% IN 2023.

DECARBONIZATION JOURNEY OF THE CEMENT SEGMENT

Decarbonization in the Cement sector becomes even more relevant after the acquisition of LafargeHolcim Brasil's assets in 2022, as from 2023, the total emissions of this segment will correspond to about 40% of the absolute emissions of the entire CSN Group. However, it is noteworthy that the Cement segment of the CSN Group has one of the most efficient industrial parks in the world regarding the emission of CO_2 per ton of cement produced.



To achieve the sector's decarbonization targets, the Company will work on four fronts through the following driving forces: 1. use of alternative fuels and biomass; 2. reduction of clinker/cement factor; 3. operational efficiency; and 4. carbon capture and use. In 2022, the emissions intensity of the segment was 481 kgCO_2e/t cement[1], a reduction of 8% compared to the base year of 2020, even with the integration of the new unit acquired in 2021 – CSN Alhandra. In addition, the clinker factor remained practically constant in 2022 (55.9%) when compared to 2021 (55.6%). The entry of the Alhandra unit (PB), which is more intense in CO_2 emissions compared to other units, was offset by the emission reductions that occurred in Arcos (MG), allowing a small reduction in intensities when compared to the previous year (in 2021 the intensity was 483 kgCO_2e/t cement).

Note 1: GCCA 75 Indicator – Specific emission per cement in net base.

Employee at CSN Cimentos in Arcos (MG)

The MAC curve of the Cement sector was developed in 2021, highlighting two projects that are part of the decarbonization strategy: the implementation of co-processing and the use of biomass. All technologies considered in the CSN Cimentos decarbonization roadmap adhere to the strategy developed by the Global Cement and Concrete Association (GCCA) to achieve emissions neutrality by 2050 in the segment.

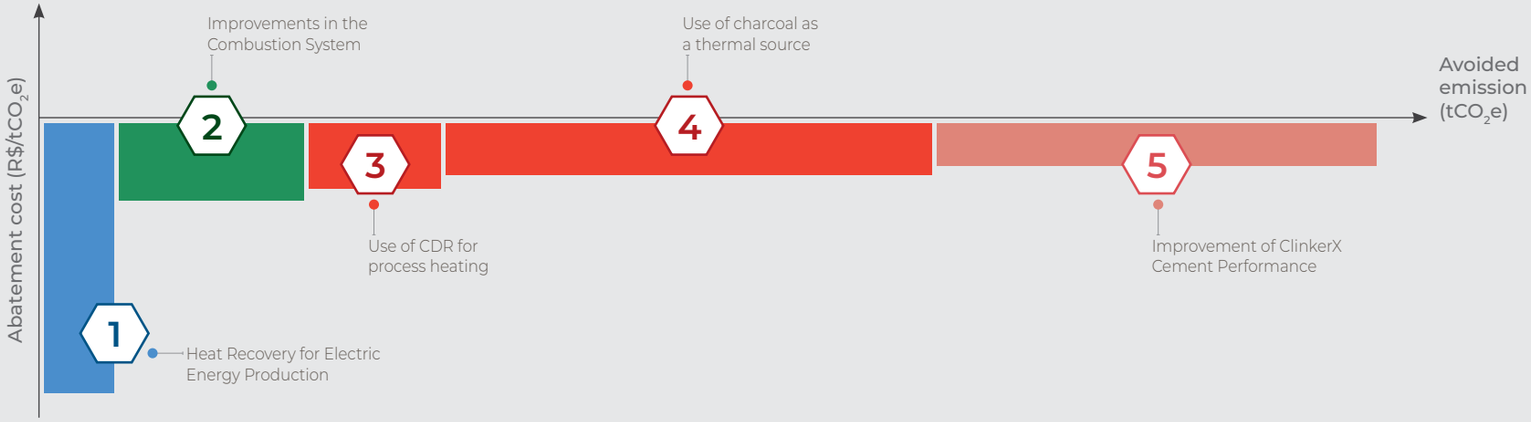
One of the main challenges for 2023 will be the integration of LafargeHolcim Brasil's assets, acquired by CSN, in the decarbonization roadmap and the update of CSN Cimentos' MAC curve, which will change the path to be followed. In addition, with the recent acquisition of the plants, it will be necessary to recalculate the historical emissions and performance indicators of CSN Cimentos, which will change the information for the base year. CSN Cimentos will take this opportunity to submit its new targets for validation and approval by the Science Based Targets Initiative (SBTi) for the sector, still in 2023.

In this context, the opportunities to reduce emissions from the new units acquired will be mapped and the performance of the Waste Management Platform acquired together with the assets of LafargeHolcim Brasil will be intensified. The Platform brings with it great expertise and a range of projects that will allow the intensification of thermal substitution using alternative fuels (waste). In addition, more than 30 projects have already been mapped that will potentially be implemented to improve the efficiency of the co-processing process.

In 2022, the implementation of UTIS technology began at the Alhandra unit (learn more about UTIS on page 52), which together with waste co-processing, to be implemented at this unit in 2024, will support a significant reduction in CO_2 emissions from this plant.

CSN Cimentos in Arcos (MG)

CEMENT MAC CURVE



INVESTMENTS IN 2022

- Injection of controlled amounts of green hydrogen to improve the burning of fuels in the clinker furnace of CSN Alhandra using UTIS technology, replicating the process that had positive results observed in the cement factory located in Arcos (MG), such as more stable burning, reduction of thermal/electrical consumption, improvement of the quality of the clinker and reduction of CO_2 emissions.
- Implementation of co-processing and increased use of biomass in Arcos.

PROJECTS IN 2023

- Implementation of co-processing at CSN Cimentos Alhandra.
- Mapping of new emission reduction opportunities for the new units acquired by CSN Group, mainly related to the recently acquired Waste Management Platform.
- Recalculate the base year of its targets with the insertion of the new assets acquired by the Company (LafargeHolcim Brasil) and submit the new targets for approval of the Science Based Targets Initiative (SBTi) for the Cement sector.
- The testing of electric trucks at the limestone mine at the Arcos unit is expected to begin in the second half of the year.

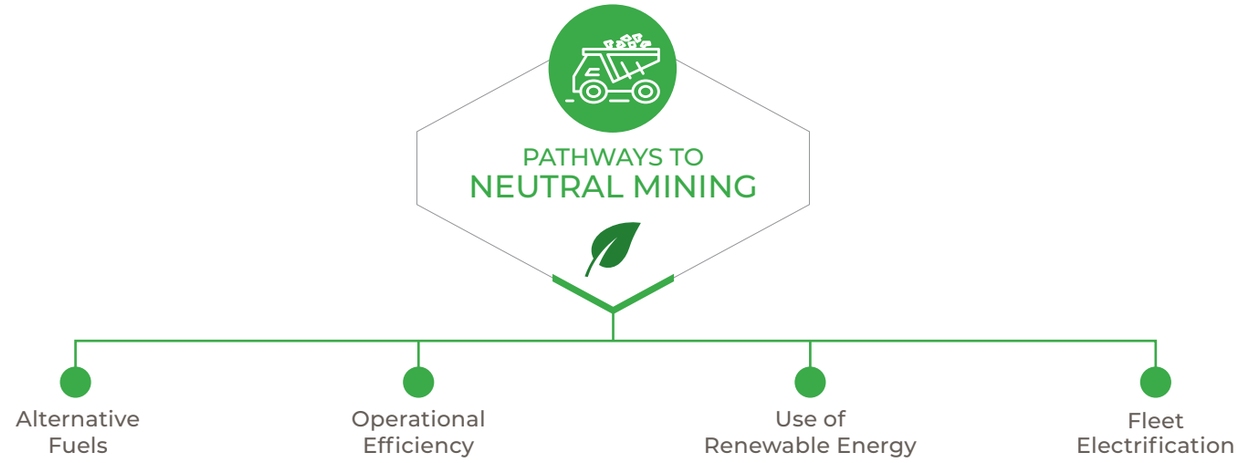
DECARBONIZATION JOURNEY CSN MINERAÇÃO

At CSN Mineração, the target is to reduce 30% of emissions at scopes 1 and 2 by 2035, becoming carbon neutral by 2044. To achieve these targets, the Company will work on four fronts through the following driving forces: 1. Alternative fuels; 2. Operational efficiency; 3. Renewable energy and 4. Electrification of the fleet.

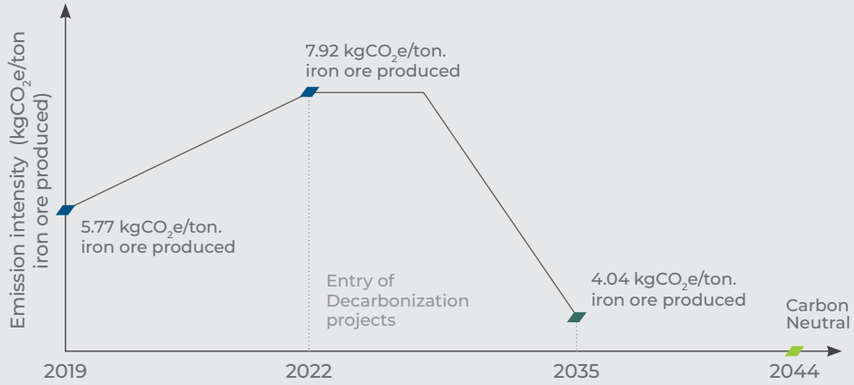
The Casa de Pedra Mine has a low greenhouse gas emission factor (scopes 1 and 2 per ton of ore produced), when compared globally to other market players. This is due to the structure of the mine itself, which, due to its geological formation, the occurrence of ore is compactly distributed contributing to greater operational efficiency by requiring shorter distances for movement in the mine and for transport of products, tailings and waste.

However, the first quarter of 2022 was marked by heavy rains in the state of Minas Gerais, which substantially impaired the operation and production of the mine. In addition to climate factors, the ramp-up of projects connected to the Central Plant also impacted the Company's production. Consequently,a specific mobile combustion emission (>95% of CSN Mineração's scope 1 emissions) of 7.54 $kgCO_2e$/ton of ore was recorded, 18% higher than 2021.

According to the decarbonization roadmap for CSN Mineração, a transient increase in the intensity of GHG emissions is foreseen, until structuring projects related to the operational efficiency of the mine are implemented and the gradual replacement of the fleet of large vehicles begins. In addition, unexpected weather events can affect the Company's production capacity, leading to lower efficiencyregarding to the CO_2 production/emission equation.



DECARBONIZATION ROADMAP FOR CSN MINERAÇÃO



PHASE 1 (BLUE):
Scope reduction 1; Operational efficiency; Autonomous Mine; Biofuels.

PHASE 2 (OLIVE):
Fleet Electrification; Use of Alternative Fuels.

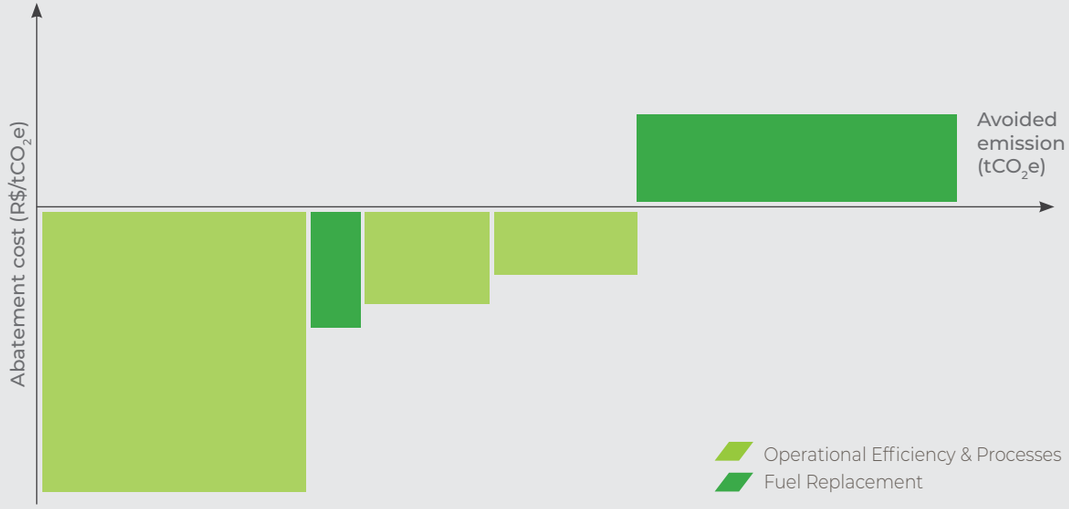
PHASE 3 (GREEN):
Fuel Cells (Green H_2); *Offset*.

In the Mining MAC curve, updated in 2022, potential emission reduction projects were identified, as well as financial costs were calculated. For the construction of the CSN Mineração Decarbonization Journey, 4 driving forces were defined: 1. Fleet electrification, 2. Renewable electricity, 3. Operational efficiency and 4. Replacement of fuels and new technologies.

In this way, in 2022, CSN Mineração started the electrification plan of its fleet of off-road vehicles, linked to ore transport operations at the Casa de Pedra mine, in Congonhas (MG), and two 100% electric trucks with a capacity of 60 tons are already in operation. In parallel, a memorandum of understanding (MoU) for cooperation on the topic of decarbonization was signed with Shell and Itochu Corporation, where the scope of the partnership was defined, aiming at the implementation of the best solutions such as fleet electrification and use of alternative fuels. In the second half of 2023, HVO, a synthetic fuel that does not emit fossil CO_2 in its use, will be tested. The signed MoU also aims to identify and evaluate opportunities in the different phases of the decarbonization journey, focusing on real chances of positive impact in other segments of the company.

Another challenging point is Scope 3 emissions, where the Company invests efforts to reduce its emissions in the “10 – Processing of sold products” category. However, the limitations of access to its customers, especially in the transparency of its GHG emission factors, have affected the Company's ability to establish feasible targets to reduce its emissions in scope 3 in the mining segment. From 2025, when the operations of the P15 Plant for Itabiritos processing begin, CSN Mineração will have in its portfolio a Premium product with 67% iron content. In this way, the Company starts to position itself in the market as a strategic player for customers who want to produce low CO_2 emission steel and allied to decarbonization commitments, as this product will be fundamental to direct reduction routes for steel production.

MINING MAC CURVE



THE FIRST MINING COMPANY TO USE ELECTRIC OFF-ROAD TRUCKS IN BRAZIL.

INVESTMENTS IN 2022

- Start of tests for electrification of the off-road vehicle fleet, for ore and tailings transport operations at the Casa de Pedra mine;
- Implementation of Switches in large trucks to monitor the position of the tipper and control the RPM (Rotation Per Minute) at the time of tipping, leading to an approximately 3% reduction in fuel consumption;
- Increase in the size of small trucks in order to gain efficiency in the transport of cargo and, consequently, reduce fuel consumption;
- Memorandum of Understanding (MOU) signed with Shell and Itochu Corporation for cooperation on the topic of decarbonization.

> ELECTRIC TRUCKS WITH HIGHER PRODUCTIVITY THAN TRADITIONAL

PROJECTS IN 2023

- Continuity of tests with electric trucks, including the identification of the best method for charging batteries and expansion for off-road fleet;
- Start of diesel replacement test by HVO (hydrogenated vegetable oil);
- Evaluation of the increase in the percentage of biofuel in diesel;
- Development of a study for the use of ethanol in the light fleet;
- Start of the test of projects aimed at increasing energy efficiency in the fleet, such as supply management, optimization of roads and accesses and optimization of the mining plan;
- Conducting tests of technologies that lead to the reduction of GHG emissions, such as Start/Stop, hydrogen cells and the use of catalysts and additives in engines;
- Start of studies for the implementation of the Autonomous Mine in Casa de Pedra, technology that results in unmanned equipment that delivers the planned movement safely, with the lowest cost, greater use and productivity of the fleet, resulting in a reduction of about 7% of GHG emissions.

Employee in an electric truck at CSN Mineração Casa de Pedra (MG)

ADAPTATION PILLAR

Employee at
CSN Mineração (MG)

CLIMATE RISKS AND OPPORTUNITIES PROCESS

SINCE 2021, CSN HAS BEEN CARRYING OUT AN EXTENSIVE MAPPING AND EVALUATION OF THE MOST RELEVANT RISKS AND OPPORTUNITIES RELATED TO CLIMATE CHANGE IN THE CONTEXT OF THE ACTIVITIES, SECTORS AND REGIONS WHERE IT OPERATES.

The process of risks and opportunities includes aspects of transition (market, technological, reputational, regulatory and legal) and change in weather patterns (acute and physical), as outlined by TCFD. In 2022, the CSN Group's Climate Risk and Opportunity Management Process was restructured, integrated into CSN's corporate risk management, as recommended by TCFD. Additionally, in 2022 a thematic subgroup on Climate Risk and Opportunity Management was created as an operational governance instrument to specifically address the topic. Due to this proximity, the process of climate risks and opportunities talks directly with the Company's risk process, allowing them to be incorporated into the corporate matrix.

Aerial photograph of Itá Hydroelectric Power Plant (SC)

PROCESS **OVERVIEW**

CSN's Climate Risk and Opportunity Management Process consists of four phases and includes the use of climate scenarios. Such scenarios are instruments that aim to support the Company's strategic decision-making by senior leadership, in which projects are prioritized or rejected according to criteria associated with the topic of climate change.

RISK / OPPORTUNITY MATRIX

Low (1-15) Medium (16-44) High (45-79) Critical (80-125)

MAGNITUDE OF IMPACT					
VERY HIGH	25	50	75	100	125
HIGH	16	32	48	64	80
MEDIUM HIGH	9	18	27	36	45
MEDIUM	4	8	12	16	20
LOW	1	2	3	4	5

PROBABILITY OF OCCURRENCE

Low	Medium	Medium High	High	Very High
SHORT (FROM 1 TO 3 YEARS)		MEDIUM (FROM 4 TO 5 YEARS)		LONG (MORE THAN 6 YEARS)

A 5 x 5 matrix for each time horizon.

PHASE 1

Phase 1 is characterized by the definition of the methodology that will be adopted for the analysis of climate risks and opportunities. From it, the granularity and comprehensiveness of the analyses and the time horizons considered are defined. In addition, the glossary of risks and opportunities is prepared, the taxonomies* adopted and the impact ruler are defined, as well as the evaluation/prioritization approach that will be used.

PHASE 2

In phase 2, climate risks and opportunities are mapped and prioritized based on the criteria pre-established in phase 1. At this stage, the risk and opportunity factors are evaluated and distributed in a 5x5 matrix, with a classification in four levels: low, medium, high and critical.

PHASE 3

In phase 3, critical risk and opportunity factors are evaluated from the perspective of the three climate scenarios developed by CSN, which aim to encourage the Company's managers to consider factors related to climate change in strategic decision-making. The evaluation is done by business (Steel, Domestic Steel, Cement, Mining, Energy, Ports and Logistics) and at the corporate level (CSN Group and CSN Mineração).

PHASE 4

Phase 4 corresponds to the creation of climate adaptation measures to mitigate potential climate risks. In 2023, the CSN will begin the climate vulnerability study, in which the main vulnerabilities will be systematically mapped using a rigorous scientific method supported by the climate scenarios built by the CSN, which will subsidize the creation of the Climate Adaptation Plan.

*Information taken from the Taxonomy published in the TCFD (https://assets.bbhub.io/company/sites/60/2020/10/TCFD-Final-Report-2017-Portuguese-Translation.pdf)

In 2022, an extensive benchmark survey was carried out, with more than 30 companies, to assess the main risks and opportunities in the Mining, Steel, Cement, Logistics and Energy sectors. In addition, strategic reports from the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA) and renowned universities were consulted.

That same year, 39 climate risk factors were identified – that is, climate threats that could trigger the risks. Of these, 8 were considered critical and will be detailed in the Climate Scenarios chapter, which also presents the Company's climate opportunity factors.

Additionally, in 2023, 9 more chain risk factors were identified, which will also be incorporated into the process, aiming at a broader scope (e.g. extreme weather events that affect the transportation of products or raw materials considering the rail modal). As a result, the process now has a scope of analysis in 48 risk factors. The risks and opportunities were divided according to the taxonomy presented in the Task Force on Climate-Related Financial Disclosures (TCFD).

IN 2022, 3 CLIMATE SCENARIOS WERE PREPARED FOR THE CSN, NAMELY:

- BUSINESS AS USUAL (BAU) SCENARIO
- STAY ON THE FENCE (SOF) SCENARIO
- NET-ZERO EMISSION (NZE) SCENARIO

The last phase of the process consists of the preparation of the CSN Climate Adaptation Plan that began to be developed in 2023.

In CSN, scenario analysis is integrated into strategic planning processes, as recommended by the TCFD. Based on climate scenarios, the Company prioritizes the allocation of resources, ensuring the strategic resilience of businesses in the face of climate opportunities and risks. All analysis is documented and key results are communicated to stakeholders through the public reports that CSN disseminates, such as the Integrated Report and the reporting to the CDP questionary.

Environmental Promotion Center in Itá (SC)

Electrical distribution network of Itá Hydroelectric Power Plant

CLIMATE SCENARIOS

CLIMATE SCENARIO ANALYSIS HELPS UNDERSTAND HOW CLIMATE OPPORTUNITIES AND RISKS CAN AFFECT BUSINESS OVER TIME.

It is not a projection or prediction of the future, but rather a hypothetical analysis of the main factors that will drive the next events in order to determine how resilient the business will be.

DESCRIPTION AND NARRATIVES OF THE SCENARIOS

In 2022, CSN completed its first climate scenarios study, built from the narratives of the Shared Socioeconomic Pathways (SSP) scenarios adopted in the latest Intergovernmental Panel on Climate Change (IPCC) report and the International Energy Agency (IEA) scenarios:

	***Net-Zero Emission World* (NZE)**	***Stay on the Fence* (SOF)**	***Business as Usual* (BAU)**
Average warming up to 2100	1.5°C	2.5°C	4.0°C
The pace of society's change towardsa low-carbon economy			
Exposure to changes in weather patterns			
Simplified scenario narrative	The world changes gradually but generally towards a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries . Driven by a commitment to achieving developmentgoals, inequality is reduced both among and within countries, and consumption is driven by low material growth and lower resource and energy intensity.	The world follows a path in which social, economic and technological trends do not deviatesharply from historical patterns. Development and income growth continue unevenly, with some countries making relatively good progress, while others fall short of expectations. Global and domestic institutions work to achieve the sustainable development targets, but make slow progress.	GHG emissions will be even higher compared to current levels. Consequently, society will be highly vulnerable tochanges in weather patterns that will be enhanced by low social development.
Main Climate Scenarios used as a reference	**IEA** *Net Zero Emissions by 2050 Scenario* (NZE) **IPCC** SSP 1- 1.9	**IEA** *Announced Pledges Scenario* (APS) **IPCC** SSP 2- 4.5	**IEA** *Stated Policies Scenario* (STEPS) **IPCC** SSP 5-8.5 e SSP3-7.0

Electrical distribution network of Itá Hydroelectric Power Plant

Qualitative and quantitative analyses were carried out for all risks and opportunities classified as critical to the three climate scenarios developed. Annex 2 provides a breakdown.

ANNEX 2

Net-Zero Emission World (NZE) | **Stay on the Fence (SOF)** | **Business as Usual (BAU)**

Click on the icon of each climate scenario to read the text in full.

NET-ZERO EMISSION WORLD (NZE)

In the Net-Zero scenario, a decay in the world population growth rate and a reduction in social inequalities are expected, the latter parameter being evaluated based on the Gini factor (2020: 0.49; 2050: 0.33; 2100: 0.12). On the other hand, there is an increase in urbanization and global GDP (2020: 100 t. USD; 2050: 300 t. USD; 2100: 580 t. USD). It is expected that in this scenario the increase in global average temperature will be limited to 1.5°C by 2100.

Overall, the world migrates to a more sustainable path, with an emphasis on inclusive development and respect for environmental limits. For example, a reduction in traditional fossil energy consumption is expected and migration to more renewable sources such as green hydrogen. Thus, the global electricity grid is expected to be 90% renewable by 2050.

The expansion of infrastructure for renewable energy production and the transport sector will increase the demand for steel production by 10%. Primary steel is commonly produced through the blast furnace and furnace route (BF-BOF), which uses coke as the main raw material of the process, resulting in a high emission intensity (1.6-2.2 tCO_2/t steel). In order to reduce the intensity, DRI-EAF (Direct Reduced Iron and Electric Arcos Furnace) technology is expected to potentially use green hydrogen as the main energy input after 2030. In this process, there will be a need for pellet feed high grade, ore with high iron content (67%). In addition, the use of scrap for conventional routes and for EAF routes is expected to increase from 32% in 2020 to 46% in 2050.

Iron ore production will be less carbon-intensive, as the NZE scenario provides incentives for the use of renewable fuel, electrification of fleets and elimination of fossil fuel subsidies. The demand for quality iron ore will directly impact the system of the sector and modify the demands of import and export of this product.

In relation to cement, there is an increase in demand until 2030 in emerging markets, followed by a 20% decrease in demand due to the more efficient design of the structures. As cement production is carbon intensive, it will be necessary to adopt actions to meet the sectoral decarbonization curve of the SBTi (Science based Targets Initiative) of cement, which establishes that in 2035 the emission intensity must be in the range of 344 $kgCO_2$/t cement. It is noteworthy that, currently, on average, 0.6 tons of CO_2 are emitted for each ton of cement produced, and 2/3 of the emissions come from raw materials. For this reason, it is necessary to add alternative materials to the mixture up to the maximum allowed limit.

In the NZE scenario, carbon neutrality will be a requirement of society and there is an increasing commitment to achieve the development targets established by countries, with a significant technological advance in the 20s and 30s. The carbon price will be higher, being estimated at 250 USD/tCO_2 in developed countries and 200 USD/ tCO_2 in emerging countries, such as Brazil, in 2050.

Notes: The Gross Domestic Product (GDP) is one of the most used indicators to quantify the economic activity of a region. In this report, GDP is expressed in trillions of dollars (t. USD).

The Gini Factor is an indicator that measures the distribution of income in a territory. It varies between 0 and 1, and the closer to 1, the greater the inequality in income distribution among the population.


Employee at CSN ERSA in Ariquemes (RO)

QUALITATIVE AND QUANTITATIVE ANALYSIS (Risks and Opportunities)

Risk and opportunity factors are mapped and validated in a joint effort between several areas of the Company. In this evaluation, the magnitude of the impact is qualitatively identified, that is, how the Company is impacted by financial losses, litigation, fines, operational stoppages, among other aspects. The probability of occurrence also includes the analysis, as well as the time horizon (short term: 1 to 3 years / medium term: 4 to 5 years /long term: 6+ years).

In the study conducted in 2022-2023, 48 climate risk factors (39 direct and 9 chain) and 33 climate opportunity factors were identified. From the 5x5 matrix, the factors were classified as critical, being presented below:

CLIMATE OPPORTUNITIES

OPPORTUNITY FACTOR	TAXONOMY	HORIZON	SEGMENTS	QUALITATIVE ANALYSIS		
				BAU	SOF	NZE
Continuity and operational stability projects in the Steel Industry	Resource Efficiency	Medium Term	Steel industry	↑↑	↔	↓
Use of Hydrogen as an element of the decarbonization strategy and new production routes in the Steel Industry	Products and Services	Long Term	Steel industry	↔	↑	↑↑
Load plating strategy (ore quality, HBI etc) in the Steel Industry	Products and Services	Medium Term	Steel industry	↑	↑	↑↑
Product portfolio aligned with different climate scenarios and the needs of the future society (sustainable and resilient infrastructure expansion scenarios toweather extremes)	Resilience	Long Term	CSN Group	↑↑	↑	↑↑
Reduction of the clinker factor through the use of slag or other cements in order to reduce CO_2 emissions in cement production and promote circularity	Products and Services	Short Term	Cement	↑	↑	↑↑
Demand for higher quality iron ore by the market	Products and Services	Medium Term	Mining	↑	↑	↑↑
Investment in renewable energy and energy matrix diversification	Power Supply	Medium Term	Energy	↑↑	↑	↑↑
Circular economy and cross-sector integration promoting efficiency and impact reduction	Resource Efficiency	Short Term	CSN Group	↑	↑	↑

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenario ↓ Opportunity factor

OPPORTUNITY FACTOR	TAXONOMY	HORIZON	SEGMENTS	QUANTITATIVE ANALYSIS			QUALITATIVE ANALYSIS			MITIGATION STRATEGY AND MEASURES
				BAU	SOF	NZE	BAU	SOF	NZE	
Absence of a product portfolio aligned with different climate scenarios and the future society's need for eco-friendly products	Transition – Technological	Long Term	CSN Group	–	< R$100MM	< R$200MM	↑↑	↑	↑↑	**a.** Business and location diversification **b.** Development of new low-carbon technological products and routes
Market creation or implementation of carbon taxation in international markets (New pricing)	Transition – Regulatory and legal	Medium term	Mining	N/D	N/D	N/D	↔	↑	↑↑	**a.** Investment in the Itabirito beneficiation plant for the production of premium iron ore and in technologies to reduce GHG emissions **b.** Long-term iron ore sales contract **c.** Construction of strategic partnerships aimed at the sale of high-quality iron ore for direct reduction routes
Market creation and/or implementation of carbon taxation in Brazil (New Pricing)	Transition – Regulatory and legal	Medium term	Cement	Opportunity with potential advantage > R$100MM*	< R$ 100MM	< R$ 500MM	↓	↑	↑↑	**a.** Emission reduction targets for the Cement segment aligned with s ectoral roadmaps **b.** Integrated circularity strategy to reduce the clinker factor **c.** Acquisition of new low-carbon plants **d.** MAC Curve Development and decarbonization roadmap to implement feasible technologies
Market creation and/or implementation of carbon taxation in Brazil (New Pricing)	Transition – Regulatory and legal	Medium term	Steel	< R$ 100MM	< R$ 500MM	> R$ 500MM	↔	↑	↑↑	**a.** Emission reduction targets for the Steel segment **b.** Investment in technologies to reduce GHG emissions **c.** MAC Curve development and decarbonization roadmap to implement feasible technologies **d.** Building strategic partnerships with a focus on decarbonization
Water scarcity and drought due to changes in precipitation patterns	Physical – Chronic	Long Term	Energy	< R$ 100MM	–	–	↑↑	↑	↔	**a.** Acquisition of new power generation plants in different geographies **b.** Diversification of the power grid of energy generation **c.** Climate vulnerability study considering different climate scenarios
Increase in intensity and frequency of external weather events (Urban, River and Coastal Flooding)	Physical – Acute	Medium term	Mining	< R$ 100MM	< R$ 100MM	< R$ 100MM	↑↑	↑	↔	**a.** Rain prevention plan in CSN Mineração for critical periods **b.** De-characterization of dams and tailings stacking
Loss of competitiveness due to delay in developing more sustainable production routes compared to the practices of national and international competitors	Transition – Technological	Medium term	Steel	N/D	N/D	N/D	↔	↑	↑↑	**a.** Emission reduction targets for the Steel segment **b.** Investment in technologies to reduce GHG emissions **c.** MAC Curve development and decarbonization roadmap to implement feasible technologies **d.** Building strategic partnerships with a focus on decarbonization
Carbon tax on imports for steel in the European Union (CBAM - Carbon Border Adjustment Mechanism) or similar mechanisms elsewhere	Transition – Regulatory and legal	Short term	Steel	< R$200MM	< R$200MM	< R$200MM	↑	↑	↑	**a.** Emission reduction targets for the Steel segment **b.** Investment in technologies to reduce GHG emissions **c.** MAC Curve development and decarbonization roadmap to implement feasible technologies **d.** Building strategic partnerships with a focus on decarbonization

*In the Business as Usual (BAU) scenario, the creation of a carbon pricing instrument that covers the cement sector can be considered an opportunity for CSN, since the company's emissions intensity in this segment is lower than the intensity of other peers.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenario ↓ Opportunity factor

Aerial photograph of Pedro Leopoldo (MG)

TCFD RECOMMENDATIONS

SINCE 2021, CSN HAS ADOPTED THE RECOMMENDATIONS OF THE TCFD (TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES) IN THE PREPARATION OF ITS ANNUAL REPORTS, ENSURING TRANSPARENCY AND ASSERTIVENESS OF THE INFORMATION DISCLOSED TO INTERESTED PARTIES.

The increase in CSN's maturity in the climate change issue and the restructuring in processes allowed the Company to internalize 100% of TCFD's recommendations in the 2022 Integrated Report and in the Climate Action Report. Annex 3 presents in high degree of detail the items requested by the TCFD. On the next page, it is possible to see the main connections of the recommendations with this document, with the 2022 CSN Integrated Report and with the CDP.

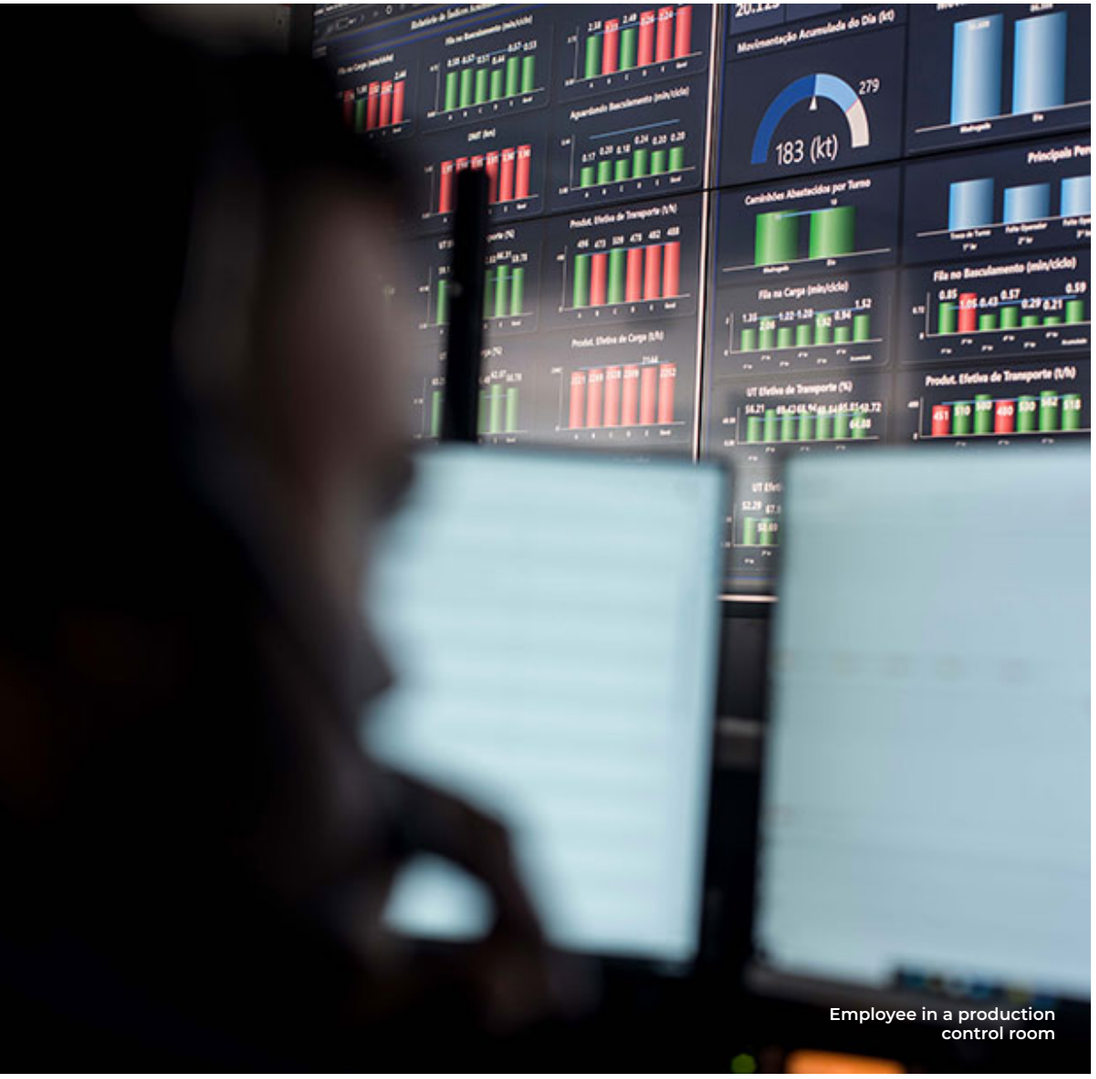
ANNEX 3

RECOMMENDATION CONNECTIONS

TCFD PILLAR	DESCRIPTION	RECOMMENDATIONS	COMPLIANCE WITH RECOMMENDATION	2022 INTEGRATED REPORT	CDP ITEM	CHAPTER IN THIS REPORT
Governance	Disclose the organization's governance around climate-related risks and opportunities	**a.** Describe the board's oversight of climate-related risks and opportunities.	✓	Chapter "Climate Governance and Strategy"	C1.1	"Climate Governance"
		b. Describe management's role in assessing and managing climate-related risks and opportunities.	✓	Chapter "Climate Governance and Strategy"	C1.1	"Climate Governance"
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	**a.** Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	✓	Chapters "Climate Risks Management" and " Study of Climate Scenarios"	C2.1 C2.2 C2.4 C2.5	"Climate Risks and Opportunities Process" and "Climate Scenarios"
		b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	✓	Chapters "Climate Risks Management" and " Study of Climate Scenarios"	C3.3 C3.4	"Decarbonization Journey" and "Climate Scenarios"
		c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	✓	Chapter "Study of Climate Scenarios"	C3.2	"Climate Scenarios"
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.	**a.** Describe the organization's processes for identifying and assessing climate-related risks.	✓	Chapter "Climate Risks Management"	C2.1 C2.2	"Climate Risks and Opportunities Process"
		b. Describe the organization's processes for managing climate-related risks.	✓	Chapter "Climate Risks Management"	C2.1 C2.2	"Climate Risks and Opportunities Process"
		c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	✓	Chapter "Climate Risks Management"	C2.1 C2.2	"Climate Risks and Opportunities Process"
Metrics and Targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such	**a.** Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	✓	Chapter "Targets and Performance"	C2.1 C2.2	"Decarbonization Targets" and "Climate Risks and Opportunities Process"
		b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	✓	Chapter "Emissions Data"	Sections 5 e 6	Chapter "Greenhouse Gas Emissions Profile and correlated KPIs"
		c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	✓	Chapter "Targets and Performance"	4.1 4.2	Chapter "Decarbonization Targets"

STAKEHOLDER ENGAGEMENT PILLAR

CSN's employee at in a lecture



Employee in a production control room

PERFORMANCE IN RATINGS AND CLIMATE DISCLOSURE

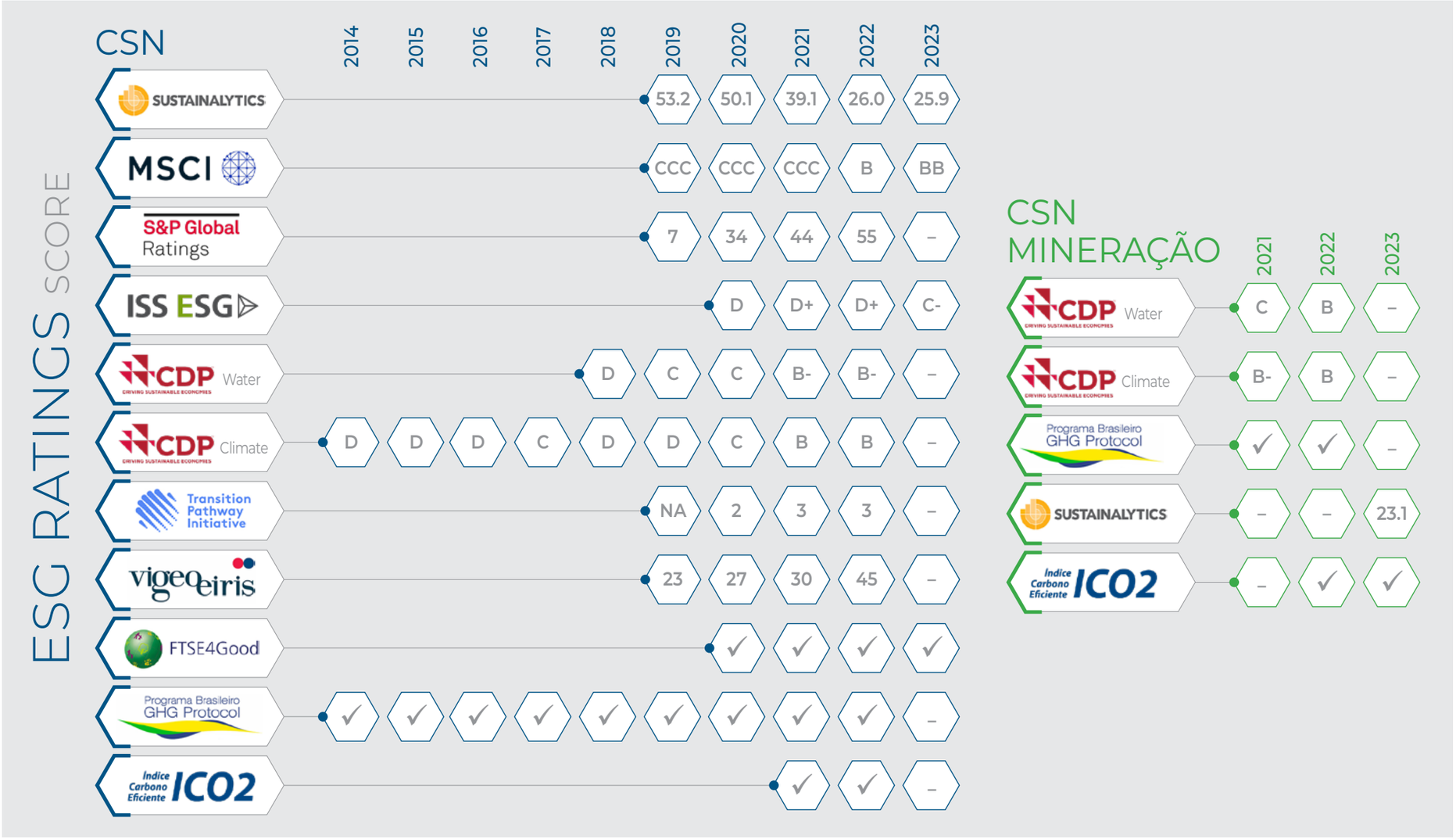
CSN'S REPORTING ON RATINGS ASSOCIATED WITH CLIMATE CHANGE ENABLES INVESTORS AND OTHER STAKEHOLDERS TO TRACK THE COMPANY'S COMMITMENT AND PROGRESS IN TRANSITIONING TO A L OW-CARBON ECONOMY. THE COMPANY'S POSITIVE EVALUATIONS REFLECT THE TRANSPARENCY IN THE DISCLOSURE OF DATA AND THE EXISTENCE OF MANAGEMENT AND GOVERNANCE MECHANISMS.

CSN reports its data to the main national and international rating agencies associated with the topic of climate change. Since 2014, CSN has responded to the CDP questionnaire, the main platform that companies and cities use to report information on impacts associated with climate, forests and water security. From 2021, CSN Mineração started to make a report independent of CSN on the platform, having evolved its score from "B-" to "B" in the climate change module and from "C" to "B" in the water security module in 2022. The consolidated responses for all operations (CSN Group), in the same year, reached grade B, the same score achieved in 2021, in the climate module.

Also noteworthy is the report to Sustainalytics, an agency that assigns grades to companies' ESG performance and serves as a reference for different investor profiles around the world. In 2023, CSN received a new classification, reducing from 39.1 to 25.9 its ESG risk score. During this period, there was a 44% decrease in the risk of emissions, effluents and waste, which makes up the final score of ESG risks. CSN Mineração was also evaluated for this rating in 2022 and received a grade of 23.1. Of the 156 steelmaking and iron ore companies evaluated globally, CSN has the 6th best score in the sector, while CSN Mineração has the 4th best score, in this same ranking. CSN was also the only Brazilian company in the steel, mining and civil construction sectors named to the S&P Global Sustainability Yearbook 2023, and awarded the "Industry Mover" seal, as the company in steelmaking sector

that most advanced in ESG practices in the world. In the ISS ESG rating, which evaluates investments from a sustainable and responsible perspective, CSN went from D+ to C- in 2023. Regarding the item called "GHG emissions reduction target and action plans", which makes up the total score, the company progressed from D to B-, on a scale ranging from D- to A+.
In FTSE4Good rating, CSN's environmental pillar has a grade 25% higher than that of the steel and iron sector average. Regarding the item of climate change, it is observed that CSN performs 30% above the other Brazilian companies. The ICO2, TPI, MSCI and Vigeo Eiris indexes also assess the company's performance in relation to climate change, and the results obtained for CSN and CSN Mineração are presented in the figure below.

– Awaiting disclosure of results.



CSN INOVA AND DECARBONIZATION

IN THE SEARCH FOR AN INNOVATIVE PERFORMANCE IN ALL BUSINESS AREAS, CSN HAS A PLATFORM TOTALLY DEDICATED TO INNOVATION, CSN INOVA – WHICH HAS A STRATEGIC ROLE IN THE STUDIES AND IMPLEMENTATION OF PROJECTS RELATED TO THE COMPANY'S DECARBONIZATION JOURNEY.

Its operations are linked to four pillars – CSN Inova Open, CSN Inova Ventures, CSN Inova Bridge and CSN Inova Tech – which are focused on identifying and implementing solutions to the challenges of CSN Group. CSN Inova has complementary tools for the execution of innovation strategies with impact in the short-, medium- and long-term horizons.

CSN INOVA OPEN

Deepening of internal challenges, execution of pilot projects and at scale with innovation management methodology and open innovation. Some projects related to decarbonization in progress: use of artificial intelligence to reduce the use of natural gas in galvanizing furnaces; expert system in Arcos' furnace and mill potential; hydrogen cells to reduce fuel use in mining trucks; and use of alternative fuels in cement furnaces.

CSN INOVA VENTURES

Investments in startups and portfolio management to generate shared value. Among the top startups with synergies with Decarbonization are 1s1 Energy, H2PRO and i.Systems.

ACCESS HERE THE DETAILS OF THE 1S1 ENERGY AND H2PRO PROJECTS

CSN INOVA BRIDGE

Strengthens Climate Governance by coordinating the ESG Committee and supports project mapping through CSN Conecta.

CSN INOVA TECH

Development and implementation of new products and technological routes directly associated with CSN's businesses. It encompasses projects such as the generation and application of hydrogen in furnaces in the steel and cement segments, optimization of the use of tailings and residues, and opportunities related to capturing and valuing carbon.

CASE INOVA UTIS PROJECT

CSN, THROUGH CSN INOVA, HAS BEEN STUDYING THE TECHNOLOGY KNOWN AS UC3® (ULTIMATE CELL® CONTINUOUS COMBUSTION), DEVELOPED BY THE PORTUGUESE COMPANY UTIS, WHICH CONSISTS OF THE APPLICATION OF HYDROGEN IN THE COMPANY'S PRODUCTION PROCESSES. THIS IS AN EXAMPLE OF HOW THE INNOVATION STRATEGY ORGANIZED BY CSN INOVA DRIVES ESG BENEFITS FOR THE GROUP'S BUSINESSES.

UC3® technology is already used in CSN Cimentos' Arcos unit, where controlled quantities of green hydrogen and oxygen are introduced into Furnace 2 of the cement plant. The results obtained so far have shown improvements in the main indicators of the production process due to increased flame stability, reduced fuel consumption and decreased greenhouse gas emissions.

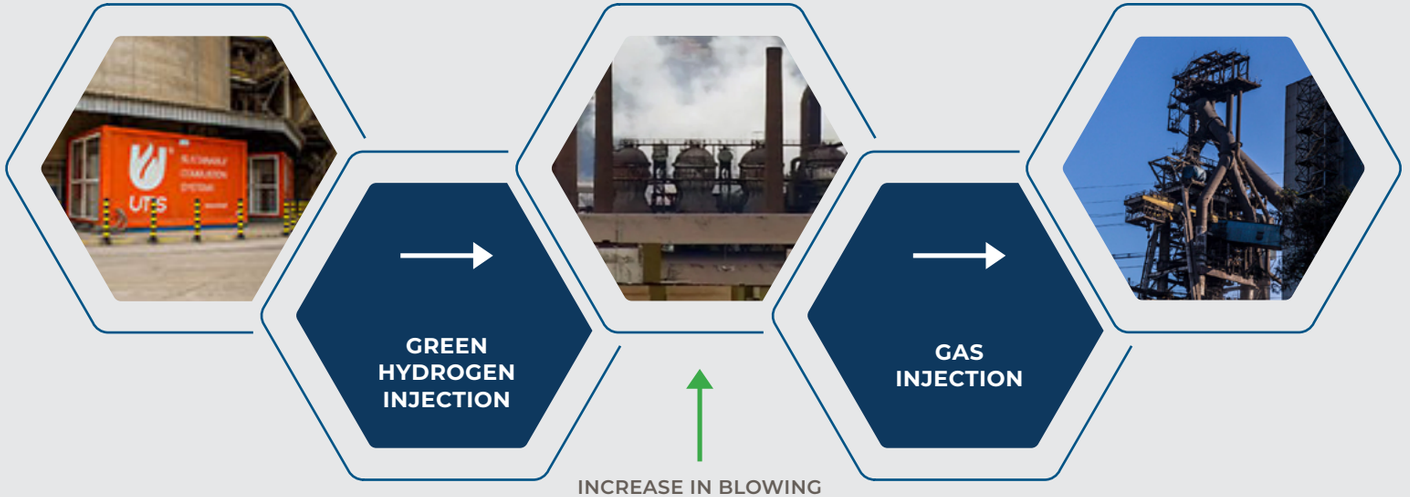
Due to the promising results in Arcos, the technology was escalated to the cement unit of Alhandra, in the State of Paraíba, where tests are being carried out throughout 2023.

In addition, in a pioneering way in the steelmaking sector, in the second half of 2023 a UTIS unit will be installed, as a pilot plant, for the injection of green hydrogen in the blast furnace of the Presidente Vargas Plant in Volta Redonda, in the State of Rio de Janeiro.

With the installation of this technology, it is expected that the injection of green hydrogen into the blast furnace will increase the blowing temperature and, consequently, decrease the use of furnace fuels that are rich in carbon in their composition, contributing to the reduction of CO_2 emissions from the Presidente Vargas Plant.

Employee at UTIS Installed at CSN Cimentos in Alhandra (PB)


UTIS Installed at CSN Cimentos in Alhandra (PB)
UTIS


UTIS TECHNOLOGY
CSN BLAST FURNACE REGENERATORS
CSN BLAST FURNACE
GREEN HYDROGEN INJECTION
GAS INJECTION
INCREASE IN BLOWING TEMPERATURE
REDUCTION OF FUEL CONSUMPTION
REDUCTION OF CO_2 EMISSIONS

OTHER PARTNERSHIPS

CSN HAS BEEN BUILDING STRATEGIC PARTNERSHIPS FOCUSED ON DECARBONIZATION AND ENGAGEMENT OF CUSTOMERS AND SUPPLIERS ON ISSUES RELATED TO CLIMATE CHANGE.

Such partnerships support the Company's journey towards meeting the established targets and carbon neutrality.

Children from the Garoto Cidadão Project of CSN's Foundation in Volta Redonda (RJ)

OTHER PARTNERSHIPS

MPP e NZSI

In order to contribute to the multilateral debate of the sectors in which it operates, since 2021 CSN has become a key member of the Net Zero Steel Initiative (NZSI), a zero GHG sector platform launched in 2019 at UNSG's Climate Action Summit. NZSI is part of the Mission Possible Partnership (MPP), a coalition of climate leaders focused on decarbonizing heavy industries globally over the next ten years, which also supports the Company's decision making focused on the steel decarbonization journey.

UN Global Compact

Since 2020, CSN has been a signatory to the UN Global Compact, which aims to engage companies to align their strategies and operations with the ten universal principles in the areas of Human Rights, Labor, Environment and Anti-Corruption. It also develops actions that contribute to facing the challenges of society. Currently, the Global Compact is the largest corporate sustainability initiative in the world, with more than 16,000 participants, among companies and organizations, distributed in 70 local networks, covering 160 countries

Shell e Itochu Corporation

The Company signed a Memorandum of Understanding (MoU) with the two companies for cooperation on decarbonization for CSN Mineração. And through this partnership, the scope of work for implementing the best solutions for the sector was developed throughout 2022 and, in 2023, tests of the solutions studied will be carried out. In addition, the signed MoU aims to identify and evaluate opportunities in the different phases of the decarbonization journey, focusing on real chances of positive impact.

Clarke Energia

CSN, in addition to investing in Clarke Energia, through CSN Inova Ventures, has been a partner of the startup since 2021, when it started using its energy buying and selling platform (marketplace). The startup acts as a manager in the Free Energy Market, where it is possible to contract both conventional and incentivized energy. The latter comes from renewable sources and those who choose to contract it receive discounts on the tariff for use of the Brazilian electricity system.

1s1 Energy

CSN Inova Ventures currently acts as an investor and partner of the company 1s1 Energy for the production of green hydrogen. 1s1 Energy is a green hydrogen chain company dedicated to the development and production of electrolyzer components and fuel cells.

H2PRO

Green hydrogen chain company that has developed a new type of electrolyzer that does not use membranes and has greater efficiency. CSN Inova Ventures acts as an investor and the Company has a MoU signed with the company for future collaboration on the Selene Project at CSN Paraná that is being developed by CSN Inova Tech.

OTHER PARTNERSHIPS

H2 in Trucks

CSN Mineração established, in 2022, a RD&I (Research, Development and Innovation Projects) partnership with a brazilian university to develop a hydrogen (H2) addition system in diesel engines in open pit mining trucks. In this system, a portable hydrogen cell produces hydrogen from the electrolysis of water using energy from the truck's own electrical system. This H2 is injected into the combustion chamber along with the mixture of diesel and air, being able to optimize the combustion of the diesel and reduce its consumption without impairing the performance of the engine. In addition to the partnership with national suppliers, CSN is also evaluating international suppliers.

i.Systems

CSN Inova made an investment in Brazilian startup i.Systems in late 2022, which has products focused on reducing process variability using fuzzy logic and artificial intelligence. The company already has a successful case in CSN operating since 2021 and has several projects in progress with expected delivery in the coming years.

Employee in a research laboratory in Volta Redonda (RJ)

Annex 1

GHG EMISSIONS BY CATEGORY AND SCOPE

GHG EMISSIONS BY CATEGORY AND SCOPE IN 2022 CSN GROUP (tCO_2e)

SCOPE	CATEGORY	EMISSION (tCO_2)
SCOPE 1	Stationary combustion	7,984,586.5
	Mobile combustion	71,642.3
	Fugitives	2,070.1
	Industrial processes	3,515,328.6
	Solid waste and liquid effluents	5,882.3
TOTAL SCOPE 1		11,579,509.8
SCOPE 2	Acquisition of electricity	23,219.8
TOTAL SCOPE 2		23,219.8
SCOPE 3	Purchased goods and services	986,868.4
	Employee Commutings (home-work)	310.4
	Waste generated in operations	276,081.2
	Downstream transportation and distribution	847,593.8
	Upstream transportation and distribution	139,685.2
	Business travel	716.0
TOTAL SCOPE 3		2.251.255,0

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based). Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs). It does not include CO_2 emissions from renewable sources. The global warming potential used was the AR5 GWP-100.

GHG EMISSIONS BY CATEGORY AND SCOPE IN 2022 CSN MINERAÇÃO (tCO_2e)

SCOPE	CATEGORY	EMISSION (tCO_2)
SCOPE 1	Stationary combustion	2,512.9
	Mobile combustion	183,261.4
	Fugitives	4,630.1
	Land Use Change	15,846.3
	Solid waste and liquid effluents	2,236.9
TOTAL SCOPE 1		208,487.6
SCOPE 2	Acquisition of electricity	0
TOTAL SCOPE 2		0
SCOPE 3	Processing of sold products	46,788,038.9
	Waste generated in operations	5,117.7
	Downstream transportation and distribution	1,576.419.9
	Upstream transportation and distribution	513,086.0
	Business travel	58.8
TOTAL ESCOPO 3		48,882,721.3

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based). Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs). It does not include CO_2 emissions from renewable sources. The global warming potential used was the AR5 GWP-100.

EMISSION HISTORY (tCO_2e) BY SEGMENT AND SCOPE

		2020			2021			2022		
GROUP	SEGMENT	SCOPE 1	SCOPE 2	ESCOPO 3	SCOPE 1	SCOPE 2	SCOPE 3	SCOPE 1	SCOPE 2	SCOPE 3
CSN MINERAÇÃO	Mining	156,115	0	40,269,240	183,437	0	42,948,338	208,488	0	48,882,721
	TOTAL	156,115	0	40,269,240	183,437	0	42,948,338	208,488	0	48,882,721
CSN GROUP	Cement	2,075,111	5,867	115,383	1,995,227	14,709	121,863	2,761,528	5,228	442,336
	Logistics	27,309	107	4,053	28,324	406	5,684	35,250	385	18,050
	Other Mining	11,267	1,024	457	9,348	982	256	17,905	393	3,946
	Steel	8,611,081	66,965	381,875	9,814,487	146,888	1,421,872	8,650,460	9,644	1,613,985
	(Brazil)	ND	ND	ND	118,531	19,824	71,403	114,367	7,570	172,504
	Steel (Abroad)	21	0	28	0	0	0	0	0	433
	OFFICE	10,724,789	73,963	501,796	11,965,917	182,809	1,621,078	11,579,509	23,220	2,251,255

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based). Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs). It does not include CO_2 emissions from renewable sources. The global warming potential used was the AR5 GWP-100.

HISTORY OF BIOGENIC EMISSIONS (tCO_2e) BY SEGMENT AND SCOPE

		2020		2021		2022	
GROUP	SEGMENT	SCOPE 1	SCOPE 3	SCOPE 1	SCOPE 3	SCOPE 1	SCOPE 3
CSN MINERAÇÃO	Mining	18,024.37	37,129.17	20,470.87	38,639.45	14,959.10	35,271.95
	TOTAL	18,024.37	37,129.17	20,470.87	38,639.45	14,959.10	35,271.95
GRUPO CSN	Cement	923.23	13,726.66	1,005.45	14,526.68	29,046.25	43,491.12
	Logistics	3,262.94	158.70	3,145.03	233.66	3,368.65	3.10
	Other Mining	1,269.89	10.06	1,012.51	6.68	1,451.34	333.83
	Office	0.33	2.14	0.00	0.00	0.00	0.00
	Steel - Brazil and Abroad	1,140.76	15,833.68	1,108.66	155,151.82	902.60	51,373.18
	TOTAL	6,597.15	29,731.24	6,271.65	169,918.84	34,768.84	95,201.23

ANNEX 1 · GHG EMISSIONS BY OPERATING UNIT AND SEGMENT · CONTINUED

EMISSIONS (tCO_2e) PER OPERATING UNIT AND SCOPE

GROUP	SEGMENT	OPERATING UNIT	SCOPE 1	SCOPE 2	SCOPE 3
CSN MINERAÇÃO	Mining	CSN Mineração	208,283.13	0	48,864,535.80
		Porto TECAR	204.44	0	18,185.50
		Total por Escopo – CSN Mineração	208,487.57	0	48,882,721.30
CSN GROUP	Cement	Alhandra	695,349.51	4,089.68	129,828.63
		Arcos	1,995,574.66	1,138.62	250,457.82
		UPV Cimentos	70,604.12	0	62,049.41
	Logistics	FTL	26,130.16	56.5	532.67
		TLSA	5,116.43	79.69	13,629.43
		Porto TECON	4,003.08	248.49	3,888.26
	Others Mining	ERSA Fundição	1,009.09	387.8	713.57
		ERSA Mineração	5,467.41	0	3,078.07
		Minérios Nacional	11,428.00	4.73	154.48
	Steel	Usina Presidente Vargas (UPV)	8,588,602.26	9,250.55	1,269,293.69
		CSN Paraná	32,893.92	43.24	246,702.72
		PRADA Embalagens	3,279.11	4.52	52,776.90
		PRADA Mogi das Cruzes	57.53	105.2	18,582.02
		Porto Real	25,627.55	240.35	26,630.07
		Lusosider	17,611.88	7,570.42	101,803.31
		SWT	96,755.06	0	70,700.54
	Office	Faria Lima	0	0	433.38
		Total by Scope – CSN Group	11,579,509.77	23,219.79	2,251,254.97

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based), Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs), It does not include CO_2 emissions from renewable sources, The global warming potential used was the AR5 GWP-100,

GHG EMISSIONS BY SEGMENT AND SCOPE IN 2022 (tCO_2e)

GROUP	SEGMENT	SCOPE 1	SCOPE 2	SCOPE 3
CSN MINERAÇÃO	Mining	208,487.57	0	48,882,721.30
CSN GROUP	Cement	2,761,528.28	5,228.30	442,335.86
	Logistics	35,249.67	384.68	18,050.36
	Others Mining	17,904.50	392.53	3,946.12
	Steel	8,764,827.31	17,214.28	1,786,489.25

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based). Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs). It does not include CO_2 emissions from renewable sources. The global warming potential used was the AR5 GWP-100.

EMISSIONS OF tCO_2e BY GAS TYPE AND SCOPE

GROUP	GAS TYPE	SCOPE 1	SCOPE 2	SCOPE 3
CSN MINERAÇÃO	CO_2	198,658.67	0.00	48,824,197.11
	CH_4	2,588.23	0.00	3,689.00
	HFC	4,630.09	0.00	0.00
	N_2O	2,610.57	0.00	54,835.20
CSN GROUP	CO_2	11,448,475.75	23,219.79	2,052,821.82
	CH_4	8,504.78	0.00	181,713.01
	HFC	1,811.57	0.00	0.00
	N2O	6,092.23	0.00	16,720.15
	SF_6	258.50	0.00	0,00

* Emissions in the GHG Protocol Methodology using the purchase criterion approach (Market based). Includes Kyoto GHG emissions in tCO_2e (CO_2, CH4, N2O, SF6, HFCs and PFCs). It does not include CO_2 emissions from renewable sources. The global warming potential used was the AR5 GWP-100.

ANEXO 1 - GHG EMISSIONS SCOPE 2 AND GAS NOT COVERED IN THE KYOTO PROTOCOL

EMISSIONS (tCO_2) BY SCOPE 2 - MARKET BASED AND LOCATION BASED (HISTORY IN tCO_2e)

GROUP	APPROACH	2019	2020	2021	2022
CSN MINERAÇÃO	*Market Based*	26,601	0	0	0
	Location Based	51,123	20,770	43,609	15,227
CSN GROUP	*Market Based*	20,372	73,964	182,810	23,220
	Location Based	47,075	186,614	659,802	304,776

* In 2019 and 2020, SWT and Lusosider emissions were not considered in the scope of evaluation.

OTHER GREENHOUSE GASES NOT COVERED BY THE 2022 KYOTO PROTOCOL (tCO_2e)

GROUP	GAX TYPE	EMISSIONS
CSN MINERAÇÃO	HCFC–22	5,437.48
	HCFC–124a	0.00
	HCFC–141b	0.00
CSN GROUP	HCFC–22	5,116.07
	HCFC–124a	1,631.78
	HCFC–141b	198.56

* Does not include CO_2 emissions from renewable sources.
The global warming potential used was the AR5 GWP-100.

ANEXO 1 • GRI 305-4 | GREENHOUSE GAS (GHG) EMISSIONS INTENSITY

INTENSITY INDICATORS OF GHG EMISSIONS RELATED TO THE GLOBAL CEMENT AND CONCRETE ASSOCIATION (GCCA) – CEMENT

INTENSITY INDICATORS OF GHG EMISSIONS	2020 TARGET BASE YEAR	2021	2022
CSI 71 Indicator – Absolute Direct Emissions (tCO_2e) - CSN (total)	2,038,329	2,056,817	2,613,346
CSI 74 Indicator – Specific emission per cement (kg CO_2/ton of cement) – CSN	**518**	**480**	**497**
CSI 75 Indicator – Specific emission per cement (kg CO_2/ton of cement) – CSN	**519**	**483**	**481**
CSI 92 Indicator – Clinker factor (%) – CSN (total)	**58.2%**	**55.6%**	**55,9%**
CSI 93 Indicator – Specific energy consumption per clinker produced (MJ/ ton of clinker) – CSN (total)	3,269	3,287	3,315
CSI 21a Indicator – Total cementitious products (ton) – CSN (total)	3,938,657	4,283,640	5,254,602
CSI 21b Indicator – Total cement products (ton) – CSN (total)	3,924,179	4,261,905	5,432,151

* Indicators calculated from the methodology of the Global Cement and Concrete Association (GCCA), considering the Arcos, Alhandra and Volta Redonda units.

INTENSITY INDICATORS OF GHG EMISSIONS – MINING

INTENSITY INDICATORS OF GHG EMISSIONS	2019 TARGET BASE YEAR	2020	2021	2022
Iron ore production (ton)	32,089,836	21,891,493	27,239,253	24,279,000
Emission scopes 1 and 2 ($kgCO_2e$)	185,272,386	155,499,452	179,245,076	192,437,000
GHG emissions intensity ($kgCO_2e$/ton of ore produced)	**5.77**	**7.10**	**6.58**	**7.92**

* Indicators calculated from the GHG Protocol methodology, considering the Casa de Pedra unit.
The Land Use Change category is not being included in these indicators due to the punctuality of emissions.

INTENSITY INDICATORS OF GHG EMISSIONS RELATED TO THE WORLD STEEL ASSOCIATION (WSA) – STEEL INDUSTRY

INTENSITY INDICATORS OF GHG EMISSIONS	2018 TARGET BASE YEAR	2020	2021	2022
Emission intensity in tCO_2e/ton of steel (WSA methodology) – UPV	**2.41**	**2.29**	**2.3**	**2.34**
Emission intensity in tCO_2e/ton of steel (WSA methodology) – SWT	**0.63**	**0.51**	**0.21**	**0.21**
Emission intensity in tCO_2e/ton of steel (WSA methodology) – CSN	**2.10**	**1.97**	**1.98**	**1.99**
UPV steel production (ton)	4,152,184	3,816,090	4,388,668	3,906,104
SWT steel production (ton)	871,394	812,282	811,277	765,032
Total steel production (UPV + SWT)	5,023,578	4,628,372	5,199,945	4,671,136
Absolute emissions (scopes 1, 2 and 3) – UPV (tCO_2e)	10,024,216	8,721,503	10,109,528	9,142,867
Absolute emissions (scopes 1, 2 and 3) – SWT (tCO_2e)	547,147	414,697	172,248	161,213
Absolute emissions (scopes 1, 2 and 3) – Total CSN (tCO2e)	10,571,363	9,136,200	10,281,776	9,304,080

* Indicators calculated from the World Steel Association (WSA) methodology, considering the UPV and SWT units.

ANEXO 1 · GRI 302-1 | CONSUMPTION WITHIN CSN

ENERGY GENERATED BY FUEL CONSUMPTION (GJ) – CSN[1]			
GUEL	**2020**	**2021**	**2022**
Metallurgical coal/CSN	26,374,162	24,155,855	24,133,415
Metallurgical coal PCI/CSN	12,483,002	13,901,578	16,028,485
Sub-bituminous coal	78,303	425,231	1,566,716
Coal Coke/CSN Purchased	19,561,559	25,701,254	19,601,162
Coal Coke/Mill/CSN	300,549	1,066,834	7,316,763
Coal Coke/Small coke/CSN	5,180,385	6,638,058	5,244,411
Petroleum coke	7,226,798	6,445,613	8,446,801
Diesel/Brazil	2,946,358	3,410,386	3,665,335
Liquefied petroleum gas (LPG)	21,923	26,361	23,999
Natural gas	14,973,617	15,585,082	15,605,867
Gasoline/Brazil	16,912	16,388	19,302
Fuel oil	118,557	160,732	179,624
SUBTOTAL NON-RENEWABLE FUELS	89,282,306	97,533,372	101,831,882
Ethanol hydradate (renewable fuel)	19	27	21
TOTAL ENERGY GENERATED FROM FUELS	89,282,325	97,533,399	101,831,903
Electricity (GJ)	4,004,505	4,642,004	1,323,062
Electricity/Brazil	7,213,387	8,405,915	11,475,206
Electricity/Renewable Brazil	0	1,752,033	135,220
SUBTOTAL ELECTRICITY CONSUMED	11,217,892	14,799,951	12,933,487
TOTAL ENERGY CONSUMED (FUELS + ELECTRICITY)	**100,500,217.00**	**112,333,350.00**	**114,765,390.00**

Nota[1]: There is no purchase of other types of energy, nor the sale of energy. Conversion factors: National Energy Balance and GHG Protocol and specific data from CSN. It considers operations abroad (Lusosider and SWT) as of 2021.

ANEXO 1 · GRI 302-2 | CONSUMPTION OUTSIDE CSN

ENERGY CONSUMPTION OUTSIDE THE COMPANY (GJ) – CSN			
SEGMENT	**2020**	**2021**	**2022**
Steel industry Brazil	nd	18,770,191	7,556,986
Steel industry Abroad	nd	nd	372,770
Other Mining	nd	1,167	49,538
Cement	nd	1,753,193	6,430,463
Logistics	nd	31,070	2,650
CSN Mineração	nd	4,670,945	26,954,248
TOTAL	**nd**	**25,226,565**	**41,372,664**

ANEXO 1 • GRI 302-3 | ENERGY INTENSITY

ENERGY INTENSITY INDICATORS				
PREMISE	**CONSUMPTION**	**2020**	**2021**	**2022**
Energy consumption (GJ) divided by added distributed value (R$ thousand)	*Guidance on core indicators for entity reporting on contribution towards implementation of the Sustainable Development Goals tool B.5.2 of the UNCTAD United Nations Conference on Trade and Development.*	8.30	4.16	6.97
Energy consumption (GJ) divided by ton of crude steel	According to the methodology of the World Steel Association (WSA) with consolidation of UPV and SWT units	20.88	20.70	21.94
Energy consumption (kWh) divided by ton of cement	The Global Cement and Concrete Association (GCCA)	85.96	81.12	70.38
Energy consumption (kWh) divided by ton of cementitious	The Global Cement and Concrete Association (GCCA)	85.40	80.50	74.40
Energy consumption (MJ) divided by ton of clinker	The Global Cement and Concrete Association (GCCA)	3.269	3.287	3.315
Energy consumption (GJ) divided by ton of ore produced	It considers all energy consumed within the organization (Scope 1 +2) and the total production of the Casa de Pedra unit.	0.660	0.142	0.164

Annex 2

RISK FACTORS

RISK FACTORS

Absence of a product portfolio aligned with different climate scenarios and the future society's need for eco-friendly products (scenarios for sustainable and resilient infrastructure expansion to climate extremes).

RISK LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Diversification of businesses and locations.
- Development of low-carbon technological products and routes.

TAXONOMY. TRANSITION – TECHNOLOGICAL

SEGMENTS

QUANTITATIVE ANALYSIS

BAU	SOF	NZE
—	< R$ 100 MM	< R$ 200 MM

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↑↑	↑	↑↑

HORIZON[1]

LONG TERM

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Market creation or implementation of carbon taxation in international markets (New pricing).

RISK

INCREASE IN OPERATING COST AND REDUCTION OF PROFIT MARGIN; LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Investment in the Itabirito beneficiation plant for the production of premium ore and in technologies to reduce GHG emissions.
- Long-term iron ore sales contract.
- Construction of strategic partnerships aimed at the sale of high quality iron ore for direct reduction routes.

TAXONOMY. TRANSITION – REGULATORY AND LEGAL

SEGMENTS

QUANTITATIVE ANALYSIS

BAU	SOF	NZE
—	—	—

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↔	↑	↑↑

HORIZON[1]

MEDIUM TERM

COMENTÁRIO:

Primary steel is commonly produced through the blast furnace route (BF-BOF), which uses coke as the main raw material of the process, resulting in a high emission intensity (1.6-2.2 tCO_2/t steel). An alternative is to associate BF-BOF with post-combustion carbon capture and storage, which can lead to a reduction of up to 60% in emissions, but which is still insufficient to meet long-term targets. Another possibility is NG-DRI, which has a lower emission intensity than BF, but it is observed that natural gas is not normally competitive compared to coke.

Thus, in the case of primary steel production, a significant reduction of CO_2 can only be achieved through the implementation of different technologies. Electrification, direct hydrogen-based reduction (H2-DRI) and electrolysis of iron ore are promising technologies. Energy policies also need to be implemented. The NZE scenario includes, for example, incentives for renewable fuel and the elimination of fossil fuel subsidies. Carbon pricing is also predicted in this scenario: in the electricity generation, industry and power generation sectors, an increase of US$130/$tCO_2$ is expected by 2030 and to US$250/$tCO_2$ by 2050. In Brazil, US$200/$tCO_2$ in 2050.

After power generation, the cement, iron and steel and aluminum sectors stand out in terms of perceived carbon market readiness. This will directly impact the consumption of iron ore and modify the demands of steel export from China to other countries with already established market.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Market creation and/or implementation of carbon taxation in Brazil (New Pricing).

RISK

INCREASE IN OPERATING COST AND REDUCTION OF PROFIT MARGIN; LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Emission reduction targets for the Cement segment aligned with sectoral roadmaps.
- Integrated circularity strategy to reduce the clinker factor.
- Acquisition of low-carbon plants.
- Development of MAC Curve and decarbonization roadmap to implement feasible technologies.

TAXONOMY. TRANSITION – REGULATORY AND LEGAL

SEGMENTS

Steel | Mining | **Cement** | Energy | Logistics

QUANTITATIVE ANALYSIS

Oportunidade com potencial vantagem*		
> R$ 100 MM	< R$ 100 MM	< R$ 500 MM
BAU	SOF	NZE

QUALITATIVE ANALYSIS

↓	↑	↑↑
*BAU	SOF	NZE

HORIZON[1]

MEDIUM TERM

*In the Business as Usual (BAU) scenario, the creation of a carbon pricing instrument that covers the cement sector can be considered an opportunity for CSN, since the company's emissions intensity in this segment is lower than the intensity of the others.

COMENTÁRIO:

The cement industry, in some countries, is subject to carbon pricing instruments, the most common being cap-and-trade. Alternatively, there is the carbon tax, which is usually focused on the consumption of fossil fuels.

Alternatively, some regions adopt carbon taxes, mainly focused on fossil fuels. The production of 1 ton of cement generates, on average, 0.6 tons of CO_2, two-thirds being from raw materials. Fossil fuels – mainly coal and some petroleum coke – account for 90% of the thermal energy needs of kilns in cement plants.

Through the use of mixtures of alternative materials in cement, there is a reduction in the global proportion of clinker from 0.71 in 2020 to 0.65 in 2030. The proportion continues to decline after 2030, but more slowly, reaching 0.57 in 2050. Since 0.5 is the lowest proportion of technically achievable clinker, further measures are needed to achieve deeper emissions reductions.

This measure, combined with energy efficiency measures and a lower demand for cement represent about 40% of the emission savings in 2030 compared to 2020. Considering the sectorial decarbonization curve of the SBTi of cement, in 2035, the emission intensity must be in the range of 344 $kgCO_2/t$ cement. In this scenario, compatible with NZE, we would need to go beyond our current reduction targets, which can result in a significant impact, being considered a medium-term risk.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Water scarcity and drought due to changes in precipitation patterns.

RISK

INCREASE IN THE COST OF ELECTRICITY SUPPLY; COMMITMENT TO DECARBONIZATION TARGETS; LOSS OF REVENUE IN ELECTRICITY GENERATION; INCREASE IN THE COST OF WATER SUPPLY.

MITIGATION STRATEGY AND MEASURES

- Acquisitions of new power generation plants in different geographies.
- Diversification of the power grid of energy generation.
- Preparation of climate vulnerability study considering climate scenarios.

TAXONOMY. PHYSICAL – CHRONIC

SEGMENTS

QUANTITATIVE ANALYSIS

BAU	SOF	NZE
< R$ 100 MM	—	—

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↑↑	↑	↔

HORIZON[1]

LONG TERM

COMENTÁRIO:

Changes in the volume and frequency of precipitation can affect the water and energy security of countries, which will impact the Brazilian power grid in the future.

Climate change requires adaptation in the hydropower sector, such as adopting multi-purpose water strategies, where water storage is designed to accommodate different uses, including hydropower, agriculture and flood risk reduction.

In the Amazon River sub-basin, one of the hydroelectric hotspots in Brazil, the hydroelectric potential of the dry season is projected to decrease from −7.4 to −5.4% in relation to historical baseline conditions under RCP4.5 (Arias et al., 2020).

In the São Francisco basin, hydroelectric production is projected to reduce from −15% to −20% by 2100 under the IPCC A1B scenario (de Jong et al., 2018), which will affect the Brazilian power grid in the future.

That is, Brazil may suffer prolonged droughts in regions, which may significantly impact the cost of energy acquired by third parties, especially in the BAU and SOF scenario.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Creation of the market and/or implementation of carbon taxation in Brazil (Pricing).

RISK

INCREASE IN OPERATING COST AND REDUCTION OF PROFIT MARGIN; LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Emission reduction targets for the Steel segment.
- Investment in technologies to reduce GHG emissions.
- Development of MAC Curve and decarbonization roadmap to implement feasible technologies.
- Building strategic partnerships with a focus on decarbonization.

TAXONOMY. TRANSITION – LEGAL REGULATORY

SEGMENTS

QUANTITATIVE ANALYSIS

< R$ 100 MM	< R$ 500 MM	> R$ 500 MM
BAU	SOF	NZE

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↔	↑	↑↑

HORIZON[1]

MEDIUM TERM

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Increased intensity and frequency of external weather events (urban, river and coastal flooding).

RISK

INCREASE IN OPERATIONAL STOPS AND PRODUCTION INTERRUPTION; ASSET DAMAGE; INCREASE IN MAINTENANCE COST.

MITIGATION STRATEGY AND MEASURES

- Rain prevention plan in CSN Mineração's region for critical periods.
- De-characterization of dams and tailings stacking.

TAXONOMY. PHYSICAL – ACUTE

SEGMENTS

QUANTITATIVE ANALYSIS

< R$ 100 MM	< R$ 100 MM	< R$ 100 MM
BAU	SOF	NZE

QUALITATIVE ANALYSIS

↑↑	↑	↔
BAU	SOF	NZE

HORIZON[1]

COMENTÁRIO:

Extreme precipitation events are predicted to result in flash floods, floods and landslides, which pose a risk to life and infrastructure. The energy, infrastructure and mining and metals industries will be impacted. Flood-related events already experienced by the Casa de Pedra mine, located in Congonhas, tend to be more recurrent and more intense.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Loss of competitiveness due to the delay in developing more sustainable production routes compared to the practices of national and international competitors.

RISK

INCREASE IN OPERATING COST AND REDUCTION OF PROFIT MARGIN; LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Emission reduction targets for the Steel segment.
- Investment in technologies to reduce GHG emissions.
- Development of MAC Curve and decarbonization roadmap to implement feasible technologies.
- Building strategic partnerships with a focus on decarbonization.

TAXONOMY. TRANSITION – TECHNOLOGICAL

SEGMENTS

QUANTITATIVE ANALYSIS

QUALITATIVE ANALYSIS

HORIZON[1]

MEDIUM TERM

COMENTÁRIO:

Primary steel is commonly produced through the blast furnace route (BF-BOF), which uses coke as the main raw material of the process, resulting in a high emission intensity (1.6-2.2 tCO_2/t steel). An alternative is to associate BF-BOF with post-combustion carbon capture and storage, which can lead to a reduction of up to 60% in emissions, but which is still insufficient to meet long-term targets. Another possibility is NG-DRI, which has a lower emission intensity than BF, but it is observed that natural gas is not normally competitive compared to coke.

Thus, in the case of primary steel production, a significant reduction of CO_2 can only be achieved through the implementation of different technologies. Electrification, direct hydrogen-based reduction (H2-DRI) and electrolysis of iron ore are promising technologies. Energy policies also need to be implemented. The NZE scenario includes, for example, incentives for renewable fuel and the elimination of fossil fuel subsidies. Carbon pricing is also predicted in this scenario: in the electricity generation, industry and power generation sectors, an increase of US$130/$tCO_2$ is expected by 2030 and to US$250/$tCO_2$ by 2050. In Brazil, US$200/$tCO_2$ in 2050.

After power generation, the cement, iron and steel and aluminum sectors stand out in terms of perceived carbon market readiness. This will directly impact the consumption of iron ore and modify the demands of steel export from China to other countries with an already established market.

↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · RISK FACTORS · CONTINUED

RISK FACTORS

Carbon tax on imports for steel in the European Union (CBAM - Carbon Border Adjustment Mechanism) or similar mechanisms elsewhere.

RISK

INCREASE IN OPERATING COST AND REDUCTION OF PROFIT MARGIN; LOSS OF MARKET SHARE.

MITIGATION STRATEGY AND MEASURES

- Emission reduction targets for the Steel segment.
- Investment in technologies to reduce GHG emissions.
- Development of MAC Curve and decarbonization roadmap to implement feasible technologies.
- Building strategic partnerships with a focus on decarbonization.

TAXONOMY. TRANSITION – LEGAL REGULATORY

SEGMENTS

Steel | Mining | Cement | Energy | Logistics

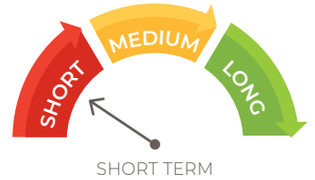
QUANTITATIVE ANALYSIS

< R$200 MM	< R$ 200 MM	< R$ 200 MM
BAU	SOF	NZE

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↑	↑	↑

HORIZON[1]



↑↑ Risk factor with the greatest impact on the scenario ↑ Risk factor with impact on this scenario ↔ Risk factor not impacted by the scenariocenário

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 • OPPORTUNITY FACTORS

FATOR DE OPORTUNIDADE

Continuity and operational stability projects in the steel industry.

SEGMENTS

Steel | Mining | Cement | Energy | Logistics

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↑↑	↔	↓

OPORTUNIDADE

- Reduction of GHG emissions and related risks (carbon pricing);
- Reduction of operating costs due to the stability and efficiency of the process.

HORIZON[1]

MEDIUM TERM

TAXONOMY.

RESOURCE EFFICIENCY

FATOR DE OPORTUNIDADE

Use of Hydrogen as an element of the decarbonization strategy and new production routes in steel industry.

SEGMENTS

Steel | Mining | Cement | Energy | Logistics

QUALITATIVE ANALYSIS

BAU	SOF	NZE
↔	↑	↑↑

OPORTUNIDADE

- Access to new markets and increased revenue;
- Reduction of GHG emissions and related risks (carbon pricing);
- Diversification of steel production routes.

HORIZON[1]

LONG TERM

TAXONOMY.

PRODUCTS AND SERVICES

↑↑ Opportunity factor with the greatest impact on the scenario ↑ Opportunity factor with impact on this scenario ↔ Opportunity factor not impacted by the scenario

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · OPPORTUNITY FACTORS · CONTINUAÇÃO

FATOR DE OPORTUNIDADE

Load plating strategy (ore quality, HBI etc).

OPORTUNIDADE

- Reduction of GHG emissions and related risks (carbon pricing);
- Diversification of metallic load and operational improvement.

TAXONOMY.
PRODUCTS AND SERVICES

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]

FATOR DE OPORTUNIDADE

Product portfolio aligned with different climate scenarios and the needs of the future society (scenarios of sustainable and resilient infrastructure expansion to climate extremes).

OPORTUNIDADE

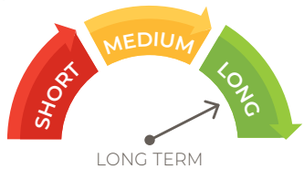
- Access to new markets and increased revenue;
- Promoting climate resilience in the value chain and increasing revenue for new demands.

TAXONOMY.
RESILIENCE

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]



↑↑ Opportunity factor with the greatest impact on the scenario ↑ Opportunity factor with impact on this scenario ↔ Opportunity factor not impacted by the scenario

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · OPPORTUNITY FACTORS · CONTINUAÇÃO

FATOR DE OPORTUNIDADE

Reduction of the clinker factor using slag or other cements in order to reduce CO_2 emissions in cement production and promote circularity.

OPORTUNIDADE

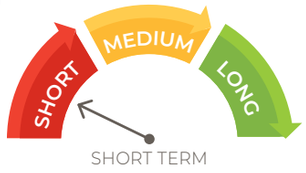
- Reduction of GHG emissions and related risks (carbon pricing);
- Reduction of operating costs due to process efficiency.

TAXONOMY.
PRODUCTS AND SERVICES

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]



FATOR DE OPORTUNIDADE

Demand for higher quality in the ore by the market.

OPORTUNIDADE

- Increased added value of the product;
- Use of these ores in less carbon-intensive productions ensuring greater resilience in relation to risks of transition to green steel.

TAXONOMY.
PRODUCTS AND SERVICES

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]

↑↑ Opportunity factor with the greatest impact on the scenario ↑ Opportunity factor with impact on this scenario ↔ Opportunity factor not impacted by the scenario

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

ANEXO 2 · OPPORTUNITY FACTORS · CONTINUAÇÃO

FATOR DE OPORTUNIDADE

Investment in renewable energy and energy matrix diversification.

OPORTUNIDADE

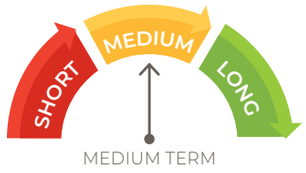
- Increased revenue from access to new markets;
- Lower exposure to price changes in electricity due to external factors (regulatory, market or climate).

TAXONOMY.
POWER SUPPLY

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]



FATOR DE OPORTUNIDADE

Circular economy and cross-sector integration promoting efficiency and impact reduction.

OPORTUNIDADE

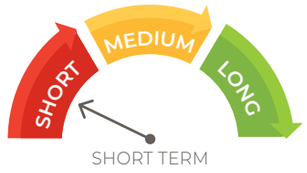
- Increase in revenue from the use of tailings;
- Loss reduction and greater efficiency in generating value;
- Operational autonomy and the possibility of reducing emissions in an integral way.

TAXONOMY.
RESOURCE EFFICIENCY

SEGMENTS

QUALITATIVE ANALYSIS

HORIZON[1]



↑↑ Opportunity factor with the greatest impact on the scenario ↑ Opportunity factor with impact on this scenario ↔ Opportunity factor not impacted by the scenario

1. Short: 1 to 3 years; Medium: 4 to 5 years; Long: more than 6 years.

Annex 3

DETAILED RESPONSE TO TCFD RECOMMENDATIONS

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
GOVERNANCE	**a.** Describe the board's oversight of climate-related risks and opportunities	he Board of Directors, with the support of the ESG Committee, the ESG Integrated Management Commission and the Decarbonization Management, is responsible for assessing the performance of operational and GHG emission indicators, as well as overseeing the integration of climate risks and opportunities in the company's business plan. At least once a year the topic is discussed with the Directors in an exclusive forum where the GHG targets, the progress achieved and the main investments, acquisitions and divestitures required are analyzed. In 2022, the process of climate risks and opportunities has been redefined and presented, in detail, to the Audit Committee which is an independent body that advises the Board of Directors.	Chapter "Climate Governance and Strategy" of the 2022 Integrated Report	CDP Item C1.1	Chapter "Climate Governance"
	b. Describe management's role in assessing and managing climate-related risks and opportunities	The ESG Committee advises the Board of Directors in setting the company's ESG strategy and in deliberating action plans associated with climate risks and opportunities. The Committee works together with the ESG Management, which reports directly to CSN's CEO, and acts directly in the management of indicators, in the assessment and identification of climate risks and in the development of projects to leverage the low carbon agenda. Under the scope of this management there is a Decarbonization Management that supports the Group's strategy, monitors indicators, and develops projects that lead to the reduction of GHG emissions. The ESG Integrated Management Committee, in turn, monitors the main ESG innovation projects related to material topics, supervises ESG communication actions, monitors the targets of the company's material themes, standardizes the concepts and disseminates good practices in all segments of CSN's operations. In 2022, a CSN Strategic Climate Action Plan (PAC) was structured, which brings together the activities necessary for the implementation of the decarbonization journey of the Company, which is unfolded in (i) Steel Decarbonization Journey; (ii) Cement Decarbonization Journey; (iii) Mining Decarbonization Journey and; (iv) Climate Risk and Opportunity Management. The PAC was built under the leadership of the ESG Board and developed by Decarbonization Management. To monitor progress on the topic, CSN has an executive report for each Decarbonization Journey, directed to senior leadership, constructed by the Decarbonization Management and supervised by the ESG Committee and the ESG Management. Such reporting occurs on a monthly basis.	Chapter "Climate Governance and Strategy" of the 2022 Integrated Report	CDP Item C1.1	Chapter "Climate Governance"

ANNEX 3 · DETAILED RESPONSE TO TCFD RECOMMENDATIONS · CONTINUED

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
STRATEGY	**a.** Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	CSN's Climate Risk and Opportunity Management Process is integrated into the company's corporate risk management and was restructured in 2022. It consists of 4 phases: (i) Methodology of the climate risks and opportunities process; (ii) Mapping and prioritizing risks and climate opportunities; (iii) Assessment of climate scenarios; (iv) Climate Adaptation. In 2022, during the implementation of the management process, 48 climate risk factors and 33 climate opportunity factors were identified. A 5x5 matrix supported the classification of critical risk factors (7) and critical opportunity factors (8), considering the magnitude of the impact and the probability of occurrence. Both were evaluated for each of the climate scenarios designed for the company, considering the operating segment and the following time horizons: short term (1 to 3 years), medium term (4 to 5 years) and long term (6 or more years). **Regarding the risk factors considered to have a relevant impact on CSN, the following are considered:** **Short-term:** (i) Carbon Border Adjustment Mechanism (CBAM) or mechanisms similar in other locations (in steelmaking). **Medium-term:** (ii) Market creation or implementation of carbon taxation in international markets (New pricing with impact on Mining); (iii) Market creation and/or implementation of carbon taxation in Brazil (New Pricing on Cement);(iv) Market creation and/or implementation of carbon taxation in Brazil (New Pricing in Steel industry); (v) Increase in intensity and frequency of external climate events (Urban, River and Coastal Floods) in Mining; (vi) Loss of competitiveness due to the delay in developing more sustainable production routes compared to the practices of national and international competitors in the steel industry. **Long term:** (vii) Absence of a product portfolio aligned with different climate scenarios and the need of future society on eco-friendly products (in all segments); (viii) Water scarcity and droughts due to changes in precipitation patterns (Energy); **Regarding the critical opportunity factors, the following are highlighted:** **Short term:** (i) Reduction of the clinker factor from the use of slag or other cementitious materials in order to reduce CO_2 emissions and promote circularity (Cement); (ii) Circular economy and integration between sectors promoting efficiency and impact reduction (all segments). **Medium term:** (iii) Continuity and operational stability projects (Steel industry); (iv) Load metallization strategy (Steel industry); (v) Demand for higher quality in ore by the market (Mining); (vi) investment in renewable energy and diversification of the power grid (Energy). **Long term:** (vii) Use of Hydrogen as an element of the decarbonization strategy and new production routes (Steel industry); (viii) Product portfolio aligned with different climate scenarios and the need of future society (all segments).	Chapters "Climate Risks Management" and "Study of Climate Scenarios"of the 2022 Integrated Report	CDP items C2.1, C2.2, C2.4, C2.5	Chapters "Climate Risks and Opportunities Process" and "Climate Scenarios"

ANNEX 3 · DETAILED RESPONSE TO TCFD RECOMMENDATIONS · CONTINUED

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
STRATEGY	**b.** Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning	Throughout the Adaptation chapter of this document, the main impacts of CSN's opportunities and risks are analyzed, being presented qualitatively and quantitatively for each scenario developed. CSN's climate scenarios, the fourth phase of the Climate Risk and Opportunity Management Process, are configured as one of the central elements used for the sizing of impacts. Scenarios are considered in CSN Strategic Planning, as an instrument to take the topic of Climate Change to decision making. In addition to the Climate Scenarios study, the Marginal Abatement Cost Curve (MACC), updated on a recurring basis, supports decision making to select the projects that have the highest cost-benefit in relation to the Company's Decarbonization strategy.	Chapters "Climate Risks Management" and "Study of Climate Scenarios"of the 2022 Integrated Report	CDP items C3.3, C3.4	Chapters "Decarbonization Journey" and "Climate Scenarios"
	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	In 2022, CSN carried out its first Climate Scenarios Study using as a basis the Shared Socioeconomic Pathways (SSP) scenarios of the IPCC 2021 and the International Energy Agency (IEA). Among the three scenarios designed, the Net-Zero Emission (NZE) is aligned with a scenario of 1.5°C and foresees the implementation of disruptive technologies, such as carbon capture. **Listed below are the three scenarios for CSN:** **(i) Business As Usual (BAU) Scenario;** **(ii) Stay On the Fence (SOF) Scenario;** **(iii) Net-Zero Emission (NZE) Scenario.** ased on the climate scenarios, developed for the time horizon from 2018 to 2050, CSN seeks the strategic resilience of businesses in face of climate opportunities and risks. All analysis is documented and the results are communicated to the Board of Directors, in an exclusive Forum, and to stakeholders through public reporting, such as Integrated Reporting and reporting to CDP. Both communications are conducted at least annually.	Chapter "Study of Climate Scenarios" of the 2022 Integrated Report	CDP item C3.2	Chapter "Climate Scenarios"

ANNEX 3 · DETAILED RESPONSE TO TCFD RECOMMENDATIONS · CONTINUED

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
RISK MANAGEMENT	**a.** Describe the organization's processes for identifying and assessing climate-related risks	Since 2021, CSN has carried out a systemic assessment of climate risks and opportunities in a Climate Risk and Opportunity Management Process, which was redesigned in 2022. **The Process consists of 4 phases:** **(i) Methodology of the climate risks and opportunities process:** the methodologies adopted for the analysis of climate risks and opportunities, the granularity and scope of the analyses, as well as the time horizon are defined. In addition, it defines the glossary of risks and opportunities, indicating the taxonomy to be adopted (TCFD) and the impact ruler, as well as the evaluation/prioritization approach that will be used. **(ii) Mapping and prioritization of climate risks and opportunities:** mapping and prioritization of climate risks and opportunities occurs based on the criteria pre-established in the previous phase. At this stage, the risk and opportunity factors are evaluated and distributed in a 5x5 matrix, which evaluates the probability of occurrence and the magnitude of the impact, resulting in a classification of 4 levels: low, medium, high and critical. **(iii) Assessment of climate scenarios:** critical risk and opportunity factors are assessed from the perspective of different climate scenarios, which have as their objective to encourage the managers of CSN, including the Board of Directors, to consider the factors related to climate change when making strategic decisions. The evaluation is done by business segment (Steel, Domestic Steel, Cement, Mining, Energy, Ports and Logistics) and at the corporate level (CSN and CSN Mineração). The scenarios take into account the existence and/or prediction of carbon pricing instruments, such as a taxation, an increase in intensity and frequency of extreme weather events, future society's need for eco-friendly products, among others. **(iv) Climate Adaptation:** Phase 4 corresponds to the creation of climate adaptation measures to mitigate potential climate risks. In 2023, CSN will start the climate vulnerability study, where the main climate threats will be systematically mapped using a rigorous method supported by the Climate scenarios built by CSN that will subsidize the creation of the Climate Adaptation Plan.	Chapter " Climate Risks Management" of the 2022 Integrated Report	CDP items C2.1, C2.2	Chapter "Climate Risks and Opportunities Process"
	b. Describe the organization's processes for managing climate-related risks	In 2022, CSN improved the climate risk management process by incorporating new risks and a methodology with a greater degree of granularity. That same year, an extensive benchmark survey was carried out, with more than 30 companies, to assess the main risks and opportunities of mining, steel, cement, logistics and energy sectors. The operational areas, together with the decarbonization management, identified the risk factors and risks associated with the company. In order to address efforts to mitigate material risk factors, a 5x5 matrix to classify the factors according to the probability of occurrence and magnitude of the impact was used. Of the 48 risk factors raised, 8 were considered critical according to the methodology adopted. These risks have been discussed and validated under the Climate Change Thematic Group. After going through the validation of this forum, the priority risks will undergo a qualitative climate scenario assessment and, for some risks, a quantitative one. In 2023, CSN will conduct a vulnerability study to further increase the company's degree of maturity at this stage of the process. After risk analysis and monetization, the applicable adaptation measures are defined in accordance with their value.	Chapter "Climate Risks Management" of the 2022 Integrated Report	CDP items C2.1, C2.2	Chapter "Climate Risks and Opportunities Process"

ANNEX 3 · DETAILED RESPONSE TO TCFD RECOMMENDATIONS · CONTINUED

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
RISK MANAGEMENT	**c.** Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Climate risk assessment and management are integrated into CSN's corporate risk management model. Based on the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), this model consists of three lines of defense. The risks related to climate change, as well as the other risks of the company, are monitored and validated by the Audit Committee and the Board of Directors, which determine the allocation of resources for the implementation of priority mitigation actions.	Chapter " Climate Risks Management" of the 2022 Integrated Report	CDP items C2.1, C2.2	Chapter "Climate Risks and Opportunities Process"
METRICS AND TARGETS	**a.** Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	Climate risk identification and assessment is conducted in line with TCFD recommendations and based on strategic external reporting (IPCC, IEA, etc.), benchmarking and internal analysis of the Company. The model covers, among other methodologies, the Marginal Abatament Cost Curve and the Climate Scenarios Study. The prioritization of risks and opportunities, considering a matrix of probability of occurrence and magnitude of impacts in the short-, medium- and long-term time horizons.	Chapter "Targets and performance" of the 2022 Integrated Report	CDP items C2.1, C2.2	Chapters "Decarbonization Targets" and "Climate Risks and Opportunities Process"
	b. Disclose Scope 1, Scope 2,and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	CSN annually assesses and discloses its greenhouse gas inventory, following established methodologies: Brazil GHG Protocol Programme; IPCC Guidelines for National Greenhouse Gas Inventories, 2006; and ISO 14064-1. The inventory covers scopes 1, 2 and 3 and has been verified by a third party since its second edition in 2014. As of this year, CSN receives a gold seal from the Public Registry of Emissions of the Brazilian GHG Protocol Program with each submission. In addition, sectoral intensity indicators (GCCA and WSA), which are used to monitor the company's performance against the targets, undergo external auditing in order to ensure the veracity and quality of the data. The disclosure of the inventory also occurs in the Integrated Report and in the CDP questionnaire, and the data is also submitted to ratings associated with climate change such as ICO2, TPI, Sustainalytics, MSCI, S&P Global, ISS ESG, Vigeo Eiris, FTSE4Good.	Chapter "Emissions data" of the 2022 Integrated Report	CDP Items of sections 5 and 6	Chapter "Greenhouse Gas Emissions Profile and correlated KPIs"

ANNEX 3 · DETAILED RESPONSE TO TCFD RECOMMENDATIONS · CONTINUED

PILAR	RECOMMENDATIONS	CSN	INTEGRATED REPORTING	CDP	CLIMATE ACTION REPORT
METRICS AND TARGETS	**c.** Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	**CSN has GHG emissions targets for the Steel, Mining and Cement businesses, in addition to Carbon Neutrality target for Mining:** **Steel:** 10% reduction in CO_2e emissions per ton of crude steel by 2030 and 20% by 2035, according to the methodology of the World Steel Association (WSA). **Mining:** 30% reduction in CO_2e emissions per ton of ore produced by 2035 (scopes 1 and 2. In addition, be carbon neutral in Scope 1 and 2 emissions by 2044. **Cement:** 28% reduction in CO_2e emissions per ton of cement by 2030, reaching 375 $kgCO_2e/t$ cement, according to the methodology of the Global Cement and Concrete Association (GCCA). In addition, there is a target to reduce the clinker factor in cement by 16% in 2030 compared to 2020. In addition to targets aimed at reducing GHG emissions, CSN has also committed to consuming 100% renewable energy in mining. In the cement segment, there are also targets to reduce the intensity of electricity consumption by 5% and the intensity of thermal consumption by 1% in 2030, both compared to 2020. Targets are monitored monthly in order to identify significant deviations and the need to implement corrective actions. Meetings with the operational areas are held monthly, as well as with CSN Inova, where the technical feasibility of decarbonization projects that will enable the achievement of GHG targets.	Chapter "Targets and performance" of the 2022 Integrated Report	CDP items 4.1, 4.2	Chapter "Decarbonization Targets"

Glossary

BAU	Business as usual
CCUS	Carbon Capture Use and Storage
CDP	Disclosure Insight Action, formerly Carbon Disclosure Project
CEEE	Companhia Estadual de Geração de Energia Elétrica
GCCA	Global Cement and Concrete Association
ESG	Environmental, Social and Governance
GEE	Greenhouse gases
GRI	Global Reporting Initiative
H2	Hydrogen
HVO	Hydrotreated Vegetable Oil
ICO2	Carbon Efficient Index
IEA	International Energy Agencies
IPCC	Intergovernmental Panel on Climate Change
ISS	Institutional Shareholder Services
MAC	Marginal abatement cost
MACC	Marginal abatement cost curve
MoU	Memorandum of Understanding
MPP	Mission Possible Partnership
MSCI	Morgan Stanley Capital International
NZE	Net-Zero Emission World
NZSI	Net Zero Steel Initiative
PAC	Climate Action Plan
SOF	Stay on the fence
SBTi	Science Based Target Initiative
S&P	S&P Global Sustainability
SSP	Shared Socioeconomic Pathways
SWT	Stahlwerk Thüringen
TCFD	Task Force on Climate Related Financial Disclosures
TRT	Top Turbine
UPV	Usina Presidente Vargas (Presidente Vargas Plant)
UTIS	Ultimate Technology to Industrial Savings
WSA	World Steel Association

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Photos

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Preservation Area at Mina do Engenho (MG)

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