



Climate action
report 2025

**ACT TODAY.
TRANSFORM
TOMORROW.**





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1.1. CLIMATE CHANGE AND ITS IMPACTS

Ten years after the Paris Agreement, the gap between ambition and results has not narrowed at the pace required. Although the agreed global warming limit was 1.5°C, current policies are projected to result in approximately 2.6°C of warming. To keep the 1.5°C goal within reach, global emissions would need to decline by approximately 45% by 2030 compared to 2010 levels—a pace that remains far from being achieved today.

The year 2024 was the warmest on record, while global CO₂ emissions reached an all-time high in 2023 and continue to remain at elevated levels. This context reinforces the urgency of accelerating the transition toward more efficient and resilient economic and industrial models.



TO KEEP THE 1.5°C GOAL WITHIN
REACH, GLOBAL EMISSIONS WOULD
NEED TO DECLINE BY APPROXIMATELY
45% BY 2030 COMPARED TO 2010 LEVELS A PACE
THAT REMAINS FAR FROM BEING ACHIEVED TODAY



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TEN YEARS AFTER THE PARIS AGREEMENT

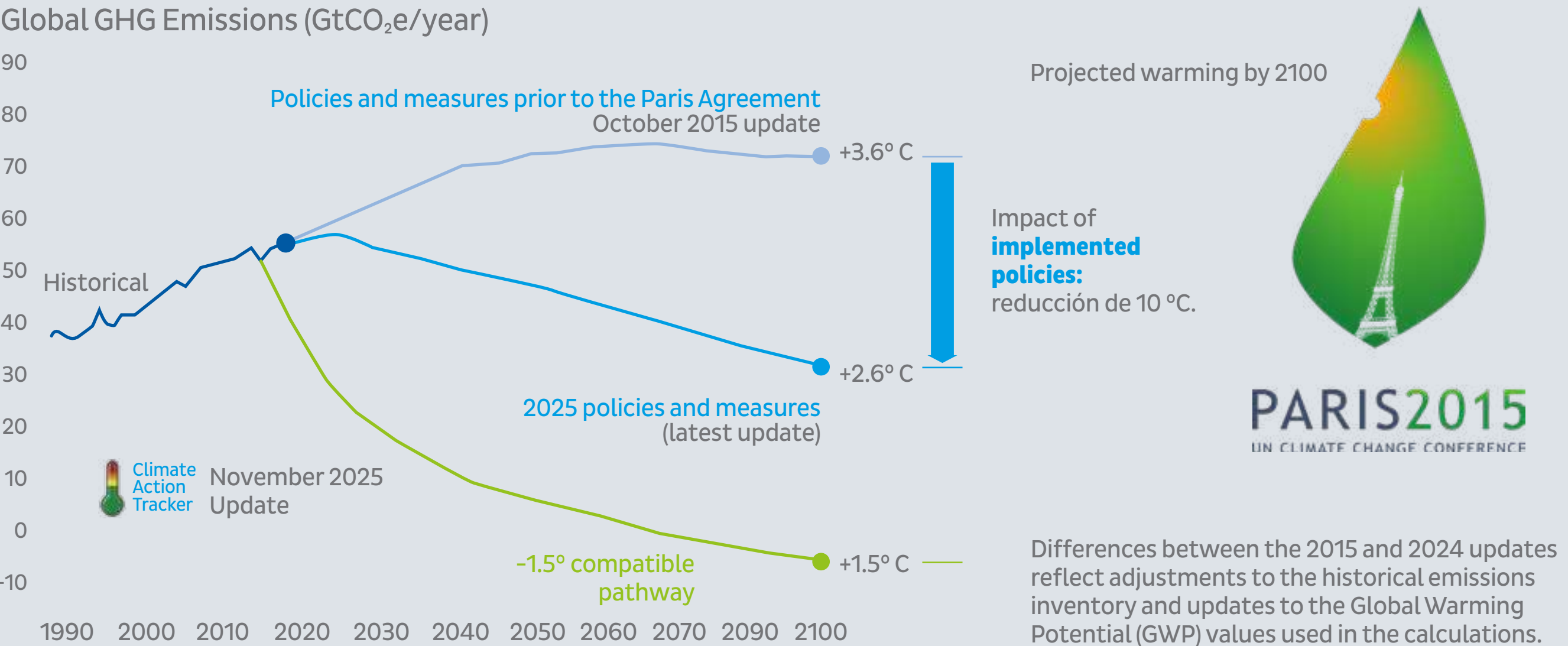
THE WORLD IS NOT PROGRESSING AT THE REQUIRED PACE

Impact of the Paris Agreement on Real-World Climate Action: Changes in Climate Action Tracker (CAT) Policy Projections Between 2015 and 2025

+2.6°C Projected global warming trajectory under current policies.

+1.5°C Global warming limit established under the Paris Agreement to avoid the most severe climate impacts.

15% increase in energy-related greenhouse gas emissions since the signing of the Paris Agreement.



Source: International Energy Agency (IEA), World Energy Report 2025.



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The increasing frequency and intensity of extreme weather events are affecting infrastructure, supply chains, and access to critical resources such as water and energy. As these events become more severe, businesses will face greater operational, financial, and regulatory risks, underscoring the need to strengthen resilience and accelerate the transition toward more sustainable production models.

\$3.6 TRILLION
IN CUMULATIVE ECONOMIC DAMAGES FROM
CLIMATE-RELATED EVENTS BETWEEN 2000 AND 2024.
Source: World Economic Forum, The Cost of Inaction 2024.



**THE INCREASING FREQUENCY AND
INTENSITY OF EXTREME WEATHER EVENTS
ARE AFFECTING INFRASTRUCTURE,
SUPPLY CHAINS, AND ACCESS TO CRITICAL
RESOURCES SUCH AS WATER AND ENERGY.**

\$250–300 MIL MILLONES
BILLION IN AVERAGE ANNUAL ECONOMIC LOSSES FROM NATURAL DISASTERS
Source: Munich Re, NatCatSERVICE Loss Database.

HASTA 22%
REDUCTION IN GLOBAL GDP BY 2100 IF CLIMATE
ACTION IS NOT ACCELERATED
Source: The Cost of Inaction 2024, World Economi



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KEY GLOBAL IMPACTS

PHYSICAL IMPACTS

Increasing frequency and severity of extreme weather events

Extreme heat waves

More frequent wildfires

Prolonged droughts

Sea level rise

Flooding

Storms



ECONOMIC AND BUSINESS IMPACTS

For companies, these impacts translate into

Disruptions across global supply chains

Damage to infrastructure and productive assets

Greater volatility in energy and water prices

Higher insurance and financing costs

Increased regulatory pressure

Shifts in competitiveness across regions and industries



HOW ARE WE
DOING IN
THE STEEL
INDUSTRY?

7% - 9%

Contribution of the steel
industry to global CO₂
emissions
Source: Turning Challenge into
Opportunity: Supply Voices
from Heavy-Emitting Sectors

2.75 GT* CO₂

Steel industry Scope 1 and
Scope 2 emissions in 2024
(-0.4% vs. 2023)

0%

Change in emissions
(2019-2024)
Source: World Economic
Forum

1,883 MM TM

Global steel production in
2024 (-1.1% vs. 2023)

1.92 TCO₂/T

Global average emissions
intensity per ton of crude
steel (2024)

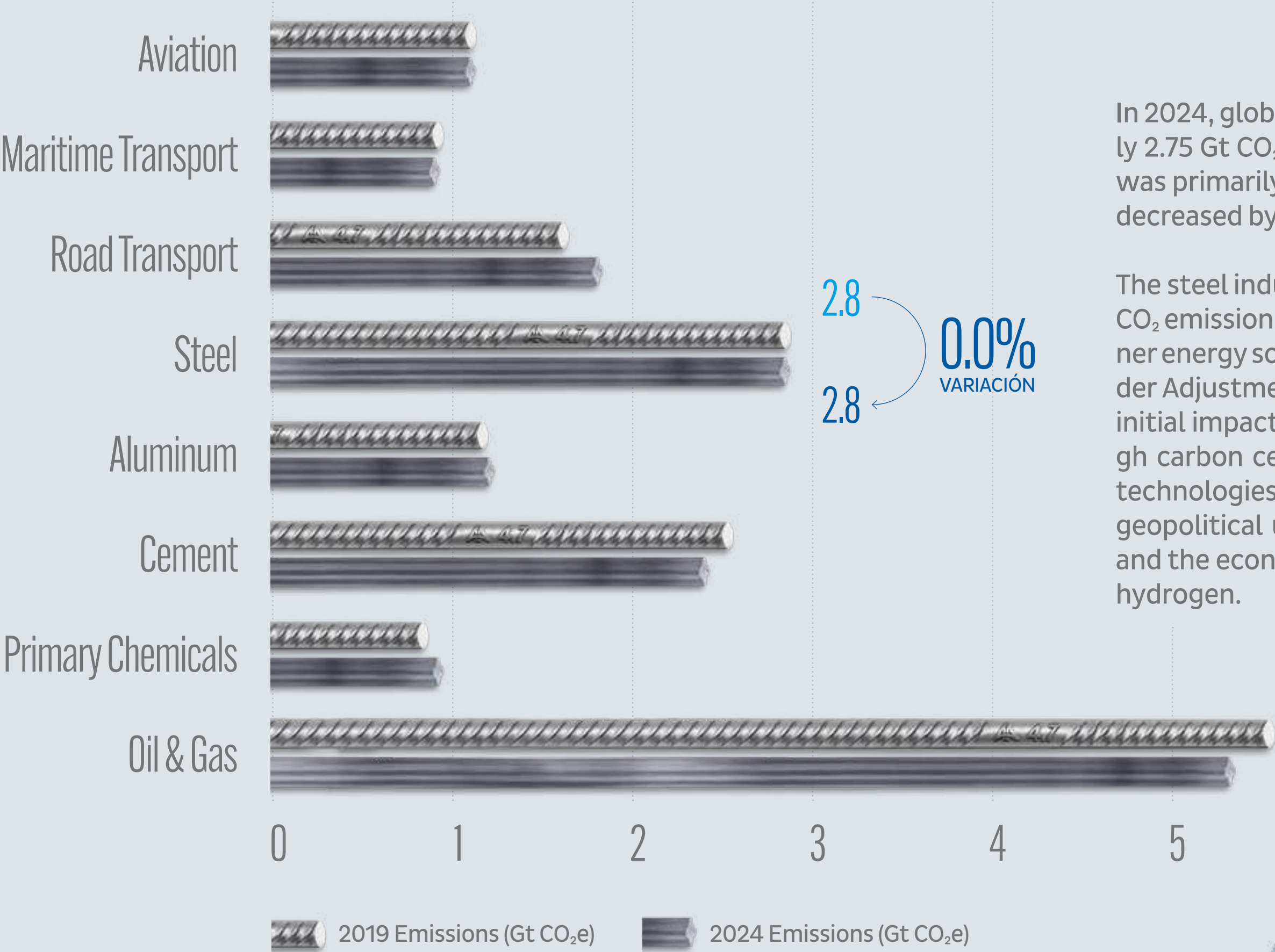
29.2%

Share of global steel production using EAF technology (2024)
On average, Electric Arc Furnace (EAF) technology emits less than one-
third of the CO₂ per ton of steel compared to Blast Furnace-Basic Oxygen
Furnace (BF-BOF) technology, which still accounts for approximately 70%
of global steel production.
Source: BIR



* Gt - Gigaton. One gigaton equals one billion metric tons.
Source: Scaling the Industrial Transition: Hard-to-Abate Sectors and Net-Zero Progress in 2025

Absolute CO₂ Emissions by Sector (Gt CO₂e): 2019 vs. 2024



In 2024, global steel industry emissions (Scopes 1 and 2) totaled approximately 2.75 Gt CO₂, representing a 0.4% reduction compared to 2023. This decline was primarily driven by weaker market conditions, as global steel production decreased by 1.1%, reaching 1,883 million metric tons.s.

The steel industry continues to account for approximately 7% to 9% of global CO₂ emissions, highlighting the need to accelerate the transition toward cleaner energy sources and more efficient use of resources. While the Carbon Border Adjustment Mechanism (CBAM) entered its compliance phase in 2026, its initial impact is expected to cover only a limited portion of emissions through carbon certificate purchases. Although climate policies and low-carbon technologies continue to advance, significant challenges remain, including geopolitical uncertainty, the harmonization of carbon accounting systems, and the economic and logistical viability of emerging solutions such as green hydrogen.



Source: Scaling the Industrial Transition: Hard-to-Abate Sectors and Net-Zero Progress in 2025



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1.2. KEY CLIMATE CHANGE TRENDS

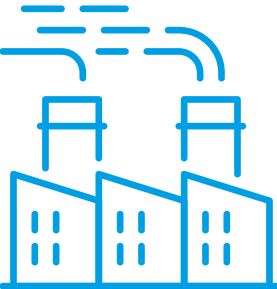




To identify and assess these trends, we leverage the World Economic Forum’s Strategic Intelligence platform, along with information from organizations such as the International Energy Agency (IEA), the OECD, World Steel Association, Alacero, the International Monetary Fund (IMF), and the Global Forum on Steel Excess Capacity, among others.

WE CONTINUOUSLY MONITOR GLOBAL TRENDS
THAT MAY INFLUENCE OUR STRATEGIC OBJECTIVES

Key climate change trends:



→ Gap Between Climate
Commitments and Real-World Action

Ten years after the Paris Agreement, global progress in emissions reductions and climate adaptation remains below the level required to achieve the 1.5°C target. Nevertheless, the transition is already reshaping the global economy. According to the World Economic Forum, the green economy now exceeds US\$5 trillion in value, comparable in size to the annual GDP of Germany or Japan. While some governments have reviewed or moderated their climate policies, others continue to strengthen their commitments and investments. China, for example, has become the world’s largest investor in renewable energy and continues to expand renewable generation capacity at a pace that exceeds that of both the United States and the European Union.



→ Increasing Demand for Recycled
Steel

The OECD estimates that Electric Arc Furnace (EAF) production could account for nearly 50% of global steel output by 2050. Between 2025 and 2027, approximately 165 million metric tons of new steelmaking capacity are expected to come online worldwide, of which nearly 58% will be based on EAF technology. This transition is expected to increase demand for recycled steel and other secondary raw materials over the coming decades. China is projected to account for the largest increase in scrap availability, although restrictions on scrap exports continue to influence global market dynamics.



→ The Role of Governments in
Climate Action

Governments continue to play a critical role in accelerating the transition to low-carbon economies through investments, incentives, regulations, and infrastructure development. While some countries have strengthened their climate ambitions, others have revised or slowed the implementation of certain climate policies in response to economic, geopolitical, or energy security considerations. In Peru, according to estimates from the Ministry of Environment (MINAM), approximately US\$49 billion will be required to implement climate mitigation and adaptation measures through 2050. Although public investments are already underway, achieving national climate targets will require continued collaboration between public institutions, private companies, and civil society.



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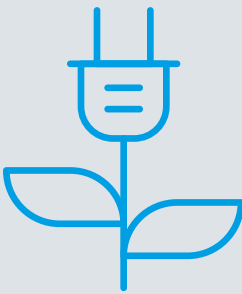
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→ Carbon Pricing
Mechanisms

Beginning in 2026, the European Union's Carbon Border Adjustment Mechanism (CBAM) entered its compliance phase, requiring importers to report embedded CO₂ emissions and progressively purchase CBAM certificates. The mechanism is being phased in gradually, starting with a limited share of emissions and increasing over time as free allocations under the EU Emissions Trading System (EU ETS) are phased out. This new phase has introduced uncertainty regarding emissions calculation methodologies, default values, and future carbon costs. According to S&P Global Commodity Insights (Platts), while the European Union has proposed measures to simplify the mechanism, industries such as aluminum, cement, iron and steel, fertilizers, electricity, and hydrogen continue to assess its implications given its potential impact on international trade



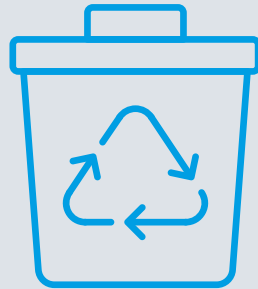
→ Strategies Net Zero en la
industria siderúrgica

La Agencia Internacional de Energía (IEA) estima que la industria siderúrgica genera alrededor del 7% - 9% de las emisiones globales de CO₂. Al mismo tiempo, se proyecta que la demanda mundial de acero podría crecer cerca de un 30% hacia 2050, impulsada por la urbanización y la expansión de infraestructura para la transición energética. Frente a este Scenario, la descarbonización del sector se basa en tres palancas principales: electrificación de procesos, mejoras en eficiencia energética y el desarrollo de rutas de producción con menor intensidad de carbono.



→ New Energy
Sources

The energy transition in the steel industry incorporates new energy sources with a lower carbon footprint. Among them, low-carbon hydrogen stands out for direct iron ore reduction (H₂-DRI), which could replace coal in primary production processes, as well as natural gas in certain thermal applications, such as rolling mills. However, the deployment of these solutions continues to face significant challenges related to costs, clean energy availability, logistics infrastructure, and the scaling of low-carbon steel markets.



→ Growth of Recycling and
Circular Business Models

The circular economy is evolving from a sustainability concept into a strategic priority for companies, driven by regulatory pressures, the need to optimize resource use, and the importance of strengthening supply chain resilience. While only around 20% of companies have successfully scaled circular supply chains, 95% of executives believe circularity will be important to their businesses over the next three years, highlighting its growing role as a strategic priority across multiple industries.



1.3. WE ARE ACEROS AREQUIPA

A leading steel producer committed to environmental stewardship. We manufacture steel using Electric Arc Furnace (EAF) technology under a circular economy and eco-efficiency approach, enabling us to maintain a carbon footprint significantly lower than regional and global industry averages.

0.36 T CO₂/T
LIQUID STEEL

CO₂ Emissions Intensity (2025)*1

CAASA



Alacero (LATAM Average) *2



WorldSteel (Global Average) *2



8.96 GJ/T
LIQUID STEEL

Intensidad Energética (2025)*1

CAASA



Alacero (LATAM Average) *2



WorldSteel (Global Average) *2



*1: Calculated using the WorldSteel methodology..

*2: Alacero emissions and energy intensity data correspond to 2022, while WorldSteel data correspond to 2024.



1.3

Million- Metric tons of
recycled steel processed
in 2025

+95%

Of the raw material
used in our steelmaking
operations comes from
recycled sources (2025)

+500

Million - Invested in
projects with eco-
efficiency components
over the last six years

ALL OF OUR MAJOR INVESTMENTS INCLUDE AN
ECO-EFFICIENCY AND/OR GREENHOUSE GAS
EMISSIONS REDUCTION COMPONENT.





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1.4 KEY MILESTONES IN 2025





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1.5 OUR EMISSIONS IN 2025

2025 ORGANIZATIONAL CARBON FOOTPRINT

In 2025, our emissions results reflected an increase associated with higher steel production at Mill No. 3, totaling 635,221 tCO₂e across 100% of our operations, distributed as follows: Scope 1: 244,992 tCO₂e, Scope 2: 170,044 tCO₂e, and Scope 3: 220,185 tCO₂e. Nevertheless, emissions intensity per ton of crude steel continued to improve, driven by energy efficiency initiatives and process optimization measures.

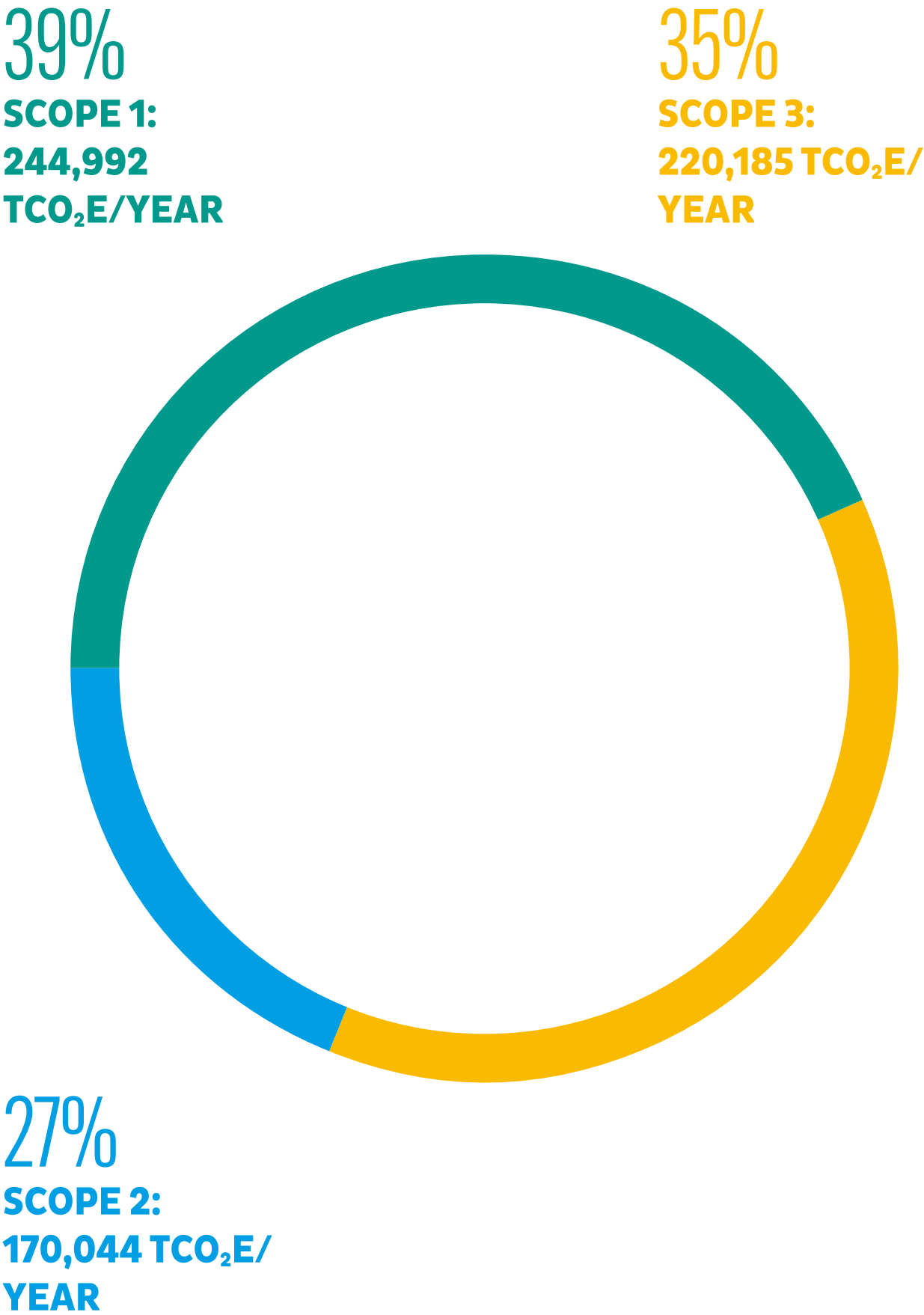
Our 2025 GHG inventory has been independently verified by LRQA, an internationally accredited organization, under ISO 14064-1:2018, covering Scopes 1, 2, and 3. The verification statement is publicly available at:

[View Verification Statement](#) 





2025 Emissions
Inventory*



Our **Scope 1 emissions** primarily correspond to industrial processes (20%) and stationary combustion (18%) within our operations. Key sources include lime production and the consumption of electrodes, pig iron, ferroalloys, anthracite, and metallurgical coke, as well as natural gas use in key steelmaking equipment, reheating furnaces, rotary kilns, and heat treatment processes in the rolling mill. The remaining 1% corresponds to other sources (mobile combustion, refrigerants, fertilizer use, and fire extinguisher recharging).

Our **Scope 2 emissions** (27%) correspond to electricity consumption from Peru’s National Interconnected Electric System (SEIN) across our operations, with the steel mill being the most electricity-intensive process.

Our **Scope 3 emissions**** primarily correspond to five categories: downstream transportation (11%) and upstream transportation (9%) associated with the production process, purchased goods and services (10%), and fuel- and energy-related activities prior to consumption (4%). Employee transportation (1%) is also include.

ISO 14064-1:2012 and GHG Protocol Approach	ISO 14064-1:2018 Approach
Scope 1: Direct GHG emissions	Category 1: Direct GHG emissions and removals
Scope 2: Indirect GHG emissions from electricity	Category 2: Indirect GHG emissions from imported energy
Scope 3: Other indirect GHG emissions	Category 3: Indirect GHG emissions from transportation
	Category 4: Indirect GHG emissions from products used by the organization
	Category 5: Indirect GHG emissions associated with the use of the organization's products
	Category 6: Indirect GHG emissions from other sources

*The reported figure represents the final result of the 2025 GHG inventory verified under ISO 14064-1:2018. As verification was completed after publication of the annual report, minor differences may exist compared to previously reported emissions. Additionally, for this reporting period, the scope of Scope 3 emissions was expanded to include estimated emissions associated with the production of purchased inputs and upstream emissions from consumed fuels, strengthening the representativeness of the inventory.

**Details of Scope 3 GHG emissions by category, including sources, absolute values, and calculation methodology, are presented in [Annex 1](#), in line with the GHG Protocol guidelines.



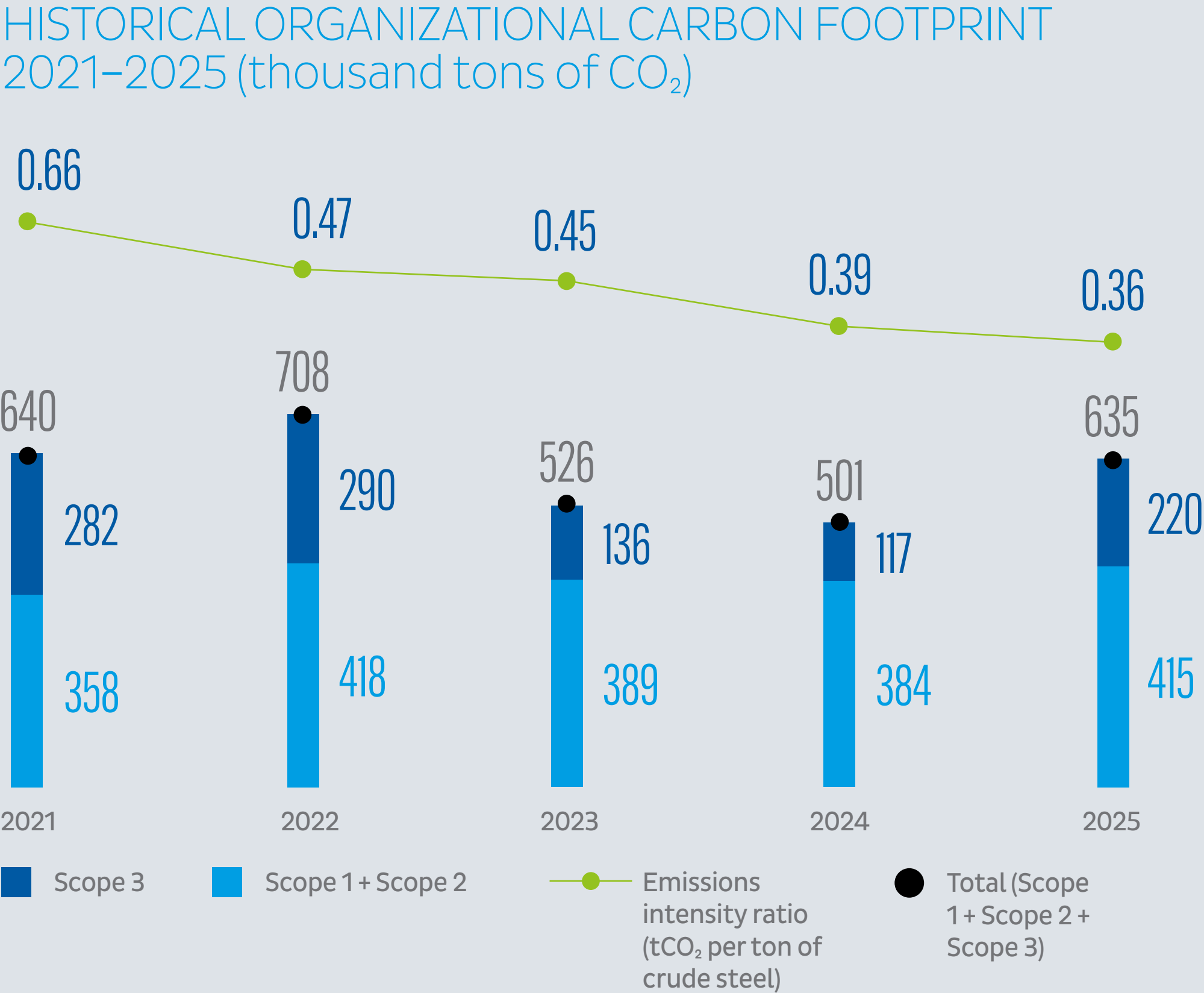
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CO₂ EMISSIONS METHODOLOGIES AND INDICATORS USED

To standardize emissions indicators and facilitate comparison with industry peers, we align with WorldSteel, SBTi, and ISO 14064 methodologies to report both emissions intensities and absolute carbon footprint values.

- > We use the WorldSteel methodology to report CO₂ emissions intensity per ton of crude steel, covering Scopes 1, 2, and 3.
- > Additionally, to establish science-based targets, we report our emissions intensity considering Scopes 1 and 2 from the main processes within our Steel Complex (within the defined boundary), following the methodology established by the Science Based Targets initiative (SBTi).
- > We also apply ISO 14064-1:2012 to report the absolute emissions of our operations, including Scopes 1, 2, and 3.

For further details on our environmental indicators, please refer to [Annex 1](#)

Metric	Unit	2022	2023	2024	2025
CO ₂ emissions per ton of crude steel (WorldSteel)	tCO ₂ /t crude steel	0.47	0.45	0.39	0.36
CO ₂ emissions per ton of hot-rolled steel (SBTi)	tCO ₂ /t hot-rolled steel	0.37	0.35	0.34	0.31
CO ₂ emissions (SBTi)	Thousand tCO ₂ e	415.05	383.82	382.78	379.47
Huella de carbono total (Scope 1 + Scope 2 + Scope 3)	Thousand tCO ₂ e	708.35	525.78	501.46	635.22

Each methodology considers specific scopes and processes for emissions measurement according to its objective and reporting approach.

WorldSteel
Scope 1 + Scope 2 + Scope 3
All Steel Complex processes.

SBTi
Scope 1 + Scope 2
Covers the following Steel Complex processes: imported electricity generation, lime production, electric arc furnace steelmaking, secondary metallurgy (ladle furnace), continuous casting, and hot rolling.

ISO 14064-1
Scope 1 + Scope 2 + Scope 3
All operations.



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NET ZERO STRATEGY

2.1. NET ZERO TARGETS

COMMITMENT TO THE SBTi FOR THE ESTABLISHMENT OF SCIENCE- BASED TARGETS

During 2025, we continued advancing the alignment of our climate strategy with the Science Based Targets initiative (SBTi). During this period, we strengthened the technical assessment of our emissions baseline and organizational and operational boundaries as the foundation for defining medium- and long-term GHG reduction targets aligned with 1.5°C pathways. This process forms part of our roadmap toward achieving carbon neutrality by 2050 and strengthening our climate change management approach.

The SBTi Corporate Net-Zero Standard provides guidance for establishing emissions reduction targets aligned with the 1.5°C limit. This approach involves progressively reducing Scope 1 and Scope 2 emissions to near-zero levels and neutralizing residual emissions. To achieve this, the standard defines four key components: science-based near-term targets, long-term targets aligned with net zero, neutralization of residual emissions, and beyond value chain mitigation actions (initiatives that support emissions reductions outside the company's operations and supply chain).





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→ OUR SBTI JOURNEY



WE ARE HERE

Registration and Com-
mitment Letter

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Target
Development

02

Official Target
Validation

03

Target
Announcement

04

Progress
Disclosure

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**DETERMINING THE SCOPE FOR THE DEVELOPMENT
OF SCIENCE-BASED TARGETS**

The year 2025 was selected as the baseline year due to its representativeness of current production processes and output levels, ensuring that targets are established on a recent and consistent basis. In addition, we focused on the Steel Complex as the source of GHG emissions, as it is the only facility where crude steel is produced and hot rolling operations are carried out ([Annex 2](#) ). The processes considered, which constitute sources of GHG emissions within the defined boundary, are:

- > Lime production.
- > Electric arc furnace.
- > Secondary metallurgy (ladle furnace)).
- > Continuous casting.
- > Hot rolling.

The SBTi methodology, based on the operational boundary, considers Scope 1 and Scope 2 emissions. For 2025, our emissions intensity within the operational boundary was calculated at **0.31 tCO₂e per ton of hot-rolled steel**.

DISTRIBUCIÓN DE LAS EMISIONES DE GEI 2021 - 2025

Scope	2021 (t CO ₂)	2022 (t CO ₂)	2023 (t CO ₂)	2024 (t CO ₂)	2025 (t CO ₂)
Scope 1	231,204	244,195	219,465	241,431	236,154
Scope 2	124,977	170,856	164,350	141,348	143,318
Scope 3	573,570	438,859	201,551	224,039	239,172
Total	929,751	853,910	585,366	606,818	618,644

Scope	Unit	2021 (t CO ₂)	2022 (t CO ₂)	2023 (t CO ₂)	2024 (t CO ₂)	2025 (t CO ₂)
Scope 1	tCO ₂ e / ton of hot-rolled steel	0.20	0.22	0.20	0.22	0.19
Scope 2		0.11	0.15	0.15	0.13	0.12
Scope 1 + 2		0.31	0.37	0.35	0.34	0.31
Scope 3		0.50	0.39	0.18	0.20	0.19
Total		0.81	0.76	0.53	0.55	0.50
Hot-rolled steel production	Million tons	1.15	1.13	1.10	1.11	1.24
Recycled steel share	%	90.39	96.55	97.89	99.22	99.83
Scope 3 share		38.25	40.65	34.82	30.78	35.78



ESTABLISHING CARBON FOOTPRINT REDUCTION TARGETS

Following the SBTi methodology, we are using 2025 as our baseline year, considering emissions within the defined operational boundary and establishing targets for 2035 and 2050.

For the short term (2030), the targets established are an emissions intensity of 0.27 tCO₂e per ton of finished product and 348 thousand tCO₂e of absolute emissions.

For the medium term (2035), the targets established are an emissions intensity of 0.23 tCO₂e per ton of finished product and 302 thousand tCO₂e of absolute emissions.

For the long term (2050), the targets established are an emissions intensity of 0.11 tCO₂e per ton of finished product and 145 thousand tCO₂e of absolute emissions.

These targets may be adjusted as part of the alignment process with the SBTi Steel Standard.

Thanks to the use of Electric Arc Furnace (EAF) technology and the expanded use of electricity and natural gas in our processes, we maintain one of the lowest CO₂ emission intensities globally. We remain committed to further reducing our emissions in line with our Decarbonization Roadmap through projects focused on three areas: (1) Energy Efficiency, (2) Lower-Carbon Processes, and (3) Electromobility. These initiatives will enable us to establish SMART targets and performance indicators aligned with the Company's Strategic Planning Cycle.

Carbon Footprint Reduction Targets

→ 2025	0.31 t CO ₂ e/ t of finished product	0.32 t CO ₂ e/ t of crude steel	379 mil t CO ₂ e
→ 2030	0.27 t CO ₂ e/ t of finished product	0.27 t CO ₂ e/ t of crude steel	348 mil CO ₂ e*
→ 2035	0.23 t CO ₂ e/ t of finished product	0.23 t CO ₂ e/ t of crude steel	302 mil t CO ₂ e*
→ 2050	0.11 tCO ₂ e/t of finished product	0.11 tCO ₂ e/t of crude steel	145 mil tCO ₂ e*

*Production volumes of 1,290,000 tons of steel in 2030 and 1,315,000 tons in 2035 and 2050 have been assumed.



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EMISSIONS REDUCTION LEVERS



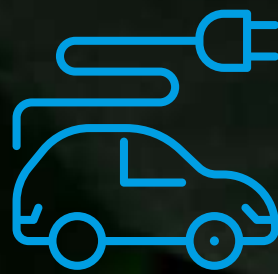
→ Energy Efficiency

Projects aimed at increasing energy efficiency under an Energy Management System.



→ Lower-Carbon Processes

Projects focused on reducing direct CO₂ emissions through initiatives such as the application of green hydrogen or the replacement of gas-fired furnaces with induction furnaces.



→ Electromobility

Electrification of transportation and material handling processes..

FOLLOWING THE SBTI METHODOLOGY, WE
ARE USING 2025 AS OUR BASELINE YEAR,
CONSIDERING EMISSIONS WITHIN THE
DEFINED OPERATIONAL BOUNDARY AND
ESTABLISHING TARGETS FOR 2035 AND 2050.





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2.2. OUR DECARBONIZATION ROADMAP

Over the past years, we have modernized and strengthened our Electric Arc Furnace (EAF) steelmaking operations through strategic investments focused on eco-efficiency and GHG emissions reduction. During this period, we have invested more than US\$500 million in projects with a strong sustainability focus, including:



01. **New Steel Mill No. 2**
Increases our production capacity by 50% while reducing energy and electrode consumption through more efficient technology.

02. **New Lime Plant**
Reduces natural gas consumption by 50%.

03. **Recycled Steel Cleaning Machine**
Separates non-ferrous materials before they enter the furnace, reducing energy consumption per ton of crude steel.

04. **Fleet Conversion**
We are progressively replacing diesel trucks with units powered by compressed natural gas (CNG).

05. **Crane Electrification**
Eight of our eighteen recycled steel handling cranes are electric, helping reduce our emissions.



Our commitment to efficiency and innovation has enabled us to achieve **one of the most competitive CO₂ emissions intensities per ton of steel globally**. According to the CO₂ emissions intensity per ton of hot-rolled steel indicator defined by the SBTi (based on the operational boundary), we recorded a value of 0.31 tCO₂e/t in 2025, significantly below the average for blast furnace-based steel production and also lower than that of other companies operating Electric Arc Furnaces (EAF) in the region.

Despite these achievements, we continue to advance new initiatives and reaffirm our commitment to even more ambitious targets in the years ahead.



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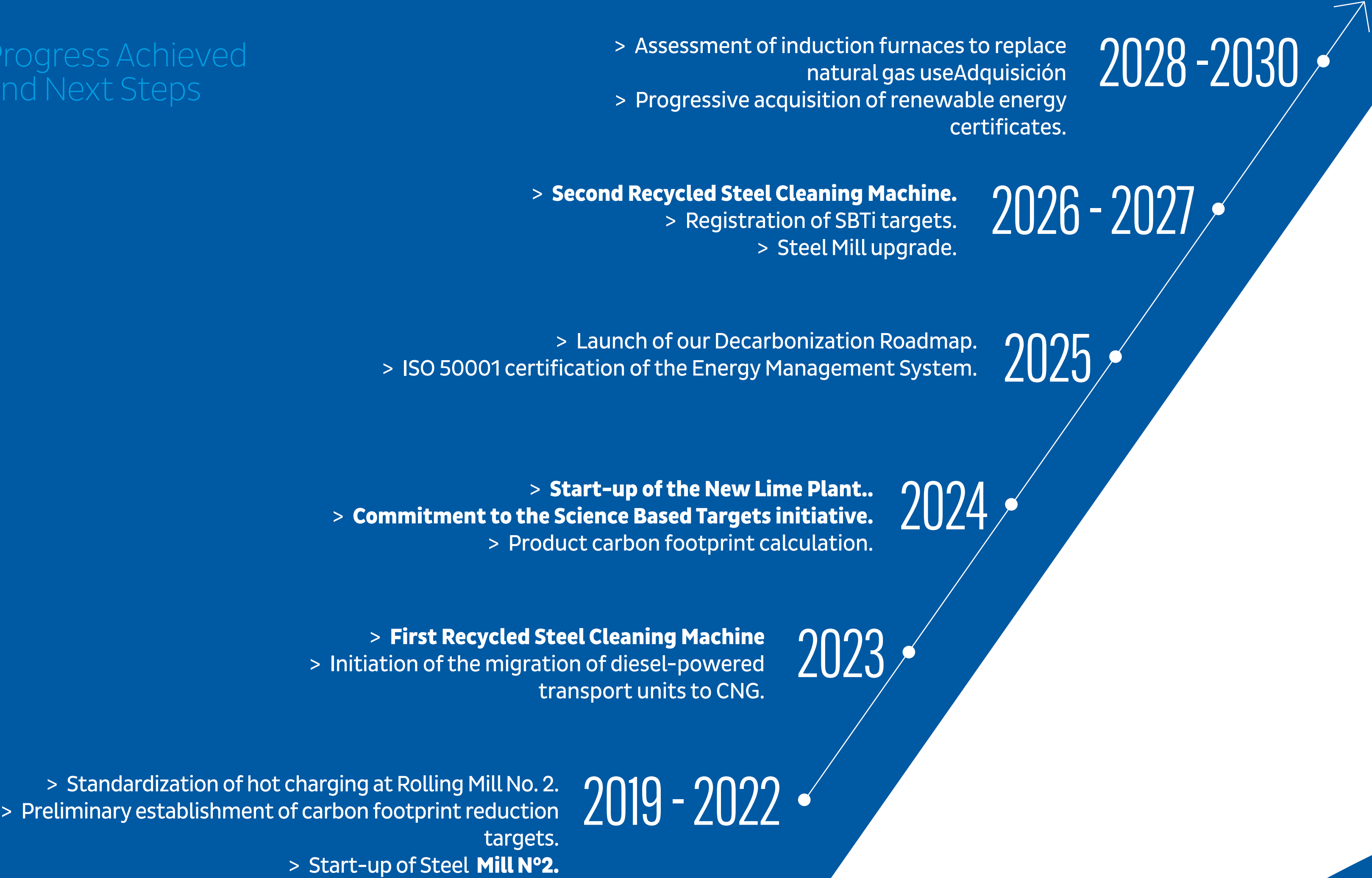
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Progress Achieved
and Next Steps





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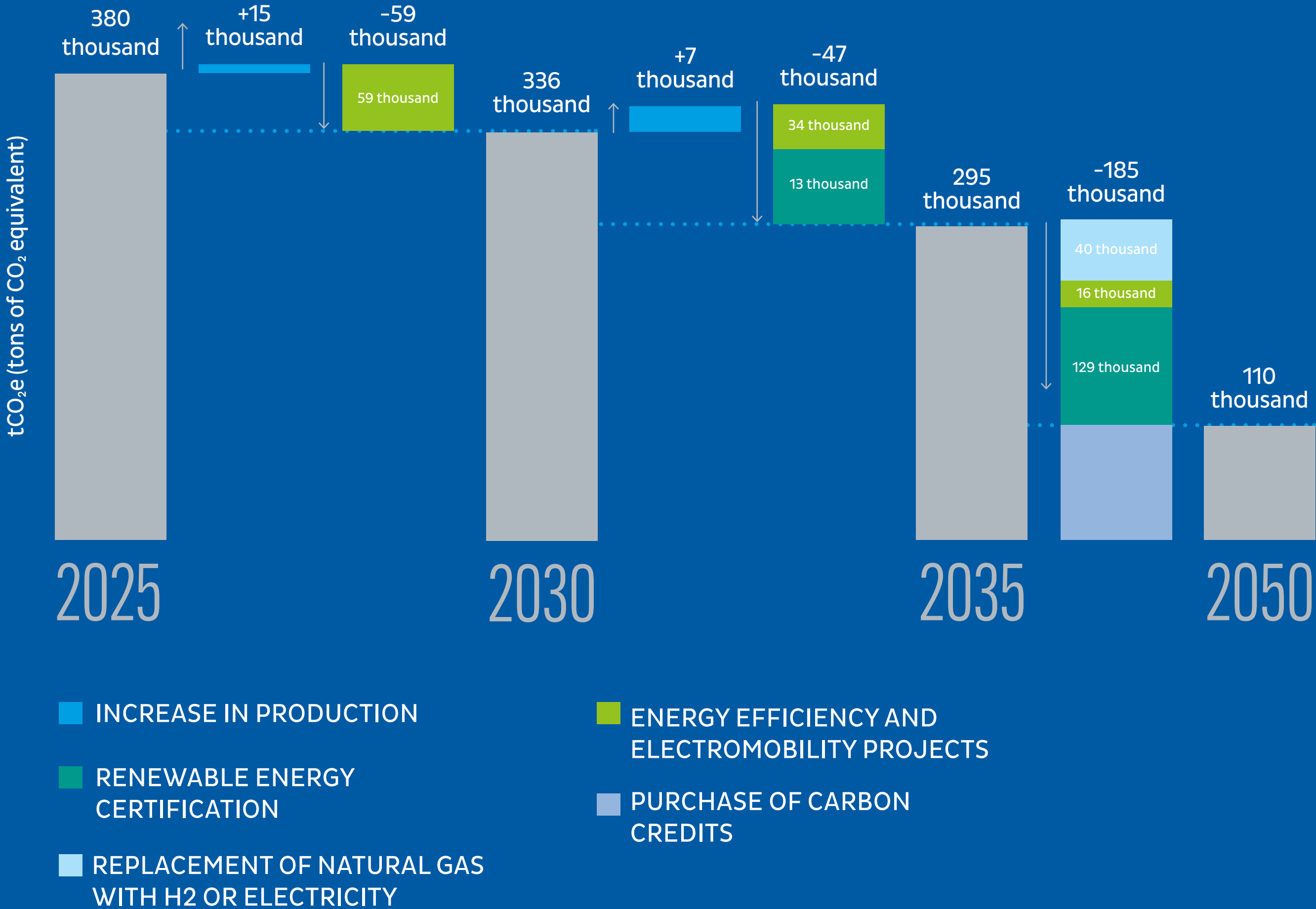
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In line with our commitment to Science-Based Targets, our decarbonization roadmap toward 2030, 2035, and 2050 includes several strategies to reduce GHG emissions, including:

- > Implementing **energy efficiency, electrification, and process optimization projects to reduce GHG emissions**, such as the second Recycled Steel Cleaning Machine and the electrification of transportation and material handling equipment in operational areas, among others.
- > Maintaining a high **share of recycled steel** as the primary input in the metallic charge used for steel production.
- > **Progressively certifying renewable electricity** used in our processes.
- > Evaluating alternatives to the use of natural gas in reheating furnaces at our rolling mills, including the use of green hydrogen or replacement with electric induction furnaces.
- > • Finally, offsetting remaining GHG emissions through the **purchase of carbon credits** to achieve carbon.

Net Zero Roadmap to 2050





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2.3. KEY INITIATIVES AND STRATEGIES FOR THE MITIGATION OF OUR GHG EMISSIONS

→ SCOPE 1

EQUIPMENT MODERNIZATION

Progressive replacement of diesel-powered equipment with electric alternatives. By 2025, eight of the eighteen recycled steel handling cranes are electric. Each crane implemented reduces approximately 150 tCO₂e per year compared to combustion-powered units, contributing to our emissions reduction targets.

Over the coming years, we will continue advancing the transition toward electric equipment by progressively replacing the remaining diesel cranes with electric cranes, as well as combustion-powered forklifts with electric units, reinforcing our commitment to energy efficiency and reducing our carbon footprint.

RECYCLED STEEL CLEANING MACHINE

We introduced this technology to reduce electricity consumption in the melting of crude steel. The machine cleans recycled steel before it enters the electric furnace, reducing energy consumption and contributing to greater process efficiency. Its implementation has the potential to reduce 5% of GHG emissions per ton of crude steel processed. We will continue expanding the use of this technology and have planned the implementation of a second cleaning machine in 2026.



RECYCLED STEEL AS OUR PRIMARY RAW MATERIAL

Our corporate strategy prioritizes securing a long-term supply of recycled steel. To achieve this, we have developed a local and international sourcing plan aimed at ensuring the availability of this material while maintaining a high proportion of recycled steel as the primary metallic input in our steel production process. This approach not only reduces the need to extract virgin raw materials but also lowers GHG emissions and energy consumption.

We currently recycle approximately 1.36 million tons of steel scrap and operate 10 collection yards across Peru, Bolivia, Chile, and the United States. In addition, ferrous recycled steel accounts for 99% of the metallic input used in our steel production process.

REPLACEMENT OF NATURAL GAS IN REHEATING FURNACES

Cleaner alternatives are being evaluated to replace natural gas in the reheating furnaces of our rolling mills. The main alternatives under assessment are:

1. **Electric Induction Furnaces:** This alternative seeks to partially or fully replace natural gas-fired furnaces with furnaces powered by electricity for billet reheating during the rolling process, improving heating efficiency.
2. **Green Hydrogen:** This option would enable natural gas to be replaced as an energy source, significantly contributing to emissions reductions. Currently, the su-

VERTICAL LIME KILN

In 2025, our Vertical Lime Kiln began operations, enabling more efficient natural gas consumption through the preheating of limestone using gases generated within the kiln. This technological upgrade reduces emissions from 1.26 tCO₂e to 0.88 tCO₂e per ton of lime produced.

pply of green hydrogen is limited and transportation costs remain high. However, Peru has strong production potential due to its abundant natural resources and relatively low renewable energy generation costs. The Horizonte de Verano project, located in Arequipa, is the most advanced initiative in the country in this field. As this potential continues to develop, green hydrogen could become a key element of our decarbonization roadmap.



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→ SCOPE 2

ENERGY MANAGEMENT SYSTEM BASED ON ISO 50001

Our Energy Management System is certified under ISO 50001 and covers steelmaking and rolling processes within our Steel Complex. This system enables us to continue strengthening our energy management capabilities by optimizing the consumption of electricity, natural gas, anthracite coal, and B5 diesel, with the objective of improving the efficiency and sustainability of our operations.

In 2025, we implemented improvements such as foamy slag prediction and control, enabling more efficient consumption of electricity and electrodes during the steelmaking process. We also introduced new lances in the Electric Arc Furnace to improve efficiency in the melting process.

PROGRESSIVE CERTIFICATION OF RENEWABLE ELECTRICITY

Our Scope 2 emissions arise from electricity consumption from Peru’s National Inter-connected Electric System (SEIN), which supplies our operations with electricity generated primarily by the Mantaro Hydroelectric Complex, thereby avoiding the use of fossil fuels. As part of our decarbonization roadmap, we will progressively acquire renewable energy certificates (RECs) to support the sustainable origin of the electricity consumed in our operations.

STEELMILL UPGRADE

This multi-year project aims to progressively increase billet production capacity at our steelmaking facility by incorporating more efficient technologies that optimize energy use and reduce refractory consumption. This modernization will not only increase productivity but also generate energy efficiencies and reduce GHG emissions. One example within this project is the replacement of liquid steel ladles, which will improve thermal efficiency and reduce the use of refractory materials, contributing to a more sustainable and competitive operation.





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→ **SCOPE 3**

MIGRATION OF THE TRANSPORT FLEET TO NATURAL GAS

Progressive replacement of diesel-powered trucks with a natural gas fleet. We currently operate a fleet of 52 natural gas trucks, whose operation generates five times lower CO₂ emissions compared to diesel-powered trucks.



FLEET WITH
EMISSIONS
**5 TIMES
LOWER**

2.4. ENERGY MANAGEMENT SYSTEM (EnMS)

We have an Energy Management System (EnMS) certified under ISO 50001, aimed at continuously improving our energy performance and reducing GHG emissions and the costs associated with energy consumption.

The scope of this system covers our Steelmaking and Rolling Mill operations, where the highest energy demand of our activities is concentrated. During 2025, our energy consumption consisted of electricity (51%), natural gas (36%), anthracite coal (12%), and B5 diesel (1%). The Electric Arc Furnace, rolling mills, and ladle furnace were the main energy-consuming processes.

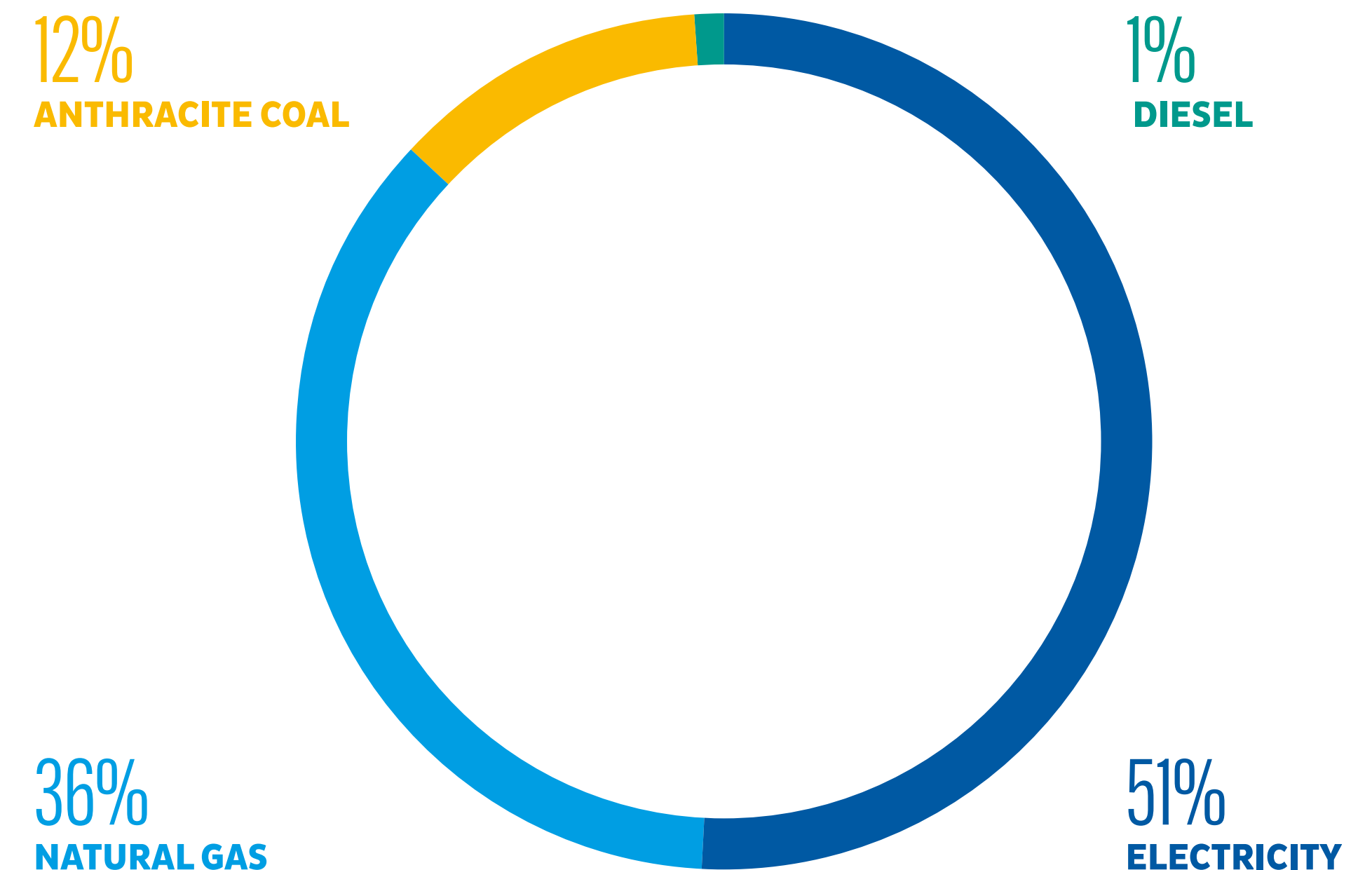
ENERGY POLICY

Our Policy is approved by Senior Management, represented by the General Production Manager and the Strategic Management Control Manager. Through this policy, we commit to:

- > Use resources efficiently.
- > Continuously improve our EnMS.
- > Ensure the availability of resources and information.
- > Promote and support the acquisition of energy-efficient equipment and services.
- > Comply with legal requirements and other applicable obligations.

[Download our Policy](#) 

Energy Distribution (GJ) – 2025





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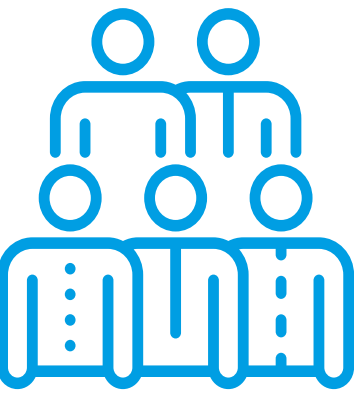
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ENERGY MANAGEMENT COMMITTEE

We have a multidisciplinary Energy Management Committee, composed of representatives from different areas. The Committee has the responsibility and authority to:

- > Ensure that the EnMS is established and maintained in accordance with the requirements of ISO 50001.
- > Implement action plans to improve energy performance.
- > Monitor and evaluate the results of key performance indicators.
- > Establish the criteria and methods necessary to ensure the effective operation and control of the EnMS.



7 SESSIONS
OF THE ENERGY MANAGEMENT
COMMITTEE HELD IN 2025



MONITORING AND VERIFICATION OF ENERGY PERFORMANCE INDICATORS

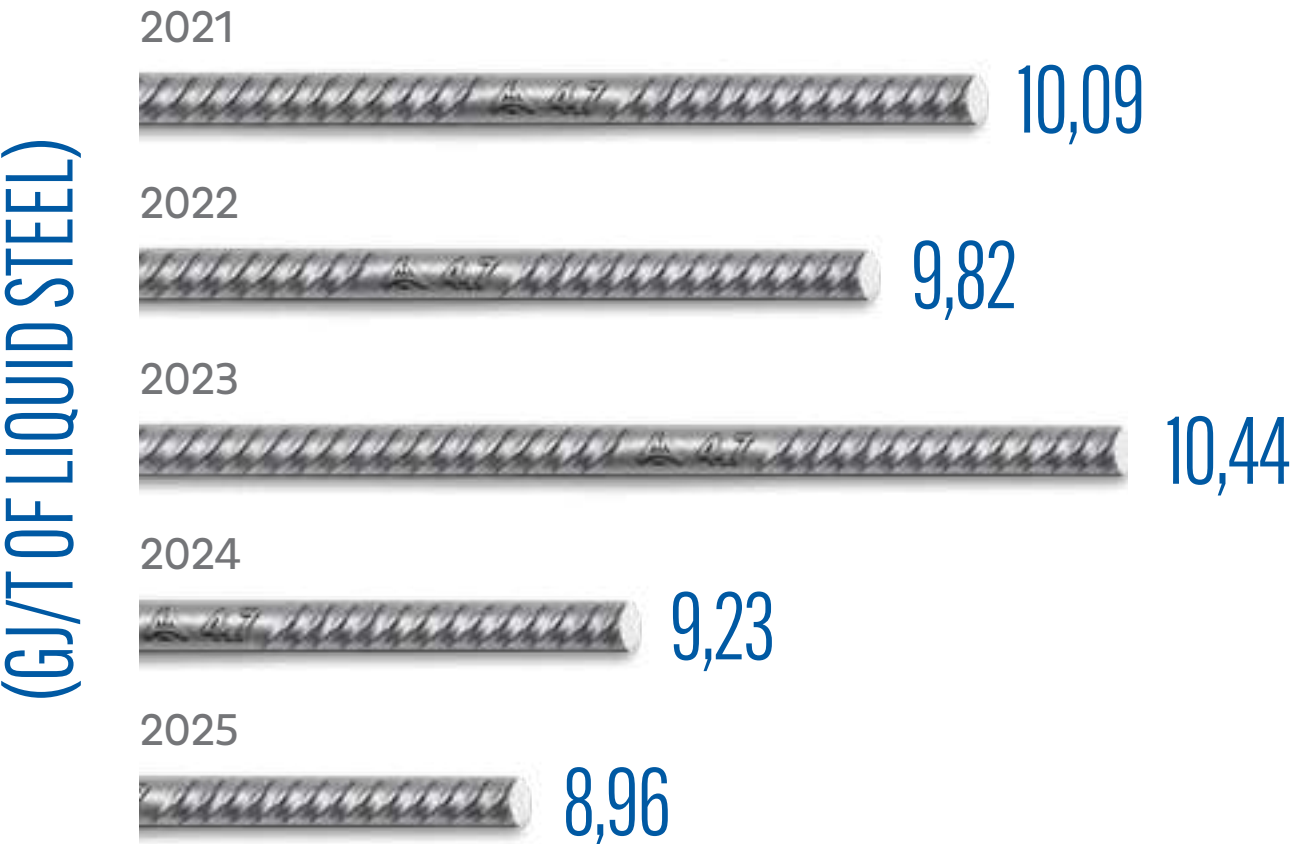
We manage our significant energy uses through performance indicators. We have one overall indicator and seven specific indicators. These are evaluated against their energy baseline and the annual reduction target established for the year [Annex 3](#) presents the flowchart of our indicator monitoring and verification process.

Our overall indicator is called “Energy Intensity” and is measured using the Worldsteel methodology, which considers both direct and indirect energy consumption. In recent years, we have significantly reduced our energy intensity, mainly due to the implementation of best practices in recycled steel cleaning and the efficient use of electricity in the Electric Arc Furnace.

OVERALL TARGET:
REDUCE ENERGY INTENSITY TO 9.22 GJ/T OF LIQUID STEEL IN 2025.

2025 RESULT:
8.96 GJ/T OF LIQUID STEEL.

Historical Energy Intensity Results



Specific indicators are compared against their respective energy baselines considering their annual reduction targets [Annex 4](#) presents the monitoring results of the specific indicators for 2025.

ACHIEVING OUR SPECIFIC ENERGY EFFICIENCY TARGETS RESULTED
IN A REDUCTION OF
2,900 T DE CO₂e IN 2025



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ENERGY CONSUMPTION REDUCTION INITIATIVES



→ Energy Optimization in Steelmaking

Implemented Initiatives:

First Recycled Steel Cleaning Machine.

Cleaning recycled steel impacts the energy consumption of the Electric Arc Furnace, as the feedstock contains fewer impurities.

New Vertical Lime Kiln

Thanks to its chambers, it allows limestone preheating, reducing natural gas consumption per ton of lime produced.

Foamy Slag Prediction and Control

Predicting slag formation during the melting process enables more efficient consumption of electricity and electrodes.

Implementation of New Lances in the Electric Arc Furnace

The implementation and distribution of new lances enable more efficient use of electrical energy during the melting process.

Next Steps:

Implementation of the Second Recycled Steel Cleaning Machine.



→ Energy Optimization in Rolling Operations

Implemented Initiatives:

Hot Charging in Rolling Mill No. 2

Direct charging of billets from the Steel Plant to Rolling Mill No. 2 was implemented to reduce residence time in the Reheating Furnace and decrease natural gas consumption per ton of billet.

Next Steps:

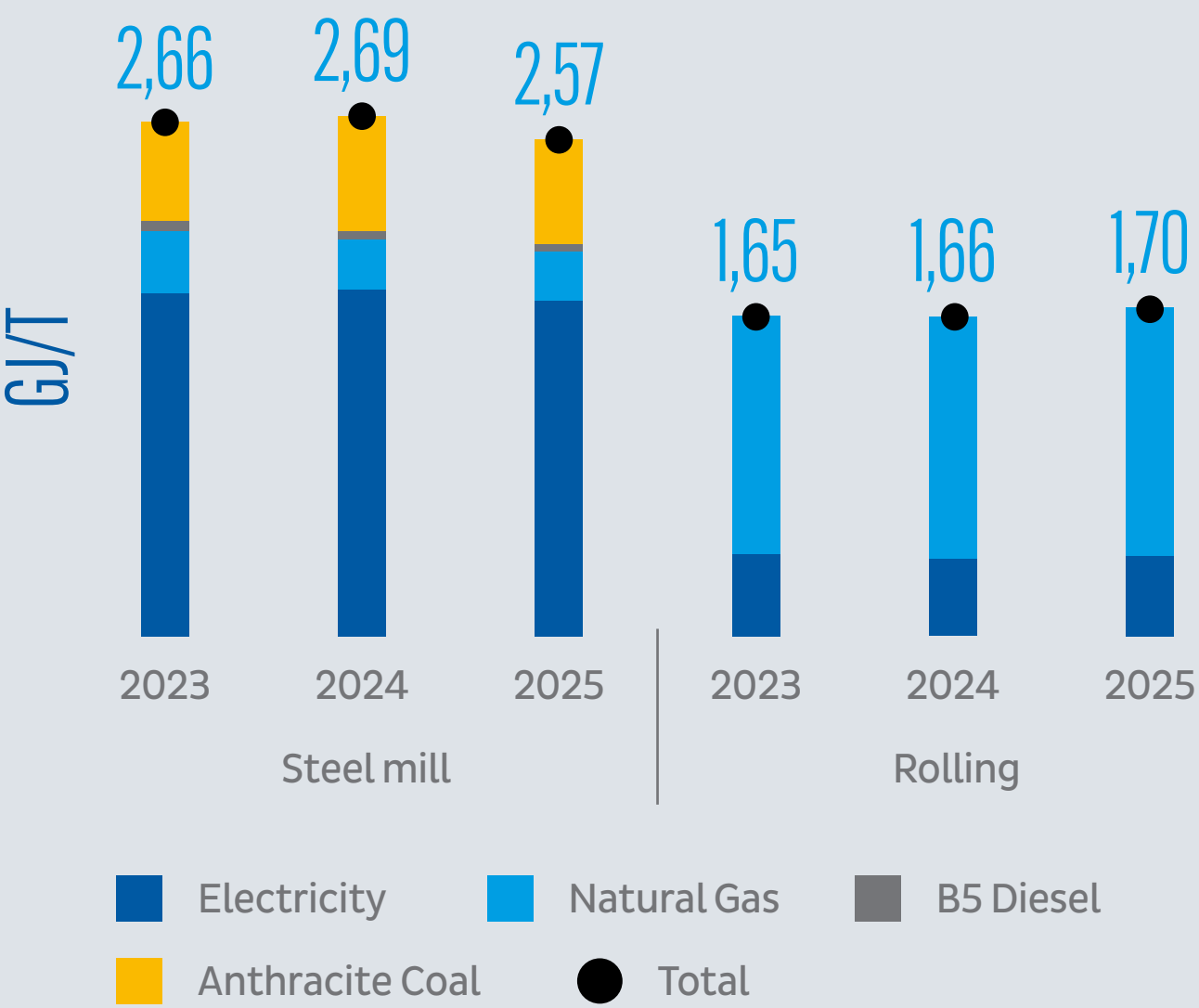
Continue implementing current monitors in the annealing line.
Implement a monitoring system for billet temperature and oxygen consumption in Reheating Furnace No. 2.





The actions described above have enabled us to significantly reduce energy consumption in the Steel Plant, reaching 2.57 GJ/t of liquid steel in 2025. In Rolling Operations, however, energy intensity increased because Rolling Mill No. 3 began operations in 2025.

Evolution of Energy Intensity by Process



Note: The denominator for Steelmaking is “liquid steel,” while for Rolling Operations it is “hot-rolled steel.”

INVESTMENTS IN INNOVATION AND DEVELOPMENT

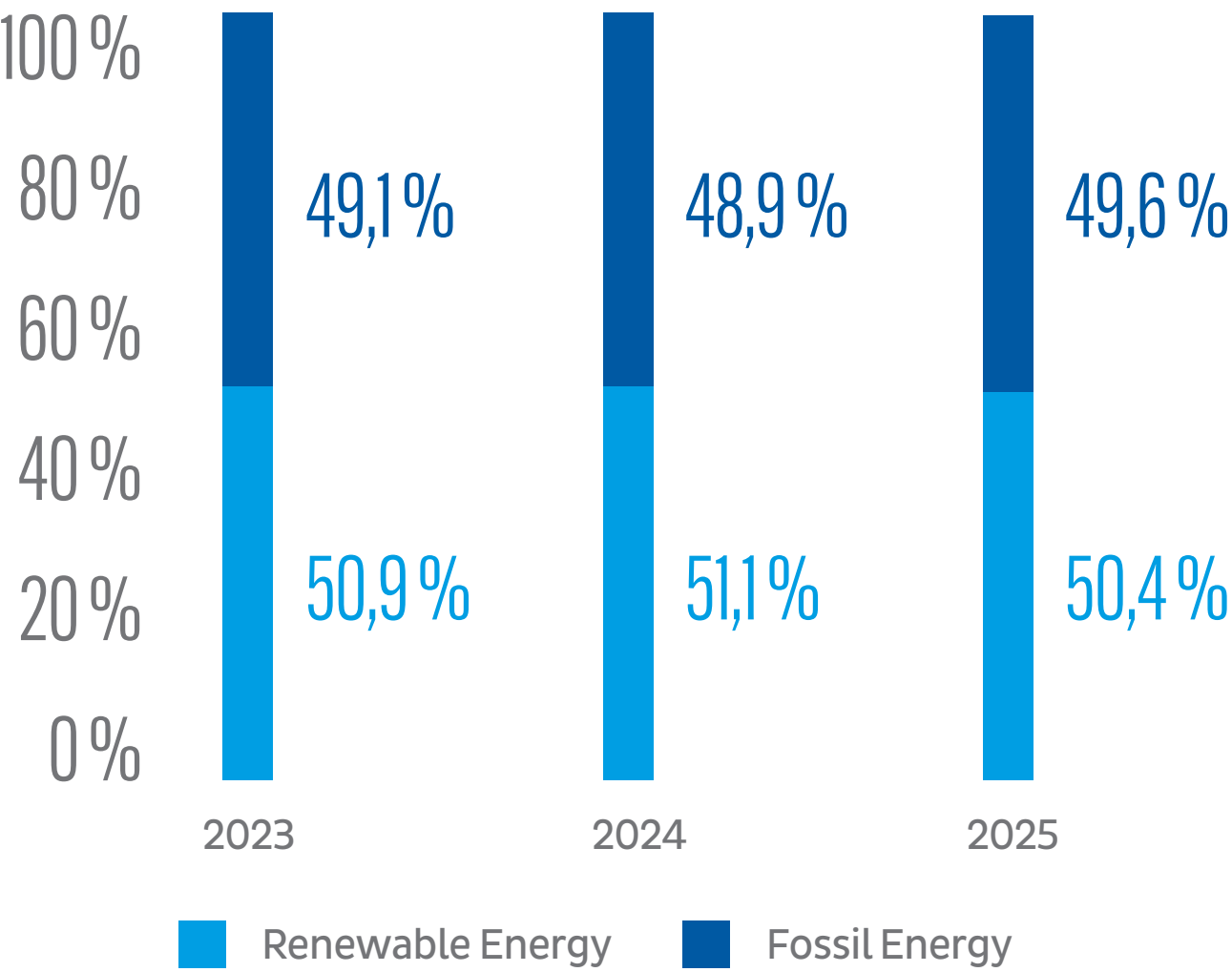
We invest in innovation and development to reduce energy consumption. In 2024, we invested slightly more than US\$12 million in the implementation of the First Recycled Steel Cleaning Machine. In 2025, we invested US\$17 million in the implementation of the new Vertical Lime Kiln, as well as US\$335 thousand in alternating current motors and more than US\$58 thousand in specific improvements to the Electric Arc Furnace.

USE OF CLEAN OR RENEWABLE ENERGY

The electricity consumed by the Company is generated from hydropower, which is classified as renewable energy within the energy mix.

Currently, within the scope of the Energy Management System, the share of renewable energy remains above 50% of total energy consumption, making it one of the key drivers for improving energy performance and reducing our carbon footprint.

Renewable Energy Use





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ENERGY AUDITS TO IDENTIFY EFFICIENCY OPPORTUNITIE

All areas included within the Energy Management System (EnMS) are evaluated at planned intervals to determine compliance with the requirements of ISO 50001 and the internal requirements established by the Company.

Energy audits consist of the periodic analysis of energy efficiency and consumption based on data and objective evidence. Through this process, significant energy uses are identified and opportunities to improve energy performance are detected.

- We promote continuous improvement through:
- > The implementation of the Energy Policy.
 - > Ongoing measurement and evaluation of EnMS objectives.
 - > Monitoring the results of internal audits and implementing corrective actions.
 - > Channeling employees' creativity and experience through improvement ideas.
 - > Forming multidisciplinary teams to solve operational challenges.
 - > Maintaining an energy review process, described in [Annex 5](#)





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ENERGY REDUCTION AWARENESS AND ENGAGEMENT

During 2025, we carried out several initiatives to raise employee awareness about the importance of reducing energy consumption and strengthening a culture of energy efficiency throughout the organization.

External and Internal Communications

We developed external communications through our social media channels to share our best practices and achievements in energy efficiency.

Internally, we communicated guidelines, performance results, and recommendations to reinforce an energy efficiency culture among our employees.

In 2025, we achieved:

6 EXTERNAL
PUBLICATIONS ON
SOCIAL MEDIA

11 INTERNAL
PUBLICATIONS
FOR EMPLOYEES

Energy Training Programs

In 2025, we delivered training on the Energy Management System (EnMS) for personnel involved in the system.

Additionally, through the Annual Training Program, we conducted specialized energy-efficiency training sessions for operational personnel.

Training results in 2025:

81 EMPLOYEES
TRAINED IN
THE ENERGY
MANAGEMENT
SYSTEM

19 EMPLOYEES
TRAINED
THROUGH
SPECIALIZED
ENERGY-
EFFICIENCY
PROGRAMS

Energy Efficiency Guide for Administrative Activities

We published our Energy Efficiency Guide for Administrative Activities, providing practical recommendations on efficient office lighting, air-conditioning use, fuel consumption, and the use of electrical and electronic equipment.

> [Download our guide](#)





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2.5. INTEGRATION WITH FINANCIAL PLANNING

Our Decarbonization Roadmap prioritizes the creation of an internal financial environment that facilitates the investments required to reduce emissions, manage climate-related risks, and generate business value. Financial planning and capital allocation are aligned with carbon footprint reduction, the development of products with lower environmental impacts, and the incorporation of sustainable technologies. Within this framework, the investment plan prioritizes sustainable projects focused on optimizing natural resource use and enhancing the value of industrial by-products, thereby strengthening the transition toward a low-carbon economy.

CAASA INTERNAL CARBON PRICE

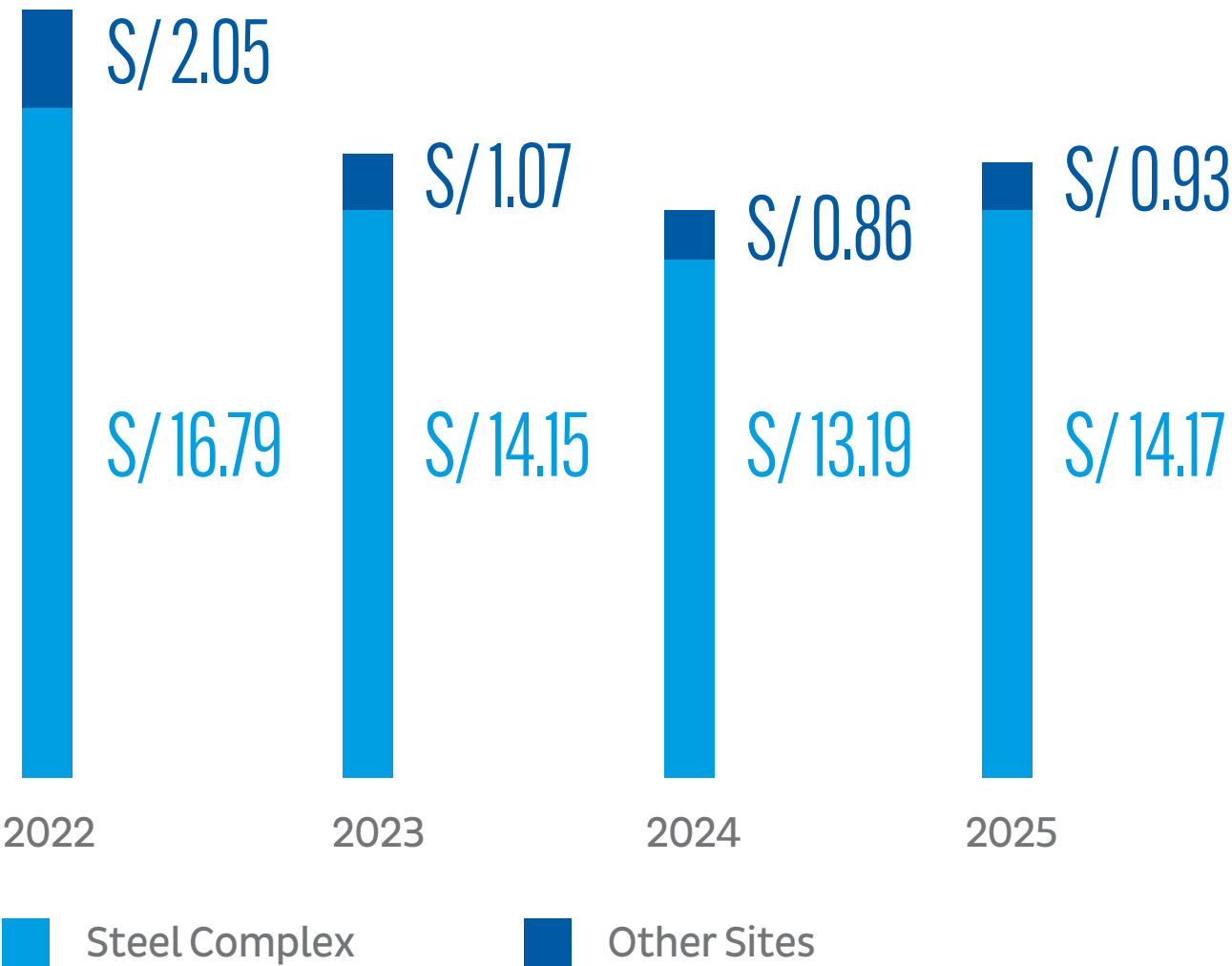
The Company applies an internal carbon price that is updated annually and serves as a key tool for integrating climate considerations into strategic, operational, and

investment decision-making. This approach considers direct emissions (Scope 1) and indirect emissions (Scopes 2 and 3) included in the corporate GHG inventory. This mechanism enables the estimation of the potential avoided cost associated with emission reductions, as well as the evaluation of the economic benefits derived from eco-efficiency, energy efficiency, and the adoption of low-carbon technologies.

The approach implemented corresponds to a shadow carbon price, which consists of assigning a hypothetical cost per tonne of CO₂e emitted in order to assess how different carbon pricing scenarios could affect financial performance, climate risk management, product competitiveness, and the viability of investment projects.

This analysis includes the mapping of climate-related financial risks, the assessment of potential impacts on production costs and product pricing, and the cost-benefit analysis of climate mitigation and transition initiatives, considering emissions from Scopes 1, 2, and 3.

Carbon Internal Price Evolution
(Millions of Peruvian soles)





The implementation of the internal carbon price provides, among other benefits:

- 1. **Improved decision-making.** By incorporating the economic impact of emissions into the assessment of risks, investments, and projects.
- 2. **Accelerated decarbonization.** By promoting energy efficiency initiatives, renewable energy adoption, and emission reduction measures.
- 3. **Anticipation of regulatory and market risks.** By preparing the Company for future carbon-related costs and strengthening its competitiveness.

Currently, CAASA applies a uniform corporate-wide shadow carbon price, with no differentiation by geography or subsidiary, covering Scope 1, Scope 2, and Scope 3 emissions. This price is based on the reference value proposed by Peru’s Ministry of the Environment (MINAM, 2019), equivalent to US\$ 7.17 per tonne of CO₂e (equivalent to S/ 24.12 as of year-end 2025). Although an internal carbon fee approach—which involves applying an actual cost per tonne of emissions—exists as an alternative mechanism, it is not currently implemented due to the absence of a carbon tax or an equivalent economic instrument within the national regulatory framework. Nevertheless, the shadow carbon price serves as a preventive and strategic tool that is fully integrated into the Company's climate management and decision-making processes.

INTERNAL CARBON PRICE DISTRIBUTION FOR 2025

Sites	Internal Carbon Price 2025 (expressed in Peruvian soles)				Share
	Scope 1	Scope 2	Scope 3	Total	(%)
Steel Complex	5,880,421.03	4,051,072.43	4,239,267.29	14,170,760.74	93.82
Other Sites	26,067.40	50,391.75	857,692.22	934,151.37	6.18
Total	5,906,488.43	4,101,464.17	5,096,959.50	15,104,912.11	100.00



2.6. CHALLENGES TO STRATEGY IMPLEMENTATION

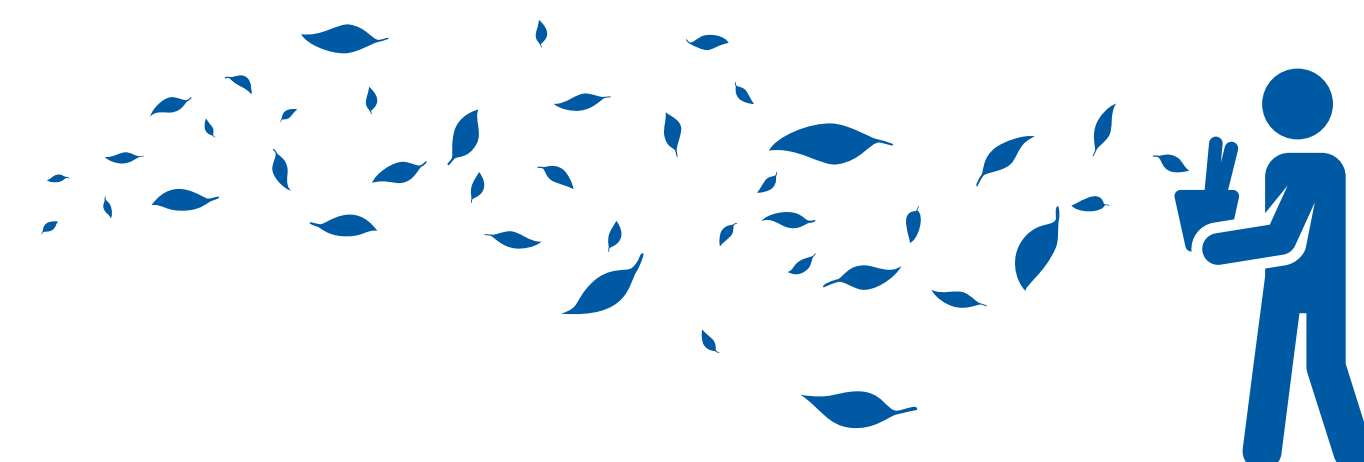
Aceros Arequipa has made significant progress in the decarbonization of its operations and currently maintains one of the lowest carbon footprints in the industry. However, our goal is to achieve carbon neutrality. The transition toward this objective presents challenges that require a collaborative effort among multiple stakeholders. Therefore, we will continue promoting initiatives to reduce our carbon footprint and advance our decarbonization roadmap. Nevertheless, we recognize that external factors may influence this process.

The World Economic Forum's Net Zero Tracker proposes a framework for assessing an industry's level of readiness for the net-zero transition, based on five key dimensions:

- > **Technology:** Are the technologies required to achieve net-zero emissions commercially available?
- > **Infrastructure:** Is adequate infrastructure available to enable the deployment of low-emission technologies?
- > **Demand:** Is the market willing to support low-emission products while absorbing the associated additional costs?
- > **Capital:** Are returns sufficient to incentivize investments in low-emission assets?
- > **Policy:** Are supportive policies in place to facilitate the growth of low-emission industries?

When applying this framework to our business context, with operations in Peru, Bolivia, Colombia, Ecuador, and Chile, we observe that some aspects still require further development.

OUR GOAL IS
TO ACHIEVE CARBON
NEUTRALITY.





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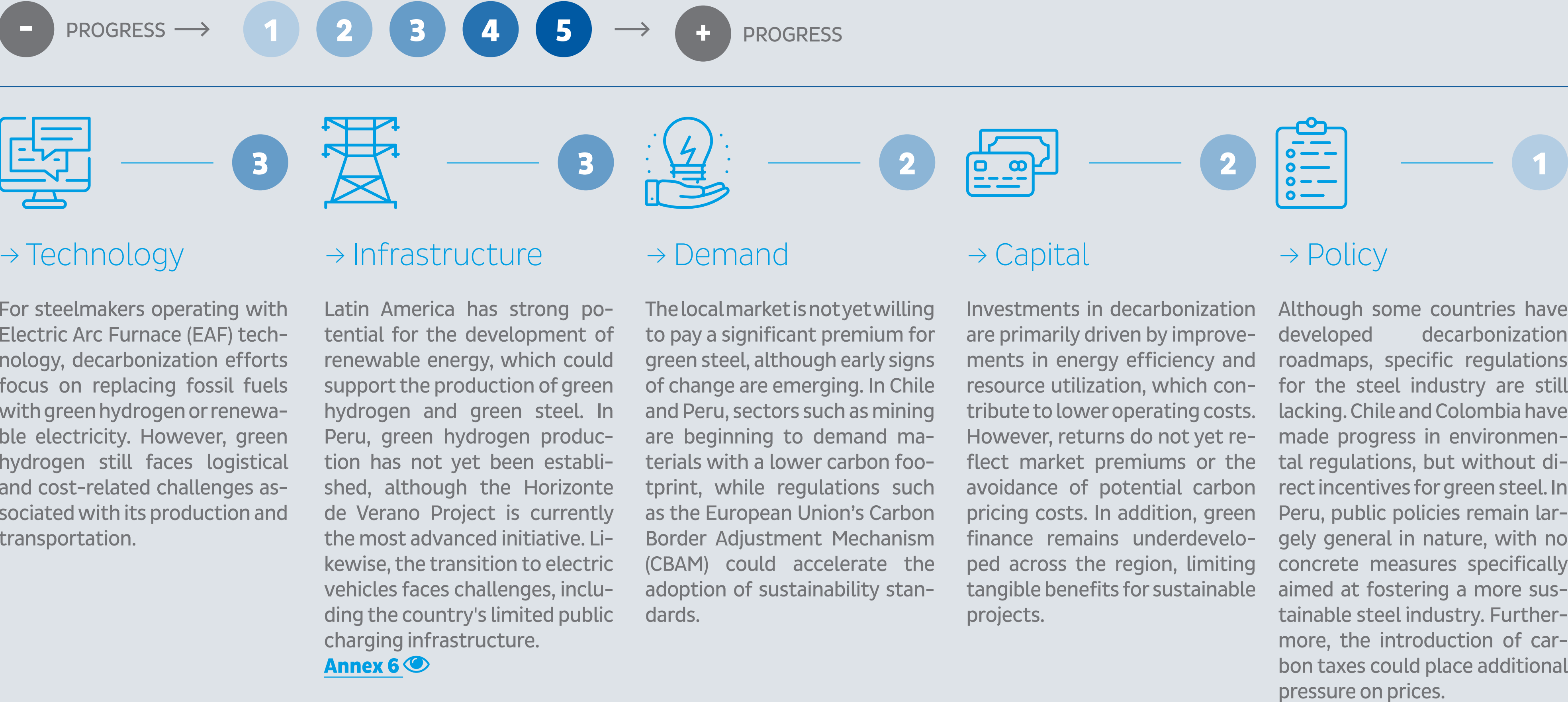
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Maturity level of net-zero
Transition enablers





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RISK AND OPPORTUNITIES MANAGEMENT



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3.1. ANALYSIS METHODOLOGIES

In accordance with CAASA’s Climate Management Process ([Annex 7](#) ) , we have identified and assessed climate change-related risks and opportunities through a comprehensive evaluation of trends, as well as the current and future outlook of the steel industry and CAASA’s value chain.

According to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), climate-related risks are divided into two main categories: physical risks and transition risks. Physical risks include both the direct and indirect impacts of climate change on an organization’s physical assets, operations, and supply chains. These impacts include extreme weather events such as floods, storms, and droughts. Transition risks, on the other hand, arise from changes in policies, technologies, and markets associated with the transi-

tion to a low-carbon economy. Such risks may include regulatory changes, more stringent climate policies, shifts in the demand for products and services, and evolving consumer preferences and investment trends.

The TCFD highlights the importance of understanding and managing both physical and transition risks to ensure the long-term resilience and sustainability of organizations operating in a climate-affected world ([Annex 20](#) ) .

Our methodology begins with the classification of climate-related risks in accordance with the guidelines established by the TCFD. In a second step, we identify potential future scenarios. For transition risks, we consider scenarios related to the achievement of Peru’s Nationally Determined Contributions (NDCs).

For physical risks, we use climate projections from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), considering the Shared Socioeconomic Pathways (SSP) scenarios SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5, as well as the time horizons 2030, 2040, and 2050. For this edition, we have also incorporated the scenarios described in the Network for Greening the Financial System (NGFS) Methodology, assessing transition and physical risks jointly.

Finally, we use CAASA’s Integrated Risk and Opportunity Management (GIRO) methodology to evaluate risks across the different scenarios.



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Integration with the Corporate Risk Management System

Climate-related risks identified and assessed through our GIRO methodology are integrated into CAASA's corporate risk management system.

This integration operates at three levels: Strategic level, The Board of Directors oversees climate-related risks and opportunities and approves the Decarbonization Roadmap; Tactical level, Management teams incorpo-

rate these risks into their functional plans and monitor them on an ongoing basis; Operational level, Employees implement initiatives and periodically report progress. Additionally, climate objectives are incorporated into the Performance Evaluation System

Further details regarding this climate governance structure [are described in Section 4.1 of this report](#)



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APPLICATION OF METHODOLOGIES

1. Risk Identification and Classification		Physical Risks	Transition Risks
	The Task Force on Climate-related Financial Disclosures (TCFD) is an international initiative that provides recommendations for companies to disclose climate-related financial information, enabling them to assess and manage climate-related risks and opportunities affecting their operations and strategies. Our methodology focuses on classifying climate-related risks and opportunities in accordance with the TCFD framework, which categorizes them as follows:	Natural disasters or environmental events caused by climate change	Changes in policies, regulations, technology, and markets associated with climate change mitigation
2. Scenario Analysis		Physical Risks	Transition Risks
	The methodology is based on an adaptation of the approach developed by Schneider et al. (2007), aligned with the methodological principles promoted by the Intergovernmental Panel on Climate Change (IPCC) for climate risk assessment and consistent with the scenarios presented in the Sixth Assessment Report (AR6).	For the analysis of physical climate risk scenarios, we considered the Shared Socioeconomic Pathways (SSPs), including the 2°C-or-below pathway (SSP1-2.6) and the above-2°C pathways (SSP2-4.5, SSP3-7.0, and SSP5-8.5), based on the IPCC Sixth Assessment Report (AR6) climate projections.	
	Nationally Determined Contributions (NDCs) are country-level commitments to reduce greenhouse gas (GHG) emissions and adapt to climate change impacts in alignment with the Paris Agreement. Peru has established 91 adaptation measures and 62 mitigation measures.		For the analysis of transition risks, we used scenarios aligned with a 2°C-or-below pathway and evaluated the probability of achieving Peru's Nationally Determined Contributions (NDCs).
	The International Energy Agency (IEA) has developed climate scenarios that consider future global energy demand, countries' carbon pricing commitments, and emerging technologies in heavy industries, including cement, steel, and chemicals.		For the analysis of transition risk scenarios, we considered the likelihood of achieving Peru's Nationally Determined Contributions (NDCs) and the scenarios developed by the International Energy Agency (IEA)
	The Network for Greening the Financial System (NGFS) is a global network of central banks, financial supervisors, and international financial institutions that promotes the integration of climate-related risks into financial decision-making. The NGFS develops climate scenarios and analytical tools that help organizations assess the impacts of climate change and the transition to a low-carbon economy on their operations and long-term resilience	To assess climate-related physical and transition risks, we use the scenarios developed by the Network for Greening the Financial System (NGFS), covering pathways aligned with 2°C or below and above 2°C, including Delayed Transition, Net Zero 2050, Below 2°C, Low Demand, Fragmented World, Nationally Determined Contributions (NDCs), and Current Policies.	
3. Risk Assessment and Response Plans		Physical Risks	Transition Risks
	The Integrated Risk and Opportunity Management (GIRO) methodology developed by CAASA establishes the guidelines for assessing risks based on the Company's risk appetite and risk tolerance, as well as for developing response plans to address identified risks.	Usamos la metodología GIRO para evaluar los riesgos en los distintos Scenarios y definir planes de acción para tratar los riesgos .	



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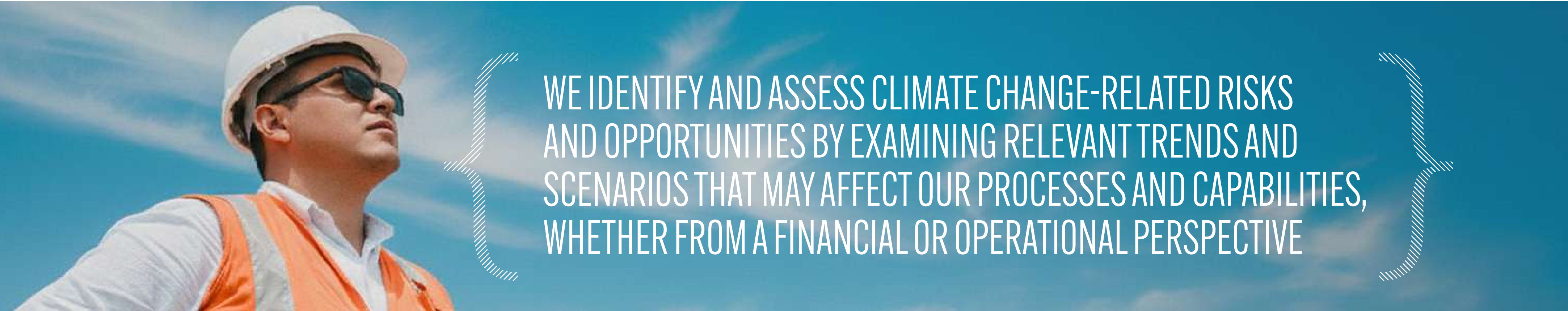
3.2. IDENTIFICATION OF RISKS AND OPPORTUNITIES

We identify and assess climate change-related risks and opportunities by examining trends and associated scenarios that may affect our processes and capabilities, whether from a financial or operational perspective. At the same time, we seek to create strategic opportunities for the Company by applying the external methodological frameworks described in the previous chapter, together with our Integrated Risk and Opportunity Management (GIRO) methodology.

The GIRO methodology establishes the corporate guidelines for the identification, assessment, control, and monitoring of risks, as well as the criteria for risk appetite, risk tolerance, and probability and impact levels. It also provides guidelines for the prioritization of opportunities. To date, we have identified a total of seven climate-related risks (three transition risks and four physical risks), which are directly linked to our key strategic and emerging risks. In addition, we have identified five opportunities associa-

ted with global trends and the achievement of Peru's Nationally Determined Contributions (NDCs).

For the climate risk assessment, we adopted the most adverse scenarios from the selected methodologies, in line with the recommendations of the TCFD. This approach enables us to evaluate potential impacts under extreme conditions and define more effective strategies to strengthen our resilience against both transition and physical risks.





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→ Transition Risks

- **RT1:** Structural increase in global demand for recycled steel driven by technological transitions aimed at addressing climate change
- **RT2:** Increase in operating costs resulting from the implementation of carbon pricing mechanisms in the country and/or higher fuel taxes
- **RT3:** Growth in imports of high-emission steel products into regional markets, driven by climate policies in developed economies that restrict their market access.

→ Physical Risks

- **RF1:** Increased costs associated with the use of alternative resources (forced-air cooling and desalinated water) for the production process due to limited groundwater availability in the area where the Steel Complex is located.
- **RF2:** Additional costs resulting from power supply disruptions at the Steel Complex caused by damage to transmission lines following flooding of the Pisco River.
- **RF3:** Loss of sales due to disruptions to access routes and highways caused by mudslides and flooding.
- **RF4:** Increased costs resulting from damage to infrastructure, equipment, and products caused by higher rainfall levels in the areas where the Company's facilities are located.

→ Opportunities

- **OP1:** Leverage our low carbon footprint to access green financing opportunities in international markets.
- **OP2:** Enter new markets through a competitive advantage derived from lower-emission products.
- **OP3:** Participate in government projects focused on climate change mitigation and adaptation by providing products and/or services.
- **OP4:** Expand co-processing initiatives at the Steel Complex.
- **OP5:** Promote the valorization of steel slag for use in construction projects as an alternative to conventional aggregate materials.



We identify and assess climate-related risks and opportunities by analyzing trends and scenarios that may impact our processes and capabilities





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3.3. TRANSITION RISK ANALYSIS

SCENARIOS

To assess transition risks, we considered three key methodologies: NDCs, IEA, and NGFS, and analyzed our risks under all scenarios proposed by each of these frameworks ([Annex 8](#) and [Annex 9](#)). However, we prioritized four scenarios that enable us to define more effective strategies and response plans, strengthen our preparedness for risks, and facilitate the identification and capture of related opportunities.



→ NDC Scenario
(Transformation)

Description: This scenario reflects the full implementation (100% compliance) of the Nationally Determined Contributions (NDCs). Through the adoption of ambitious climate policies and rigorous mitigation measures, the world successfully remains on a pathway to limit global warming to 1.5°C above pre-industrial levels, a target achievable by 2030.

→ IEA Scenario
(NZE)

Description: The Net Zero Emissions by 2050 (NZE) scenario outlines a pathway toward carbon neutrality by 2050, prioritizing the electrification of end uses and the deployment of renewable energy sources, while ensuring universal access to electricity and clean cooking solutions by 2030.

→ NGFS Scenario (Low
Demand)

Description: This scenario assumes that behavioral changes, such as reduced energy consumption, combined with carbon pricing policies (indirect carbon costs) and technological advancements, would ease the economic burden of achieving net-zero CO₂ emissions by 2050. Under this scenario, regions such as the United States, the European Union, the United Kingdom, Canada, Australia, and Japan would achieve net-zero emissions across all greenhouse gases.

→ NGFS Scenario
(Fragmented World)

Description: The Fragmented World scenario developed by the NGFS assumes uneven and delayed climate action across countries, resulting in elevated physical and transition risks. Countries with Net Zero commitments achieve only 80% of their targets, while the rest of the world maintains largely unchanged climate and energy policies, increasing the likelihood of severe climate impacts and creating significant challenges for the global transition to a low-carbon economy.



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TRANSITION RISK ASSESSMENT

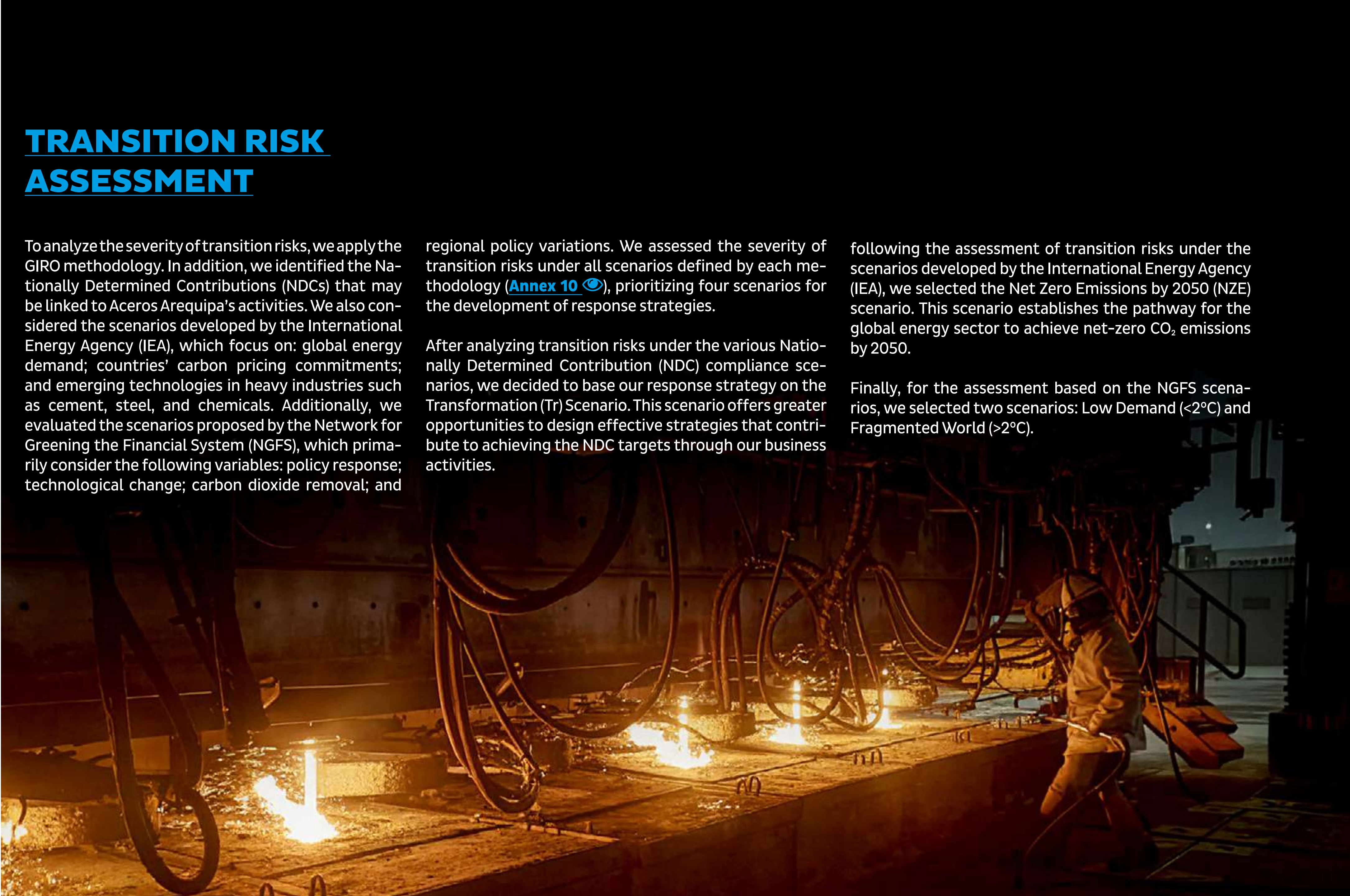
To analyze the severity of transition risks, we apply the GIRO methodology. In addition, we identified the Nationally Determined Contributions (NDCs) that may be linked to Aceros Arequipa’s activities. We also considered the scenarios developed by the International Energy Agency (IEA), which focus on: global energy demand; countries’ carbon pricing commitments; and emerging technologies in heavy industries such as cement, steel, and chemicals. Additionally, we evaluated the scenarios proposed by the Network for Greening the Financial System (NGFS), which primarily consider the following variables: policy response; technological change; carbon dioxide removal; and

regional policy variations. We assessed the severity of transition risks under all scenarios defined by each methodology ([Annex 10](#) ) , prioritizing four scenarios for the development of response strategies.

After analyzing transition risks under the various Nationally Determined Contribution (NDC) compliance scenarios, we decided to base our response strategy on the Transformation (Tr) Scenario. This scenario offers greater opportunities to design effective strategies that contribute to achieving the NDC targets through our business activities.

following the assessment of transition risks under the scenarios developed by the International Energy Agency (IEA), we selected the Net Zero Emissions by 2050 (NZE) scenario. This scenario establishes the pathway for the global energy sector to achieve net-zero CO₂ emissions by 2050.

Finally, for the assessment based on the NGFS scenarios, we selected two scenarios: Low Demand (<2°C) and Fragmented World (>2°C).





→ Transition Risks

RT1

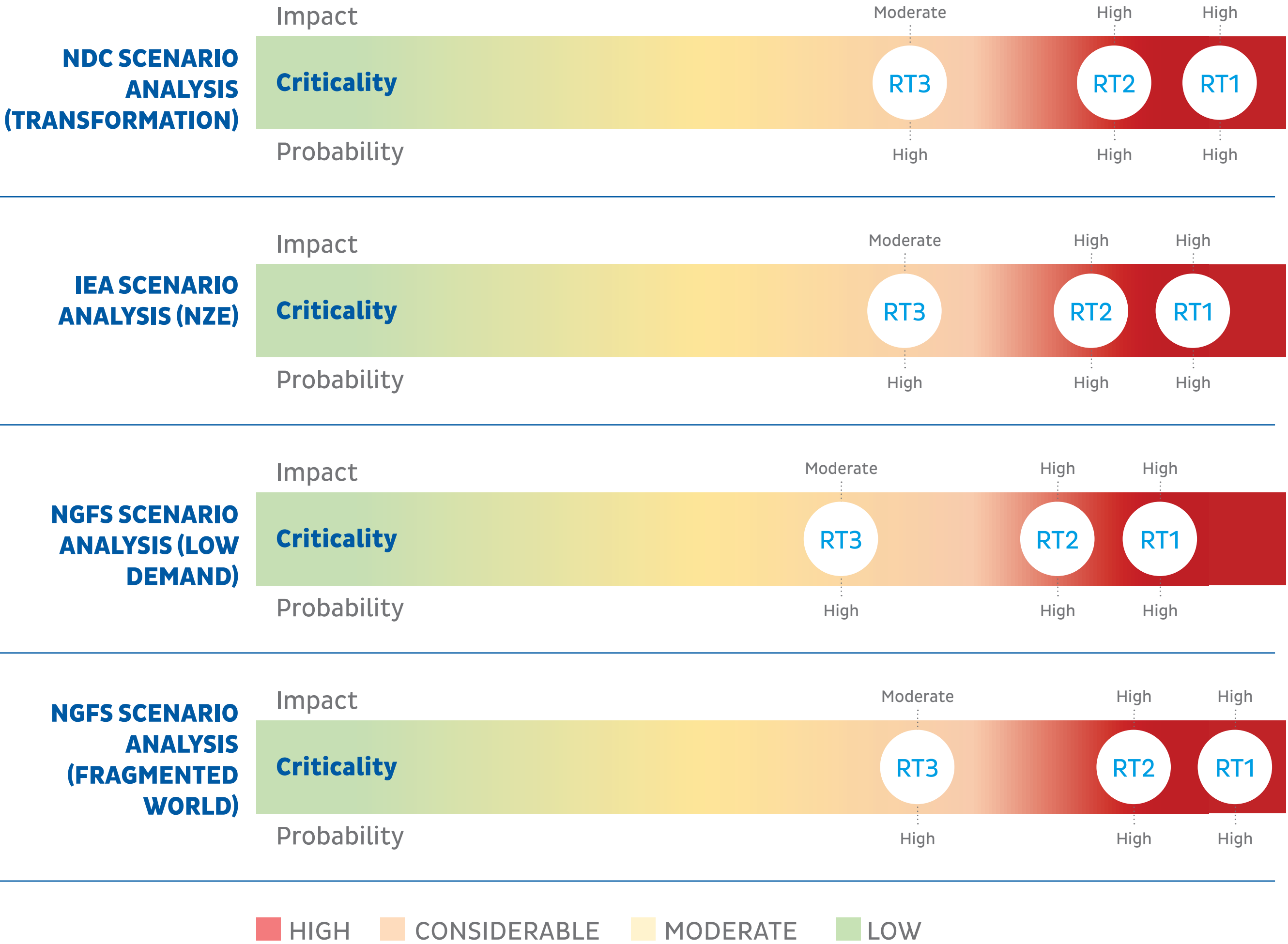
Structural increase in global demand for recycled steel driven by technological transitions aimed at mitigating climate change.

RT2

Increase in operating costs resulting from the implementation of carbon pricing mechanisms within the country and/or increases in fuel taxes.

RT3

Growth in imports of high-emission steel products into regional markets, driven by climate policies in developed economies that restrict their market access.





RT1
Structural Increase in Global Demand for Recycled Steel Driven by Technological Transition to Address Climate Change.

SEVERITY ACROSS SCENARIOS:



NDC Scenario:
Transformation (Tr) – 100% NDC Compliance



IEA Scenario:
Net Zero Emissions by 2050



NGFS Scenario:
Low Demand



NGFS Scenario:
Fragmented World

Risk Type: Technological (Associated NDC: T1)

Description	Strategies
The global transition toward lower-carbon steel production technologies, such as Electric Arc Furnaces (EAFs), is emerging as one of the industry's primary decarbonization pathways. According to the International Energy Agency (IEA), EAF technology could account for nearly 50% of global steel production by 2050. In addition, the OECD estimates that approximately 165 million tonnes of new steelmaking capacity will be added between 2025 and 2027, of which nearly 58% is expected to be based on EAF technology. This is likely to drive a significant increase in demand for recycled steel over the next decade. Such a structural shift in the production mix would increase global demand for recycled steel, intensifying competition among steel producers for access to this raw material.	Current Strategies: > Continuous monitoring of market developments and external trends. > Maintaining close relationships with local recycled steel suppliers to ensure domestic supply at the lowest possible cost. > Supplier loyalty and development programs to support recycling activities within the country. Future Strategies: > Develop new sources of raw material supply at both the local and international levels..
Financial Impact	
Each percentage increase in recycled steel prices generates an annual cost impact exceeding USD 4 million.	

HIGH CONSIDERABLE MODERATE LOW

* These are sources of transition risks, but they are not part of the NDCs; rather, they are derived from a stress scenario. The legend is: L = Legislation, Me = Market, and T = Technology.
Note 1: The classification themes used for the NDCs are: E = Energy and M = Industrial Processes.
Note 2: The transition risk categories are: PL = Policy and Legal, Te = Technology, Me = Market, and Re = Reputation.
Note 3: The risk assessment variables are: Imp. = Impact, Prob. = Probability, Consid. = Considerable, and Mod. = Moderate.



RT2
Increase in Operating Costs Due
to the Implementation of Carbon
Pricing Mechanisms and/or
Higher Fuel Taxes.

SEVERITY ACROSS SCENARIOS:



NDC Scenario:
Transformation
(Tr) – 100% NDC
Compliance



IEA Scenario:
NZE – Net Zero Emissions
by 2050



NGFS Scenario:
Low Demand



NGFS Scenario:
Fragmented World

Risk Type: Policy and Legal (Carbon Tax NDC: L1/E1 – Fuel Taxes: E9/E1)

Description	Strategies	
The World Economic Forum’s Global Risks Report 2025 highlights extreme climate events as a critical and growing risk. In parallel, the lack of concrete policies to discourage emissions could increase the likelihood of the abrupt implementation of carbon taxes or a more stringent tax framework, potentially raising operating costs and reducing competitiveness.	Current Strategies: > In 2025, we implemented an energy management system certified under ISO 50001. > 100% of our electricity is sourced from renewable energy. > The new steel mill increased production capacity by 50% while reducing energy consumption and steelmaking electrode usage through more efficient technology. > We use natural gas as our primary energy source due to its lower emission factor. > Eight of the ten largest scrap suppliers use electric trucks, helping reduce emissions. > We audit major energy-consuming equipment to prevent overconsumption and unplanned downtime. > We continuously monitor our indicators, processes, and environmental targets. > We acquired two scrap-cleaning machines, a vertical lime kiln, and three reheating furnaces, optimizing the use of natural gas. > In 2024, we modernized the nail production line, reducing electricity consumption by approximately one-sixth. > In 2024, Transportes Barcino acquired 52 natural gas-powered trucks for the transportation of products and materials. > We monitor fuel efficiency per ton transported (recycled steel and finished products).	Future Strategies: > Certify the progressive supply of electricity from renewable sources. > Continue the electrification of diesel-powered equipment. > Replace natural gas-fired reheating furnaces with electric furnaces. > Participate actively in the low-carbon economy transition project “Transition to a Low-Carbon Economy in Peru”, led by the Ministry of Economy and Finance (MEF). > Acquire two additional electric furnaces. > Support strategic suppliers in calculating their carbon footprint. > Promote the formalization of transport services and the adoption of environmental best practices. > Evaluate transport equipment and vehicle contracts to transition toward cleaner fuels or electric alternatives.
Financial Impact		
> Carbon pricing impact: Increase in costs of approximately S/ 5.97 million > Higher fuel tax impact: Increase in costs of approximately S/ 3.9 million > Total estimated impact: S/ 9.8 million. (Annex 8 and Annex 11👁)		

* These are sources of transition risks but are not part of the NDCs; rather, they are derived from stress scenarios. Legend: L = Legislation, Me = Market, T = Technology.
Note 1: The classification themes used for NDCs are: E = Energy and M = Industrial Processes.
Note 2: Transition risk categories are: PL = Policy and Legal, Te = Technology, Me = Market, and Re = Reputation.



RT3
Increase in imports of high GHG-emission steel products into countries in the region as a result of the implementation of climate change measures that discourage their commercialization in developed countries.

SEVERITY ACROSS SCENARIOS:



NDC Scenario:
Transformation
(Tr) – 100% NDC
Compliance



IEA Scenario:
Net Zero Emissions by
2050



NGFS Scenario:
Low Demand



NGFS Scenario:
Fragmented World

Risk Type: Policy and Legal (Carbon Tax NDC: L1/E1 – Fuel Taxes: E9/E1)

Description	Strategies
Environmental regulations, such as carbon taxes on imported products under the European Union’s Carbon Border Adjustment Mechanism (CBAM), could divert excess production of high-emission steel toward regions with less stringent regulations, such as Latin America. In addition, if Peru were to implement a carbon tax without an equivalent measure being applied to imported products, the domestic steel industry could face a competitive disadvantage relative to these imports. These factors could increase market supply and generate a competitive disadvantage, leading to lower sales volumes and reduced profit margins.	Current Strategies: > Continuous monitoring of market variables. > Strengthening our competitive position. > Ongoing updates of the strategic plan and long-term projections. Future Strategies: > Strengthen industry association efforts and advocacy initiatives. > Promote actions that accelerate the achievement of Peru’s NDCs, laying the foundation for implementing measures that regulate GHG emissions generation.
Financial Impact	
Considering the 5.7 million tonnes of long steel products imported by the European Union in 2024(1), and assuming an adverse scenario in which 30% of this volume is redirected away from the EU due to CBAM(2), part of this excess production could be diverted to Latin America, particularly Peru, generating a potential EBITDA loss of USD 605,000 for our organization.	

HIGH CONSIDERABLE MODERATE LOW

Note (1): Data obtained from Eurofer’s report “European Steel in Figures 2025.”.
Note (2): Objective data obtained from the study “The Impact of the EU CBAM on Global Steel Trade” by Global Efficiency Intelligence.



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3.4. PHYSICAL RISK ANALYSIS

SCENARIOS

To assess physical risks, we considered the methodology proposed by Schneider et al. (2007), developed within the framework of the IPCC and NGFS initiatives ([Annex 12](#) and [Annex 10](#)). We evaluated the severity of our physical risks under the scenarios proposed by each methodology and prioritized four scenarios that enable us to design more robust action plans within each methodological framework.





→ SSP1-2.6 Scenario (Shared Socioeconomic Pathways) _____

Description: SSP1-2.6 represents a global sustainable development scenario characterized by strong climate mitigation efforts that limit warming to low levels.

In Peru, this scenario would imply moderate climate impacts, including reduced glacier retreat and low to moderate physical risks, which can be effectively managed through adaptation and planning measures.

→ SSP2-4.5 Scenario (Shared Socioeconomic Pathways) _____

Description: SSP2-4.5 describes an intermediate global scenario in which partial climate actions result in moderate warming and a gradual increase in extreme weather events.

In Peru, this would be reflected in higher temperatures, progressive glacier retreat, and increased rainfall variability, leading to physical risks of moderate severity that remain manageable through adaptation and planning.

→ SSP3-7.0 Scenario (Shared Socioeconomic Pathways) _____

Description: SSP3-7.0 describes a highly fragmented global scenario characterized by limited international cooperation, high emissions, and significant warming.

In Peru, this would result in increased heat stress, accelerated glacier loss, and more frequent extreme weather events, creating high physical risks and increasingly limited adaptation capacity.

→ SSP5-8.5 Scenario (Shared Socioeconomic Pathways) _____

Description: SSP5-8.5 represents a very high-emissions global scenario, characterized by strong dependence on fossil fuels and extreme warming by the end of the century.

In Peru, this scenario would lead to severe impacts, including near-total glacier retreat, high climate variability, and very high physical risks affecting water resources, energy supply, agriculture, and coastal areas.

→ NGFS Scenario (Low Demand) _____

Description: This scenario represents a future in which greenhouse gas (GHG) emissions stabilize by 2100, resulting in a global temperature increase of approximately 2.4°C compared to pre-industrial levels.

In Peru, this scenario would imply fewer climate-related events associated with torrential rainfall, glacier melt, and landslides as a result of early global climate action.

→ NGFS Scenario (Fragmented World)

Description: The NGFS Fragmented World scenario assumes uneven and delayed climate action across countries, resulting in elevated physical and transition risks. Countries with Net Zero commitments achieve only 80% of their targets, while the rest maintain largely unchanged climate policies.

This scenario assumes impacts similar to those described under the RCP 8.5 pathway.

PHYSICAL RISK ASSESSMENT

For the assessment of physical risks, we applied the guidelines established in CAASA's Integrated Risk and Opportunity Management (GIRO) methodology, together with the climate scenarios developed by the Intergovernmental Panel on Climate Change (IPCC), including SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5.

Additionally, we incorporated the Network for Greening the Financial System (NGFS) scenarios Low Demand and Fragmented World to evaluate the potential impacts of climate change under different climate and socioeconomic pathways (**Annex 13** ).





→ Physical Risks

RF1

Increased costs associated with the use of alternative resources (forced-air cooling and desalinated water) in the production process due to limited groundwater availability in the area where the Steel Complex is located.

RF2

Additional costs resulting from power supply disruptions at the Steel Complex caused by damage to transmission lines due to flooding of the Pisco River.

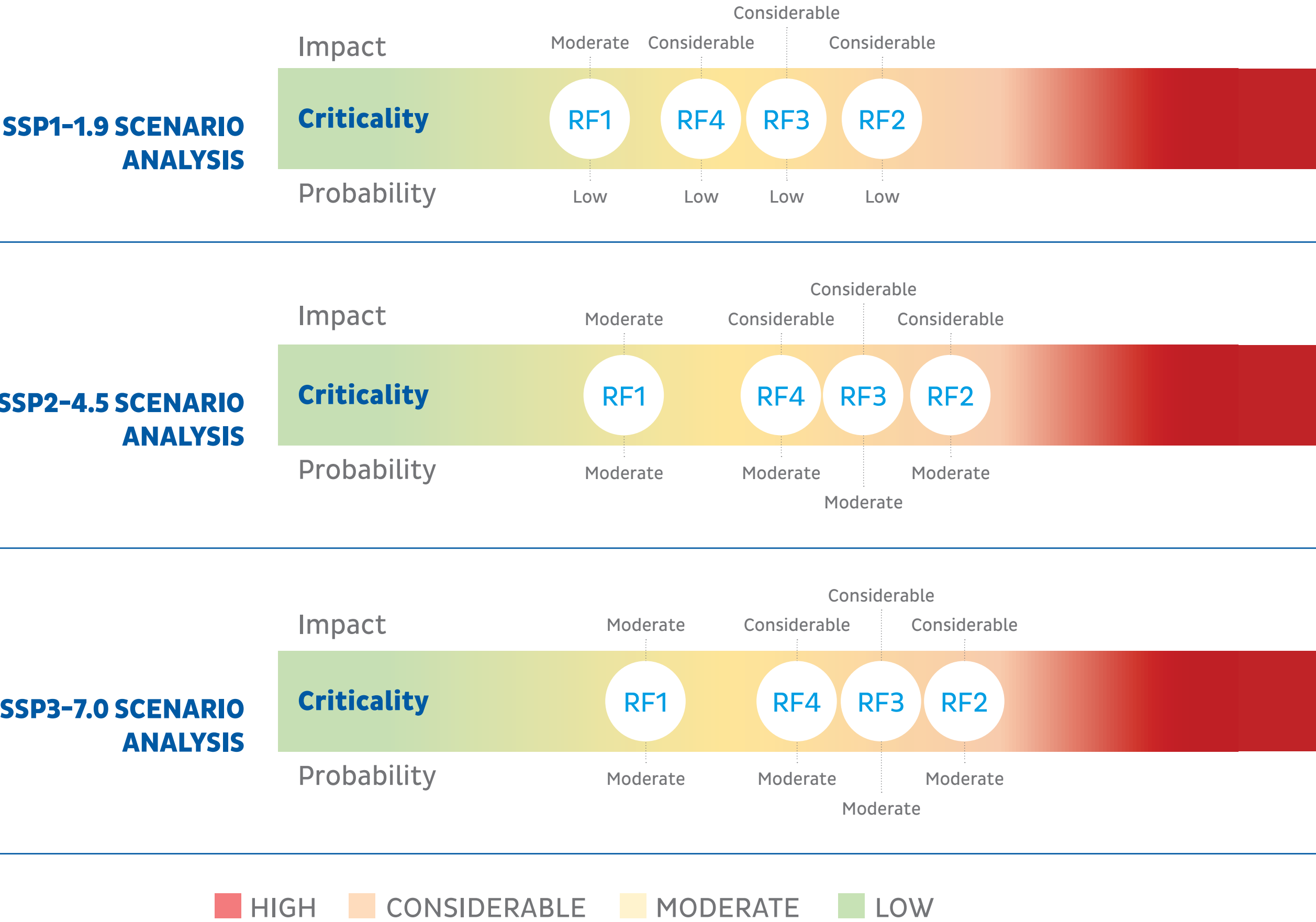
RT3

Loss of sales due to disruptions to access roads and highways caused by mudslides and flooding.

RF4

Increased costs resulting from damage to infrastructure, equipment, and products caused by increased rainfall in the areas where the Company's facilities are located.

Annex15 , presents the regional risk analysis of our operations.





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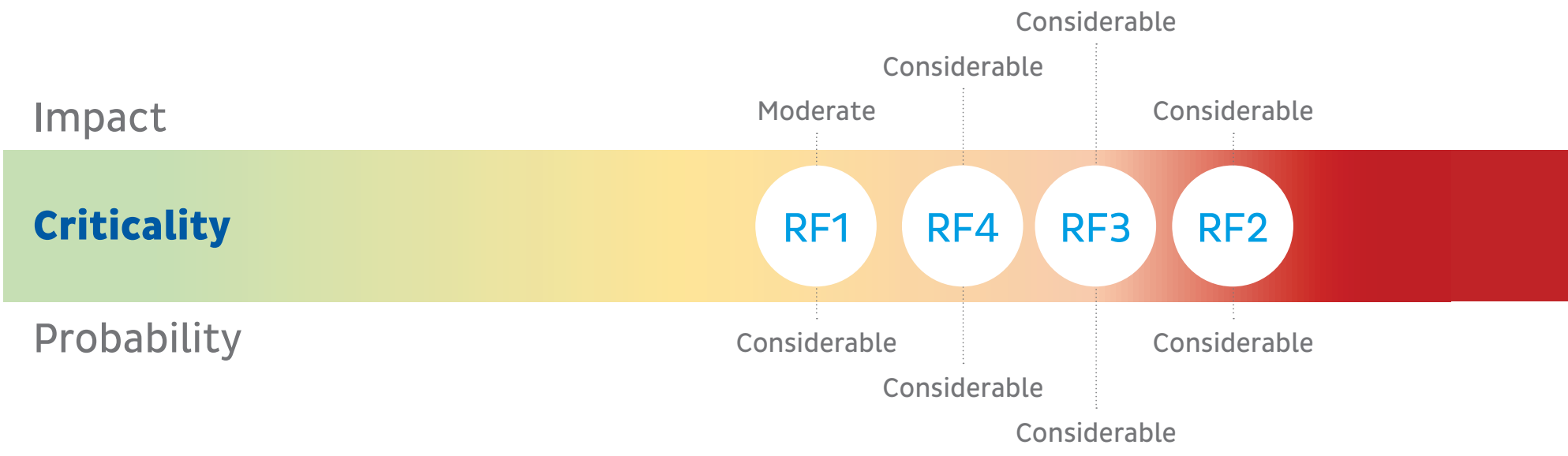
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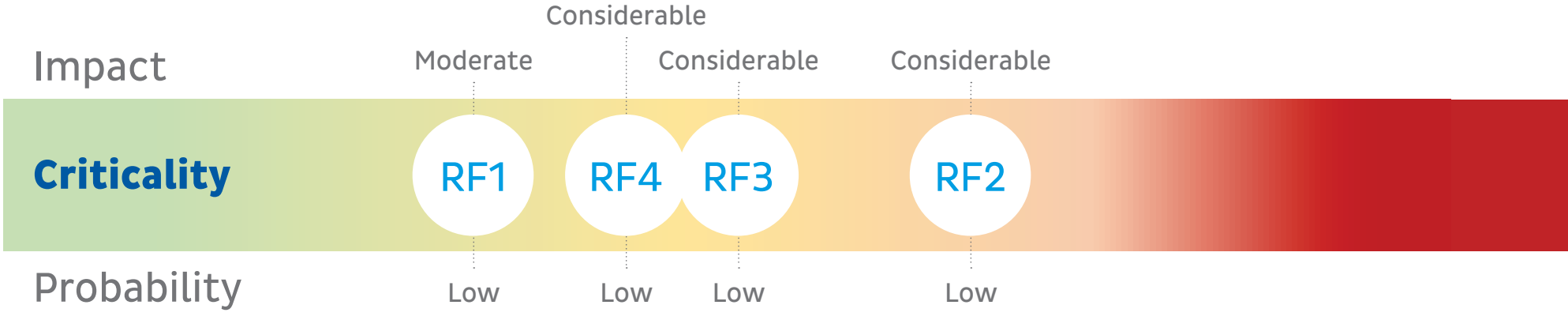
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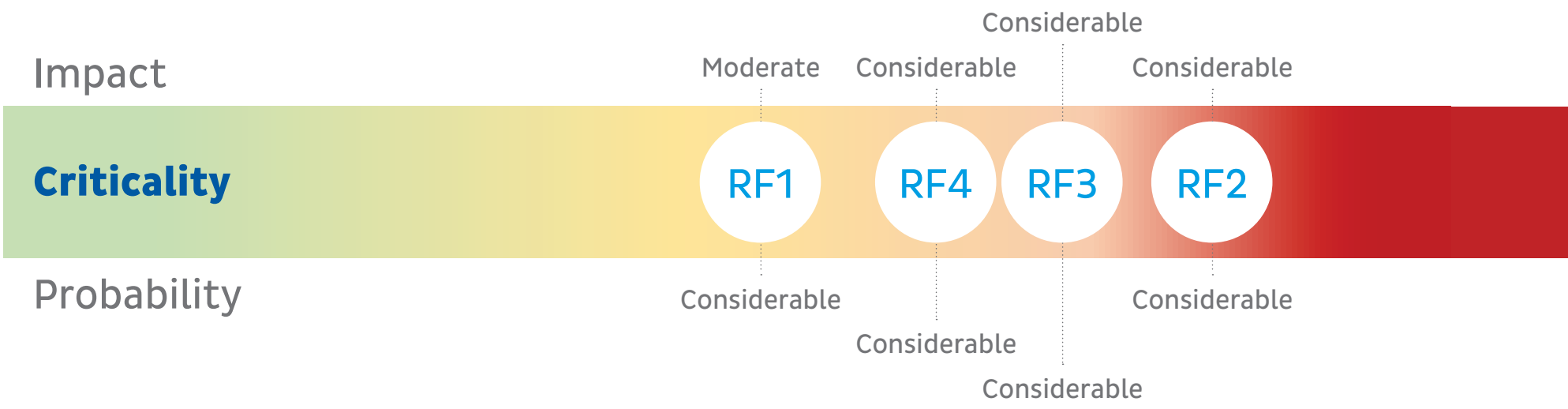
SSP5-8.5 SCENARIO ANALYSIS



NGFS LOW DEMAND SCENARIO ANALYSIS



NGFS FRAGMENTED WORLD SCENARIO ANALYSIS



■ HIGH ■ CONSIDERABLE ■ MODERATE ■ LOW



RF1
Increased Costs from the Use of Alternative Resources (Forced-Air Cooling and Desalinated Water) for Process Cooling Due to Limited Groundwater Availability in the Area Where the Steel Complex Is Located.

SEVERITY ACROSS SCENARIOS:



Risk Type: Chronic

Financial Impact	Strategies
Increase in water-related costs of approximately S/ 2.45 million due to higher consumption of desalinated water, which would represent 90% of total water consumption across our operations (Annex 14 )	Current Strategies: > We operate an industrial water treatment plant that enables process water recycling and optimizes water use. > Since the fourth quarter of 2021, we have operated two domestic wastewater treatment plants at the Steel Complex, expanding our water treatment capacity. > Since 2021, we have operated an air-cooling system that cools water used in the steelmaking process, minimizing water losses. > Since 2022, we have maintained a connection to a groundwater well which, due to its elevation difference with the Pisco River, facilitates natural filtration, enabling the use of water that would otherwise be lost to the sea. > Since 2023, we have secured a seawater desalination supply of approximately 3,000 m³ per day. Future Strategies: > Implement projects to further strengthen the water treatment system and increase the number of water recirculation cycles within production processes. > Implement projects and technologies aimed at optimizing water consumption across operations.



RF2
Additional Costs Resulting from
Power Supply Disruptions at
the Steel Complex Caused by
Damage to the Transmission
Line Due to Flooding of the Pisco
River.

SEVERITY ACROSS SCENARIOS:



Risk Type: Acute

Financial Impact	Strategies
Additional costs resulting from power supply disruptions at the Steel Complex caused by damage to the transmission line due to flooding of the Pisco River.	Current Strategies: > We have implemented a protocol to monitor rising water levels in the Pisco River and carry out cleaning activities using heavy machinery. > We have a contingency plan in place to restore the power transmission system in the event of disruption. Future Strategies: > Promote collaborative initiatives with the Municipality of Pisco to implement preventive measures that reduce the risk of Pisco River flooding. > Strengthen integration with the State’s early warning system.

■ HIGH ■ CONSIDERABLE ■ MODERATE ■ LOW



RF3
Loss of Sales Due to Disruptions
to Access Roads and Highways
Caused by Mudslides and
Flooding.

SEVERITY ACROSS SCENARIOS:



Risk Type: Acute

Financial Impact	Strategies
Not quantified.	Current Strategies: > When meteorological phenomena or mudslides are forecasted to disrupt highways, inventory levels at distribution centers are increased to withstand temporary interruptions. > We maintain finished-product warehouses strategically distributed throughout the country. Future Strategies: > Strengthen integration with the State’s early warning system.

■ HIGH ■ CONSIDERABLE ■ MODERATE ■ LOW



RF4

Increased Costs Due to Damage to Infrastructure, Equipment, and Products Caused by Increased Rainfall in the Areas Where the Company’s Facilities Are Located.

SEVERITY ACROSS SCENARIOS:



Risk Type: Chronic

Financial Impact	Strategies
Not quantified.	Current Strategies: > The plant is constructed using durable materials, and equipment is located on paved surfaces and under covered structures with proper water drainage. > An Infrastructure Maintenance Program is in place. > The plant site has been leveled, and no critical components are located in low-lying areas vulnerable to water accumulation. > The main operating units, the Steelmaking Shop and Rolling Mill, are housed under covered facilities. In particular, the Steelmaking Shop is located within a hermetically designed building due to its fume treatment system. Future Strategies: > Strengthen integration with the State’s early warning system.

■ HIGH ■ CONSIDERABLE ■ MODERATE ■ LOW



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3.5. OPPORTUNITY ANALYSIS

To identify climate-related opportunities, we analyze global trends and the Nationally Determined Contributions (NDCs) established by the Peruvian Government. We focus on a Transformation Scenario, which assumes 100% implementation of the NDCs. In addition, we prioritize opportunities based on the criteria established in the GIRO methodology ([Annex 16](#) )

This methodology establishes that opportunities are prioritized according to the balance between Cost/Effort and Strategic Alignment. In other words, opportunities with greater strategic alignment and lower implementation effort receive higher priority, and vice versa.

The quantification of opportunities is presented in [Annex 22](#) .

Opportunity

→ Energy

OP1:  
Leverage our low carbon footprint to access international green financing opportunities.

→ Sale of Finished Products

OP2:  
Enter new markets through a competitive advantage derived from lower-emission products.

OP3:  
Participate in government projects focused on climate change mitigation and adaptation by providing products and/or services.

→ Circular Economy

OP4:  
Expand co-processing initiatives at the Steel Complex.

OP5:  
Promote the valorization of steel slag for use in construction projects as an alternative to conventional aggregate materials.

PRIORIDAD ALTA

PRIORIDAD MEDIA

Cost / Effort  High  Low

Strategic Alignment  High  Low



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OPPORTUNITY DETAILS

We identified the relationship between opportunities and the NDCs and their respective scenarios ([Annex 17](#) )

Opportunity	Priority	Quantification	Associated NDC	Type	Response
OP1: Leverage our low carbon footprint to access international green financing opportunities.	High	Not quantified	-	Financial	Current: > Active participation in State-led reconstruction projects and major public works. > Development of circular economy projects, including: a. aSince 2019, the use of ecogravel, which enables the sealing of storage yards and the implementation of retaining walls for raw materials and industrial by-products. b. Since 2021, implementation of a zinc oxide recovery project using steel dust. c. Since 2023, implementation of the Eddy Current process, allowing the recovery of non-ferrous metals and their reintegration into the recycling value chain. Future: > Evaluate the possibility of implementing co-processing activities at the Steel Complex and adapting them to comply with new Maximum Permissible Limits (MPLs) for atmospheric emissions. > Participate in projects promoted by the State using CAASA products and services. > Participate in eco-driving training programs implemented by the State under NDC E11, enabling transportation unit operators to use fuel more efficiently. > Continue investigating new applications for ecogravel. > Develop new projects related to the circular economy.
OP2: Enter new markets through a competitive advantage derived from lower-emission products.	High	By 2034, Aceros Arequipa would achieve an estimated sales advantage of approximately USD 37 per tonne compared to other steelmakers using Electric Arc Furnaces (EAF), and USD 231 per tonne compared to the average producer using Basic Oxygen Furnace (BOF) technology (See Annex 22: Opportunity Quantification ).	*Me: Market	> Products and Services > M: Markets	
OP3: Participate in government projects focused on climate change mitigation and adaptation by providing products and/or services.	High	Potential revenue increase from: > Execution of adaptation projects under new regulations. > Increase in projects with LEED certification. > Execution of reconstruction projects and/or infrastructure maintenance initiatives. The potential value of this opportunity depends on variables such as Peru's next administration and future climate-related events (See Annex 22: Opportunity Quantification ).	> E6: Promotion of sustainable construction in new buildings > E7: Implementation of Complementary Measures of Lima and Callao's Integrated Transport System. > E8: Implementation of Metro Line 3 and Line 4. > E13: "Trasandino Tunnel Construction" Project. > E14: Improvement of railway transportation service along the Tacna-Arica section. > E15: Comprehensive rehabilitation of the Huancayo-Huancavelica railway.	> PyS: Products and Services	
OP4: Co-processing at the Steel Complex.	High	Not quantified	E4: Use of waste-derived fuels as substitutes for fossil fuels in clinker production kilns.	> ER: Resource Efficiency > FE: Energy Source	
OP5: Valorization of steel slag for use in construction works as an alternative aggregate material.	High	Not quantified	M1: Clinker substitution to reduce the clinker/cement ratio through the production of blended cements	> ER: Resource Efficiency > M: Markets	

Source: Prepared by CAASA.

* These are sources of opportunities but are not part of the NDCs themselves; rather, they arise under a scenario involving climate action. The legend is: Me = Market and T = Technology.

Note 1: The classification themes used for the NDCs are identified as follows: E = Energy and M = Industrial Processes.

Note 2: The opportunity categories are identified as follows: RE = Resource Efficiency, ES = Energy Source, P&S = Products and Services, Me = Market, and R = Resilience.



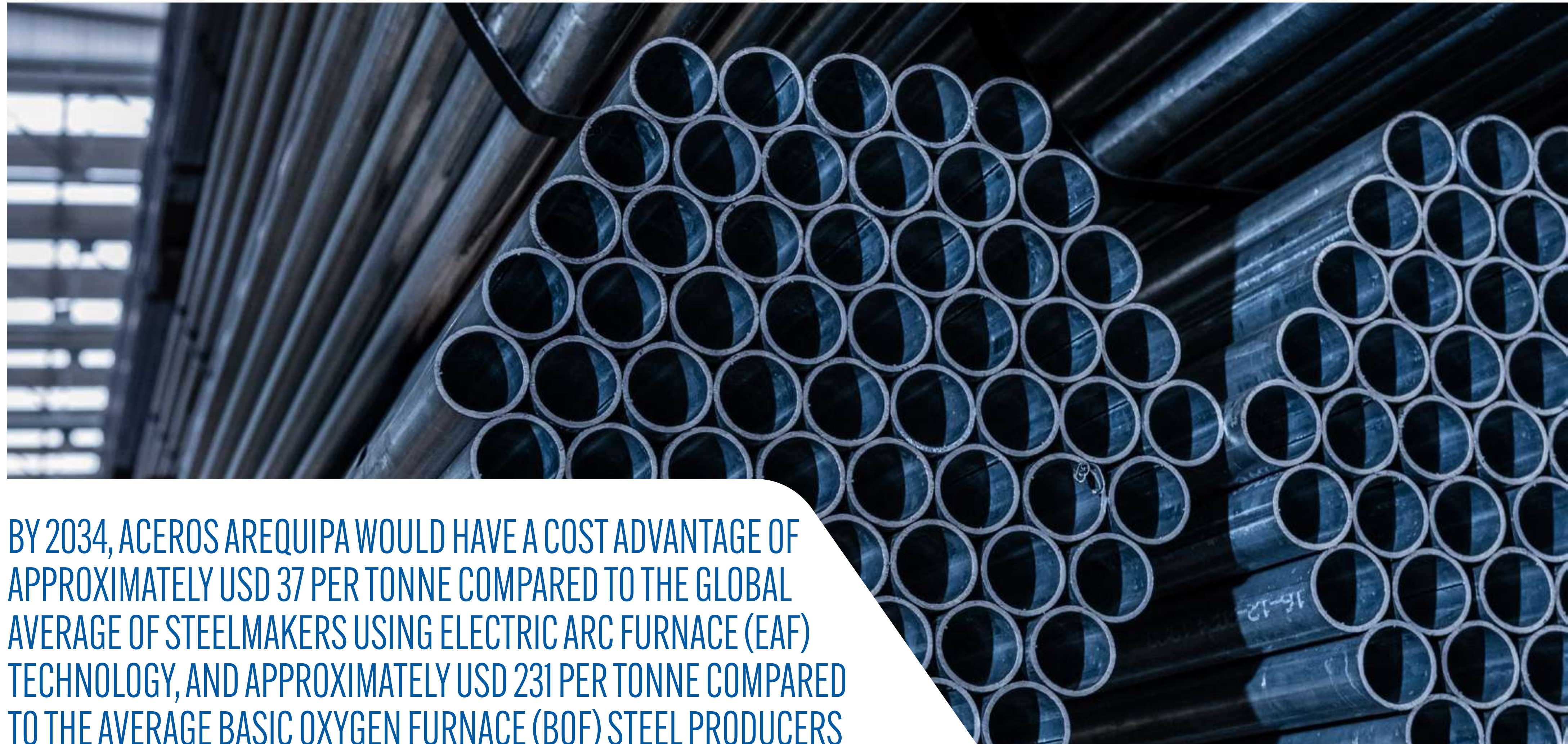
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BY 2034, ACEROS AREQUIPA WOULD HAVE A COST ADVANTAGE OF APPROXIMATELY USD 37 PER TONNE COMPARED TO THE GLOBAL AVERAGE OF STEELMAKERS USING ELECTRIC ARC FURNACE (EAF) TECHNOLOGY, AND APPROXIMATELY USD 231 PER TONNE COMPARED TO THE AVERAGE BASIC OXYGEN FURNACE (BOF) STEEL PRODUCERS IN THE INDUSTRY.



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3.6. CLIMATE CHANGE RESILIENCE

Our commitment to climate change management has enabled us to consolidate operations with a significantly lower emissions intensity than the industry average. This positioning, together with our focus on eco-efficiency, is reflected in processes optimized for the use of natural resources and an enhanced capacity to adapt to an increasingly challenging climate environment. Although climate-related risks involve a high degree of uncertainty, we have implemented strategies and control measures that strengthen our preparedness to manage both transition and physical risks, while also enabling us to capitalize on related opportunities.

TRANSITION RISKS

Under the most demanding scenarios (NDCs, IEA NZE, and NGFS), risks of considerable severity have been identified. The most significant is the structural increase in global demand for recycled steel driven by the technological transition toward a low-carbon economy, which could

have material implications for our operations and financial performance. This risk is being managed through the development of new sources of recycled steel supply at both local and international levels, as well as through the strengthening of relationships with suppliers. In addition, the potential implementation of a carbon tax in Peru could result in additional costs. However, our lower carbon footprint positions us favorably relative to competitors.

PHYSICAL RISKS

Physical risks of moderate severity have been identified, with the most relevant being the increase in costs associated with the use of alternative cooling sources, such as desalinated water, due to reduced water availability in the area surrounding the Steel Complex. Currently, we have access to desalinated water supplies, which significantly reduces our exposure to this risk, although it entails higher operating costs. Additionally, there is

a risk of power supply disruptions due to potential damage to transmission infrastructure caused by extreme events, such as flooding of the Pisco River.

OPPORTUNITIES

We continuously monitor the development of markets that value products with a lower carbon footprint, where initiatives such as the Carbon Border Adjustment Mechanism (CBAM) may represent a competitive advantage for more efficient producers. Likewise, the future development of green finance in the region could create opportunities to optimize our sources of funding. Finally, we continue strengthening our circular economy model by promoting the use of recycled materials and the valorization of industrial by-products, contributing to reduced consumption of virgin raw materials and lowering the environmental impact of the industry.



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Chapter 4

GOVERNANCE





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4.1. GOVERNANCE STRUCTURE

Our governance model integrates climate change management into the corporate strategy with the objective of advancing a sustainable, efficient, and competitive transition, while effectively responding to climate-related risks and opportunities. Sustainability is embedded within the corporate strategy and is managed through three levels of governance: strategic, tactical, and operational.

STRATEGIC LEVEL

The Board of Directors oversees the integration of climate change considerations into the Company's strategy. As part of the strategic planning cycle, the Board reviews key trends that may affect the business—including climate change and environmental issues—and validates their strategic relevance. Within this process, the Board oversees the strategic risk associated with climate change, including its key implications for the Company and the actions established for its management. This risk is managed through the corporate risk management system and deployed into tactical risks that are monitored by the responsible management teams. The Board also periodically reviews progress on Aceros Arequipa's Decarbonization Roadmap, at least once a year, assess-

ing key milestones, targets, and progress in emissions reduction. The Management Committee ensures alignment between the sustainability strategy and the corporate strategy during the strategic planning process. Meanwhile, the Sustainability Committee oversees progress in achieving environmental and climate-related objectives and initiatives.

TACTICAL LEVEL

Management teams and area leaders incorporate climate-related risk and opportunity priorities, objectives, and initiatives into their functional plans. This includes the implementation of actions aimed at Mitigating climate-related risks, Strengthening operational resilience; and Identifying opportunities associated with the climate transition.

Climate-related opportunities are assessed at least once a year during the Strategic Management Cycle, enabling the identification of initiatives that contribute to the sustainability and competitiveness of the business.

OPERATIONAL LEVEL

Support functions provide the technical and methodological guidance required for the management of cli-

mate-related risks and opportunities, as well as for the implementation of environmental initiatives. These functions include Environment, Quality Management, Continuous Improvement, Strategic and Risk Management.

Our employees actively participate in the implementation of climate-related initiatives through monitoring mechanisms and periodic progress reporting, which facilitate the tracking of targets aligned with the sustainability strategy.

Environmental performance forms part of our corporate incentive system, which recognizes the contributions of executives, managers, and employees to the implementation of environmental projects, emissions reduction, and the efficient use of natural resources. To achieve this, we integrate the Strategic Planning Cycle with the Performance Evaluation System, aligning key climate-related risks, opportunities, objectives, targets, and initiatives from the strategic, tactical, and operational levels down to the individual level ([Annex 18](#) ).



STRATEGIC LEVEL



CHIEF EXECUTIVE OFFICER (CEO) **Leads Climate Action at the Corporate Level**

SUSTAINABILITY COMMITTEE

- > **Define and monitor** progress toward the achievement of decarbonization objectives and the implementation of the decarbonization roadmap.
- > **Monitor** of targets, indicators, initiatives, and projects related to eco-efficiency, emissions reduction, and other decarbonization actions.

TACTICAL LEVEL



MANAGEMENT TEAMS

- > **Integrate** climate-related risks and opportunities into their functional plans.
- > **Implement** initiatives and targets associated with the climate strategy.
- > **Monitor** tactical risks arising from climate change.

SUPPORT FUNCTIONS

- > **Provide methodological** guidance and technical support.
- > **Promote** the implementation of climate-related initiatives.
- > **Facilitate** the adoption of best practices and management standards.

OPERATIONAL LEVEL



EMPLOYEES

- > **Executing** climate-related initiatives and actions.
- > **Periodically** reporting progress and results.





SUSTAINABILITY COMMITTEE

The Sustainability Committee plays a key role in integrating Environmental, Social, and Governance (ESG) criteria into CAASA’s management practices, reinforcing the Company's commitment to responsible operations and sustainable value creation.

The Committee is composed of representatives from various strategic areas of the organization, enabling a comprehensive approach to the key risks, opportunities, and challenges related to business sustainability.

Among its primary responsibilities are overseeing the sustainability strategy and monitoring progress toward environmental and climate-related objectives and initiatives, including the management of climate-related risks and opportunities and the monitoring of the Company's Decarbonization Roadmap.

During 2025, the Committee held two working sessions, during which it reviewed progress on the sustainability strategy, climate-related initiatives, and the main risks

and opportunities associated with climate change. The Chair of the Committee communicates key developments and decisions within the organization and, when appropriate, escalates them to the Board of Directors for review and approval.



**Tulio Silgado
Consiglieri**
Chief Executive
Officer

**Ricardo
Cillóniz Rey**
Mining
Projects, Social
Responsibility,
and Innovation
Manager

**Fernando
Bustamante
Cillóniz**
Strategic
Management
Control Manager

**Michael Lecca
La Torre**
Corporate
Production
Manager

**Mariana
Olivares
Maldonado**
Legal Affairs
Manager

**Mariana
Talavera
Rubina**
Supply Chain
Manager

**Ricardo
Guzmán
Valenzuela**
Administration
and Finance
Manager

**Juan Manuel
Otoya
Wherrems**
Human
Resources
Manager

**Gonzalo
Arróspide del
Busto**
Corporate
Commercial
Manager

4.2. LOBBYING AND ALIGNMENT WITH THE PARIS AGREEMENT

Our management system includes lobbying activities and memberships in industry associations, supported by a robust Code of Ethics. This Code establishes guidelines governing our relationships with customers, suppliers, government authorities, society, and the environment. We require compliance with ethical principles, applicable legislation, and environmental regulations, as well as respect for human rights and socially responsible practices. We also expect our suppliers and contractors to demonstrate responsible social and environmental conduct.

Our climate-related actions are aligned with the Paris Agreement, with targets established for emissions reduction and the achievement of carbon neutrality by 2030 and 2050, respectively. In addition, our climate risk assessment focuses on compliance with Peru's Nationally Determined Contributions (NDCs) and on identifying opportunities arising from government policies and initiatives. We actively participate in various organizations related to the steel industry and sustainability agenda ([Annex 19](#) .





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01 — ENVIRONMENTAL
PUBLIC POLICY
COMMITTEE (COPAM)
AND ENVIRONMENTAL
TECHNOLOGY
COMMITTEE (COTEC)
**LATIN AMERICAN
STEEL ASSOCIATION
(ALACERO)**

During 2025, several meetings were held within the framework of COPAM and COTEC, during which progress on the Steel Standard was reviewed and updates related to the implementation of the Carbon Border Adjustment Mechanism (CBAM) were discussed. Additionally, an environmental benchmarking visit was conducted to a steel company based in Brazil in the context of preparations for and activities related to COP30.

02 — CLIMATE CHANGE
SUBCOMMITTEE
**MINISTRY OF
PRODUCTION / NATIONAL
INSTITUTE FOR QUALITY
(INACAL)**

In 2025, we participated in the development and review of the following standards:

- > NTP-ISO 14068-1:2025, on climate change management and the transition to carbon neutrality. This standard establishes guidelines for measuring, reporting, validating, and verifying greenhouse gas (GHG) emissions and complements other standards within the ISO 14060 family and related environmental standards.
- > ETP-ISO/TS 14092:2025, on climate change adaptation, which defines requirements and guidance for adaptation planning by local governments and communities, taking into consideration climate vulnerability, impacts, and risks.

03 — CLEANER
PRODUCTION
AGREEMENT
PROGRAM
**MINISTRY OF PRODUCTION /
GENERAL DIRECTORATE OF
ENVIRONMENTAL AFFAIRS
FOR INDUSTRY**

In August 2025, we signed a Cleaner Production Agreement (CPA) with PRODUCE, establishing targets related to increasing the utilization of an industrial by-product and reducing the consumption of virgin coal in the corresponding production process.

04 — PERU CARBON
FOOTPRINT PROGRAM
**MINISTRY OF THE
ENVIRONMENT / GENERAL
DIRECTORATE OF
CLIMATE CHANGE AND
DESERTIFICATION (DGCCD)**

For the second consecutive year, we achieved the fourth star under the Peru Carbon Footprint Program. This recognition is awarded to organizations that achieve the highest level within the Program, which includes measuring, verifying, reducing, and maintaining reductions in greenhouse gas (GHG) emissions.

05 — ENERGY MANAGEMENT
SYSTEMS LEARNING
NETWORK
**MINISTRY OF ENERGY
AND MINES / GENERAL
DIRECTORATE OF ENERGY
EFFICIENCY**

Throughout 2025, workshops continued to support the implementation of the Energy Management System (EnMS). In October, we participated in the closing event of the Learning Network, where we presented progress on the implementation of the EnMS and our readiness for the ISO 50001 certification audit.

06 — INFOCARBONO
**MINISTRY OF THE
ENVIRONMENT / GENERAL
DIRECTORATE OF
CLIMATE CHANGE AND
DESERTIFICATION (DGCCD)**

We periodically provide information on fuel consumption, ferrous materials, and other greenhouse gas (GHG) emission sources. In 2024, we participated in the Peruvian National Greenhouse Gas Inventory (INGEI) Quality Assurance Workshop, organized by the Ministry of the Environment (MINAM) with technical assistance from experts from the United Nations Framework Convention on Climate Change (UNFCCC). During the workshop, participants reviewed Peru's 2020–2021 National Greenhouse Gas Inventory (INGEI).





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Annex 2: Scope Determination for Science-Based Target Settinga	Annex 9: NGFS Methodology: Applicable to Transition and Physical Risks	Annex 16: Opportunity Assessment Response (GIRO Methodology))
Annex 3: Indicator Monitoring and Verification Process Flow Diagram	Annex 10: Transition Risk Assessment by Scenario	Annex 17: Opportunity Assessment for Each NDC Scenario
Annex 4: Energy Performance Indicator Tracking	Annex 11: Stress Testing Analysis of Carbon Pricing Implementation Risk in Peru	Annex 18: Incentives for Climate Action
Annex 5: Energy Review Process Diagram	Annex 12: Methodologies and Scenarios for Physical Risk Assessment	Annex 19: CAASA's Advocacy Activities in Relation to the Paris Agreement
Annex 6: Green Hydrogen and Renewable Energy Generation in Peru	Annex 13: Physical Risk Assessment under NGFS Scenarios	Annex 20: TCFD Content Index
Annex 7 CAASA Climate Management Process	Annex 14: Stress Testing Analysis of Groundwater Scarcity in the Area of the Steel Complex (RF1)	Annex 21: Climate Change Adaptation Plan
		Annex 22: Opportunity Quantification



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ANNEX 1: METRICS TRACKING

Metric	Unit	2019	2020	2021	2022	2023	2024	2025	2030 Target	2050 Target
Water consumption per finished product	m ³ /t finished product	1.40	1.36	1.27	1.44	1.41	1.30	1.21	1.30	---
GHG emissions per finished product ⁽¹⁾	tCO ₂ e/t finished product	0.33	0.32	0.31	0.37	0.36	0.35	0.33	0.23	0.11
GHG emissions per liquid steel ⁽¹⁾	tCO ₂ e/t liquid steel	0.38	0.38	0.39	0.35	0.37	0.33	0.35	0.26	0.11
CO ₂ emissions per liquid steel (WS) ⁽²⁾	tCO ₂ /t liquid steel	0.68	0.65	0.66	0.47	0.45	0.39	0.36	---	---
CO ₂ emissions per liquid steel (WS) ⁽³⁾	tCO ₂ /t liquid steel	0.37	0.37	0.38	0.34	0.35	0.32	0.32	0.31	---
CO ₂ emissions per hot-rolled steel (SBTi) ⁽⁴⁾	tCO ₂ /t hot-rolled steel	0.33	0.31	0.31	0.37	0.35	0.34	0.36	0.28	---
Corporate carbon footprint (Scope 1 + Scope 2)	Thousand tCO ₂ e	321.43	240.61	358.48	418.37	389.48	384.23	415.04	85% of baseline	10% of baseline
Carbon footprint (Scope 3)	Thousand tCO ₂ e	130.15	137.34	281.77	289.98	136.30	117.23	220.18	---	20% of baseline
Total carbon footprint (Scope 1 + Scope 2 + Scope 3)	Thousand tCO ₂ e	461.58	377.94	640.25	708.35	525.78	501.46	635.22	---	---
Electricity consumption per finished product	kWh/t	661.34	642.76	625.57	751.55	701.10	747.54	731.00	620.00	---
Industrial by-products utilization	%	37.8	52.0	40.0	24.4	33.0	26.0	32.0	60.00	---

(1) The tonnes reported in the numerator correspond to the sum of Scope 1 and Scope 2 emissions from all CAASA operations. (2) The calculation is based on the World Steel Association methodology, considering Scopes 1, 2, and 3 emissions. (3) The calculation is based on the World Steel Association methodology, considering only Scope 1 and Scope 2 emissions. (4) The calculation was developed in alignment with the Science Based Targets initiative (SBTi), considering only Scope 1 and Scope 2 emissions. Note: t of finished product = t of hot-rolled steel.



SCOPE 3 CATEGORIES

Scope 3 Category	Absolute Value (Thousand tCO ₂ e)	Methodology
Purchased Goods and Services	66,354	Emissions were estimated using an activity-based approach, calculated as the product of the quantity of purchased inputs and their corresponding material-specific emission factors (tCO ₂ e/t), derived from internationally recognized emission factor sources (IEA, Worldsteel, and IPCC scientific literature). The factors represent cradle-to-gate emissions, including extraction, processing, and manufacturing of the purchased inputs.
Fuel- and Energy-Related Activities	19,803	Emissions were estimated using an activity-based approach, calculated as the product of fuel consumption and the corresponding DEFRA emission factors for well-to-tank (WTT) emissions, including extraction, processing, refining, and transportation. These emissions complement the direct combustion emissions reported under Scope 1.
Upstream Transportation and Distribution	57,416	Emissions were estimated using an activity-based approach, calculated as the product of transport activity (tonne-kilometres, t·km) and DEFRA emission factors from the “Freighting Goods” module, differentiated by transport mode.
Employee Commuting	5,096	Emissions were estimated using an activity-based approach, calculated as the product of the distance travelled by employees (km/person/year) and DEFRA passenger transport emission factors by vehicle type.
Downstream Transportation and Distribution	71,516	Emissions were estimated using an activity-based approach, calculated as the product of transport activity (tonne-kilometres) and DEFRA emission factors from the “Freighting Goods” module, according to the mode of transport.

Note 1: : Scope 3 emissions estimation was conducted in accordance with the GHG Protocol guidelines, prioritizing the use of activity data specific to the Company and internationally recognized emission factors. For transportation-related emissions, DEFRA 2018 emission factors were used, consistent with the methodology of Peru’s Carbon Footprint Tool, ensuring methodological comparability. Where activity data were unavailable, representative factors were selected based on representativeness, availability, consistency, and methodological rigor. Emissions intensity refers to the category-specific emissions.

Note 2: The Scope 3 categories were selected based on relevance, data availability, and applicability to the Company's operations, in accordance with the GHG Protocol. The remaining categories were not considered due to insignificant contributions, information limitations, or lack of applicability.



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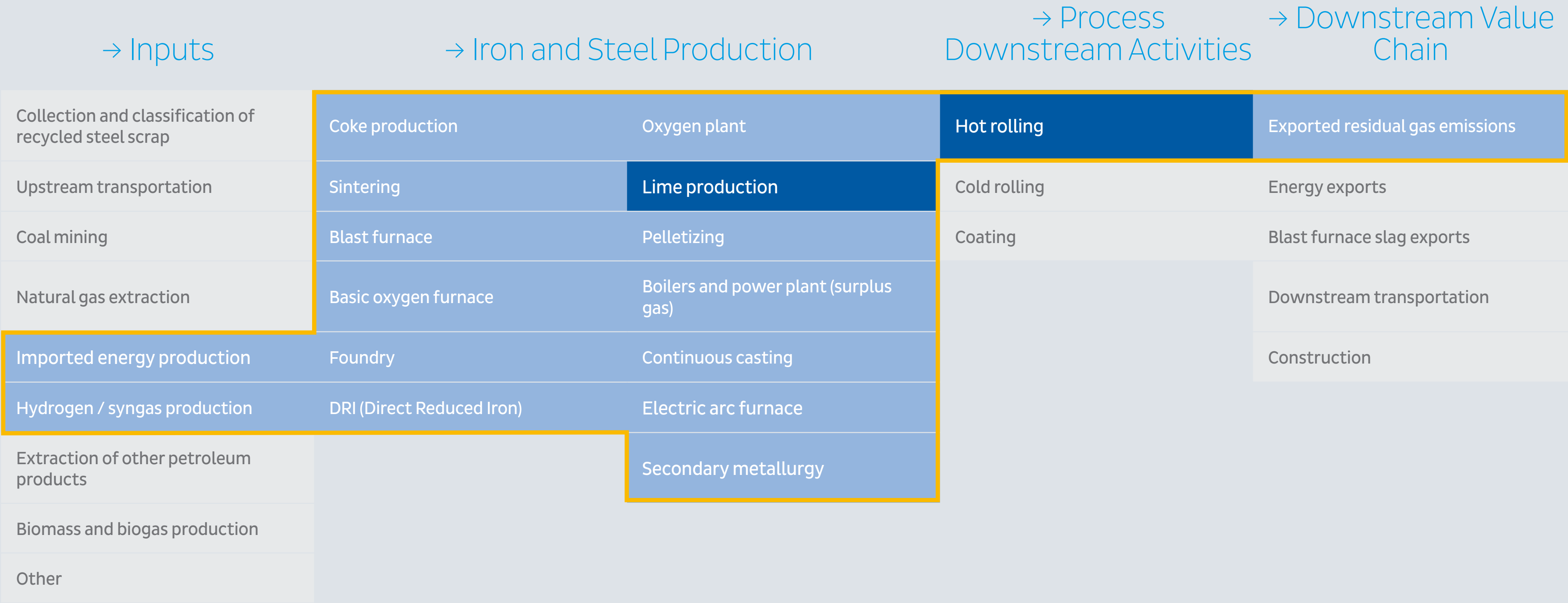
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ANNEX 2: DETERMINING THE SCOPE FOR SCIENCE-BASED TARGET SETTING

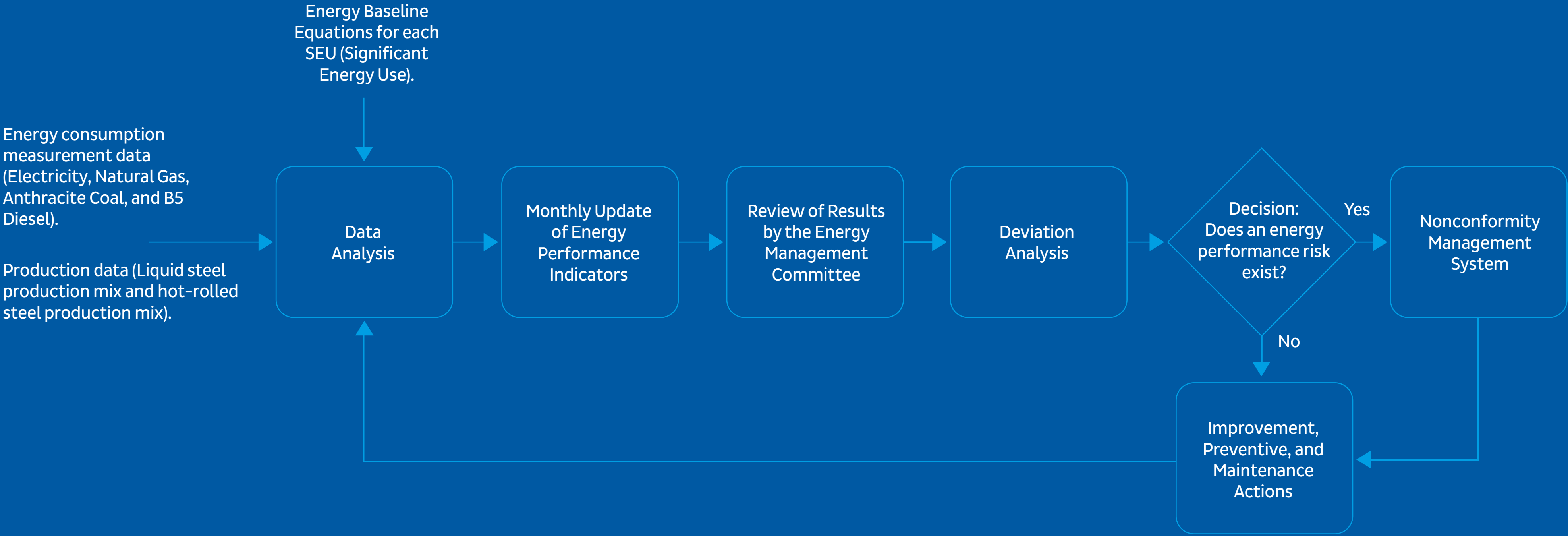
CAASA BOUNDARY FOR SETTING SBTI TARGETS





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ANNEX 3: INDICATOR MONITORING AND VERIFICATION PROCESS FLOW DIAGRAM





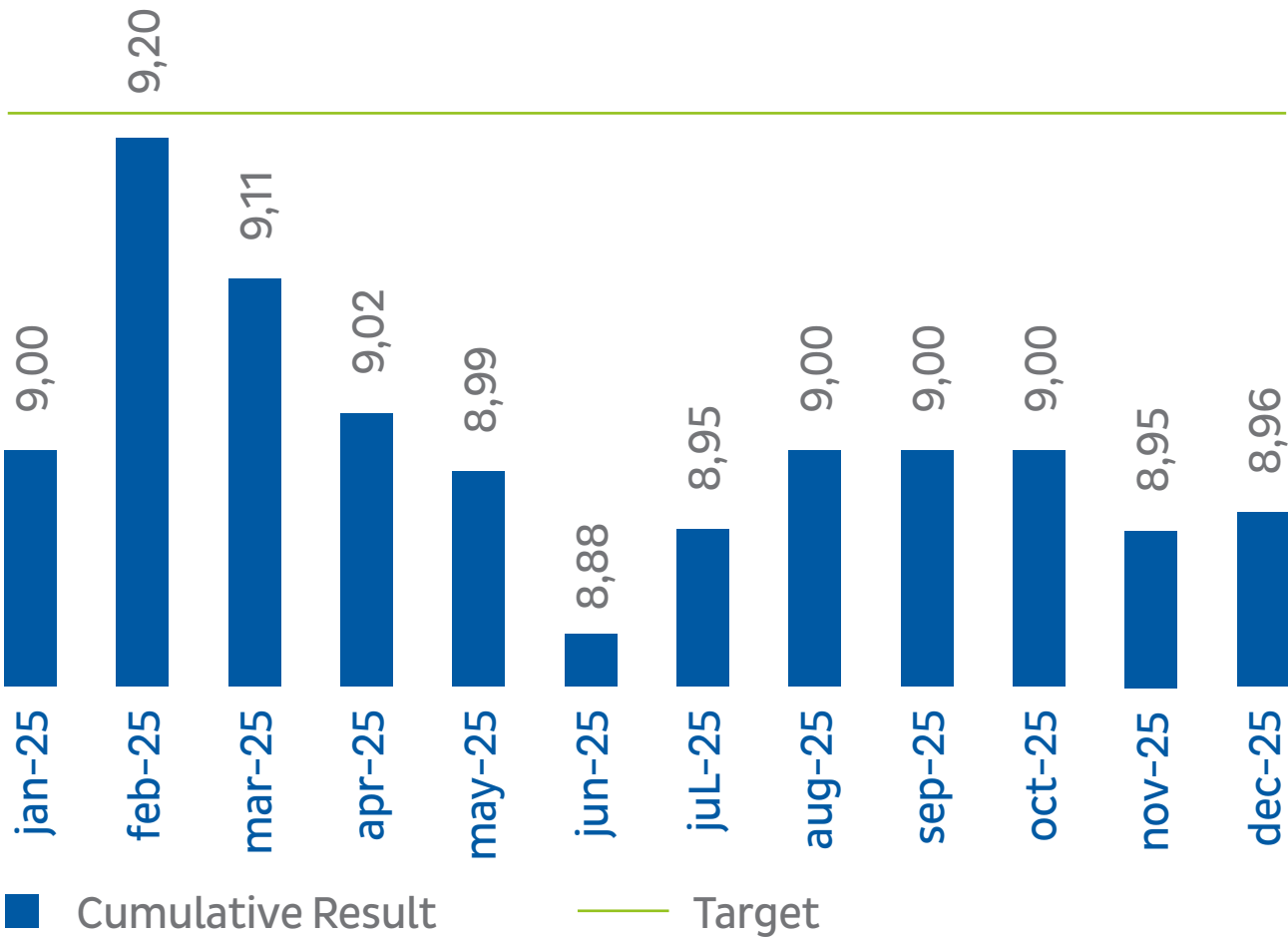
ANNEX 4: ENERGY PERFORMANCE INDICATOR TRACKING

Indicator	Energy Intensity
Objective	Reduce energy intensity to 9.22 GJ/t of liquid steel by 2025
Result	8.96 GJ/t HIGH LEVEL OF COMPLIANCE

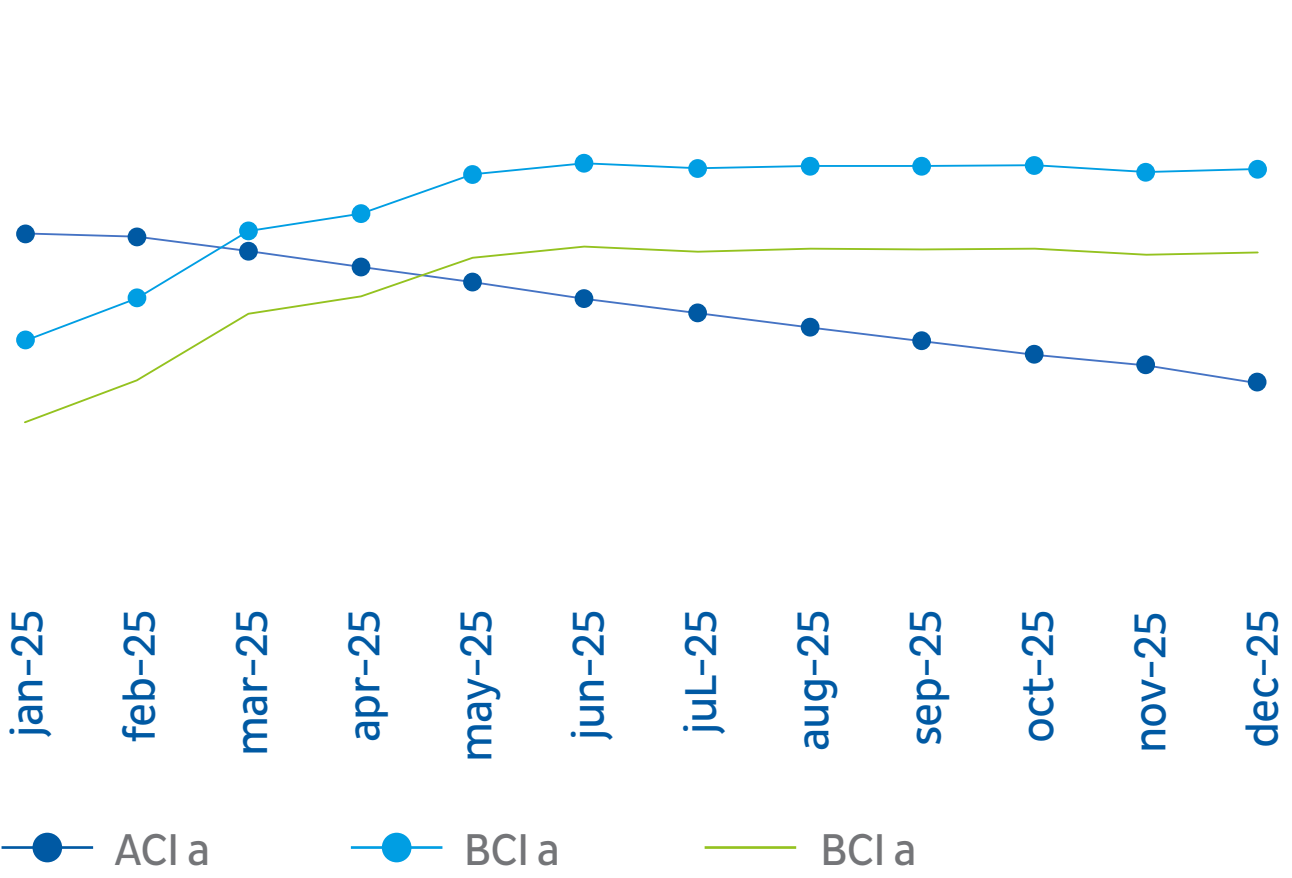
Indicator	Specific Electricity Consumption in the Electric Arc Furnace
Objective	Reduce specific electricity consumption in the Electric Arc Furnace by 1% compared to its energy baseline.
Result	HIGH LEVEL OF COMPLIANCE

Indicator	Specific Electricity Consumption in Rolling Mill 1
Objective	Reduce specific electricity consumption in Rolling Mill 1 by 1% compared to its energy baseline.
Result	HIGH LEVEL OF COMPLIANCE

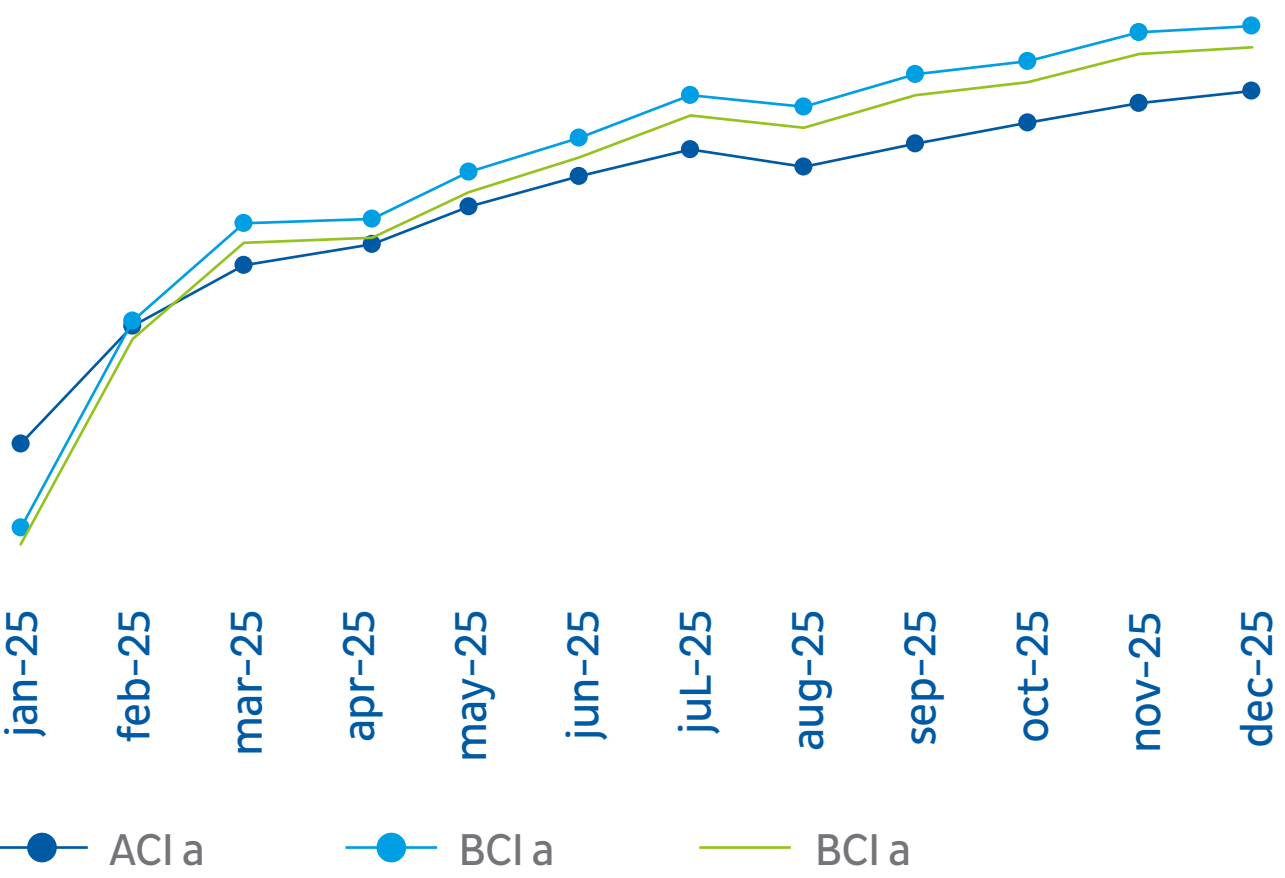
ENERGY INTENSITY (GJ/T)



SPECIFIC ELECTRICITY CONSUMPTION IN THE ELECTRIC ARC FURNACE (KWH/T)



SPECIFIC ELECTRICITY CONSUMPTION IN ROLLING MILL 1 (KWH/T)



Note 1: The magnitude of the specific indicators is not disclosed, as the information is confidential.
Nota 2: AC (Actual Consumption Index), BCI (Baseline Consumption Index), TCI (Target Consumption Index).



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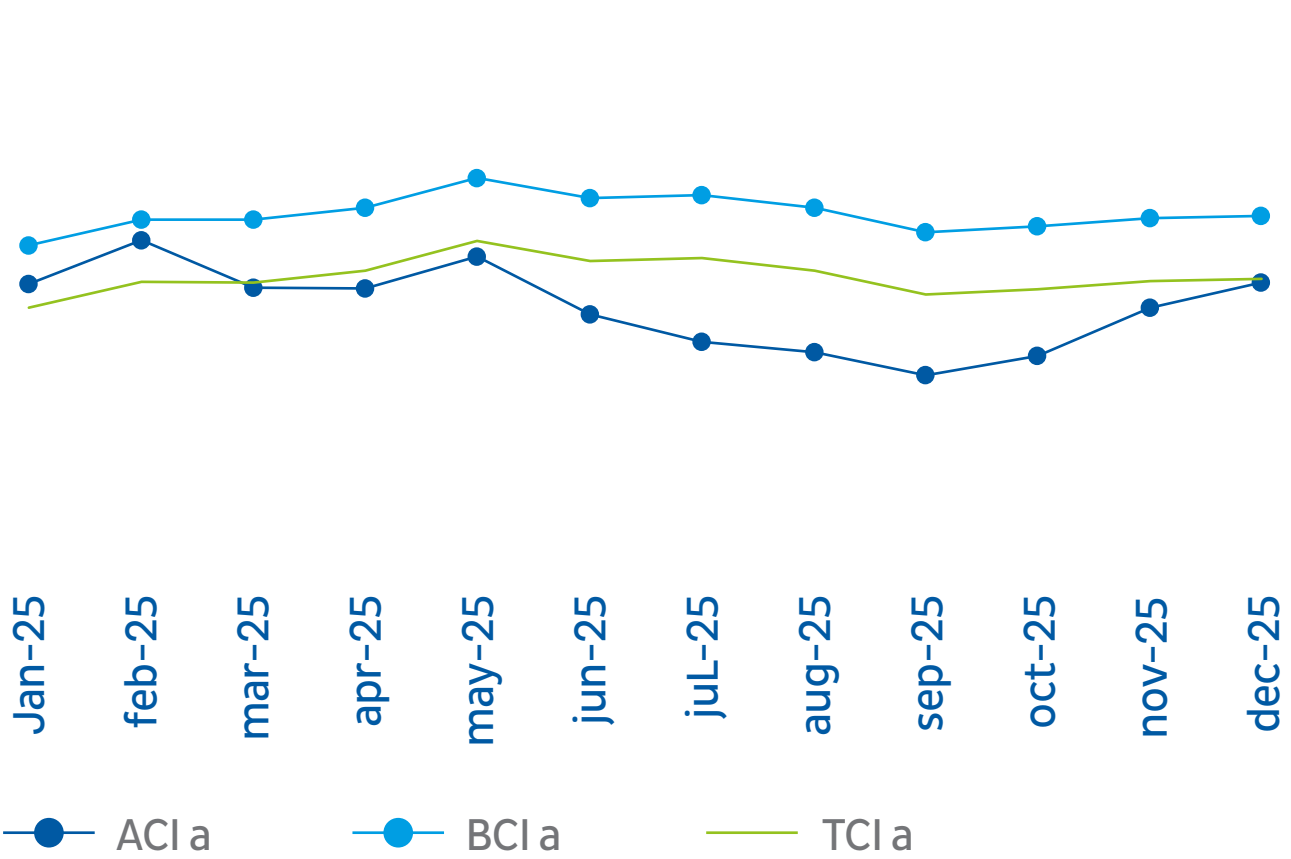
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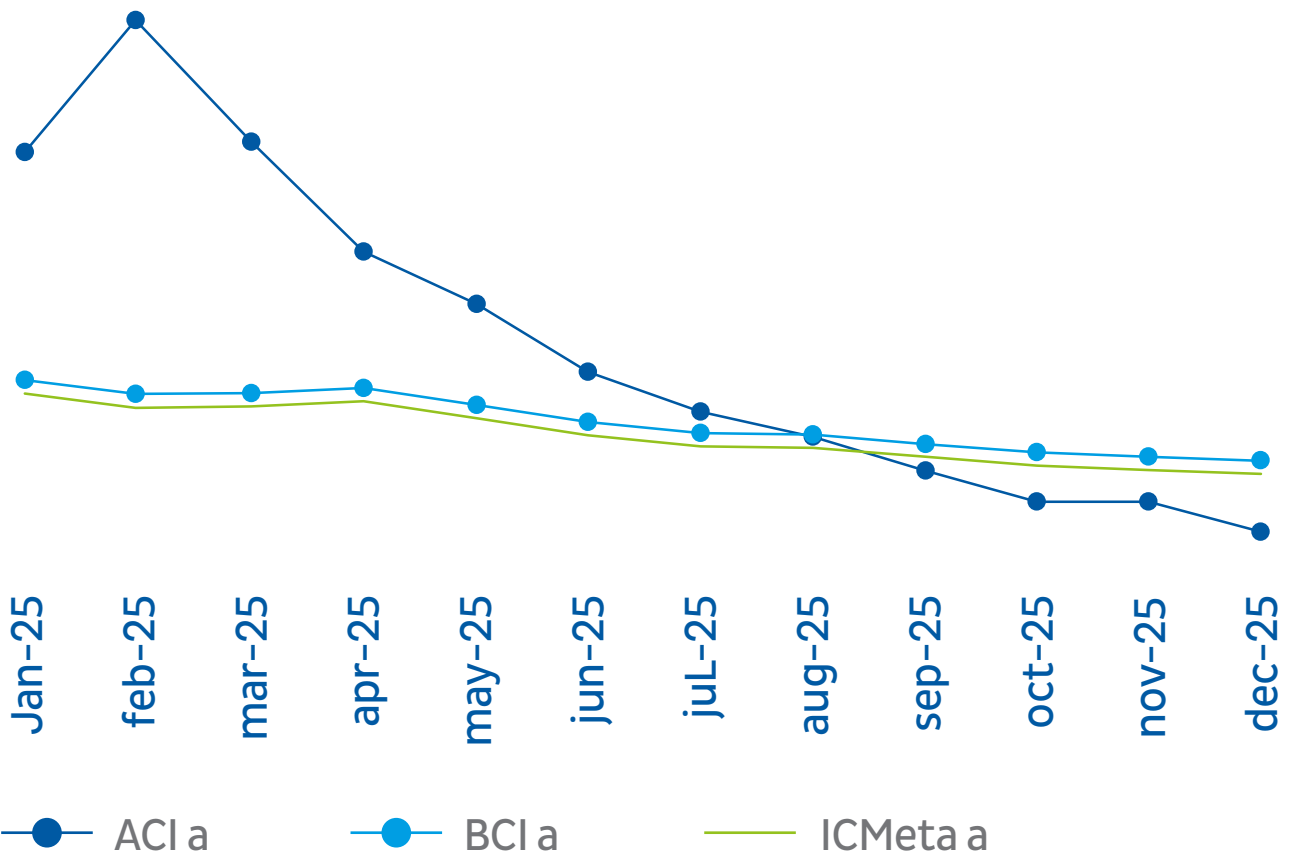
Indicator	Specific Electricity Consumption in Rolling Mill No. 2
Objective	Reduce specific electricity consumption in Rolling Mill No. 2 by 1% compared to its energy baseline
Result	HIGH LEVEL OF COMPLIANCE

SPECIFIC ELECTRICITY CONSUMPTION IN ROLLING MILL NO. 2 (KWH/T)



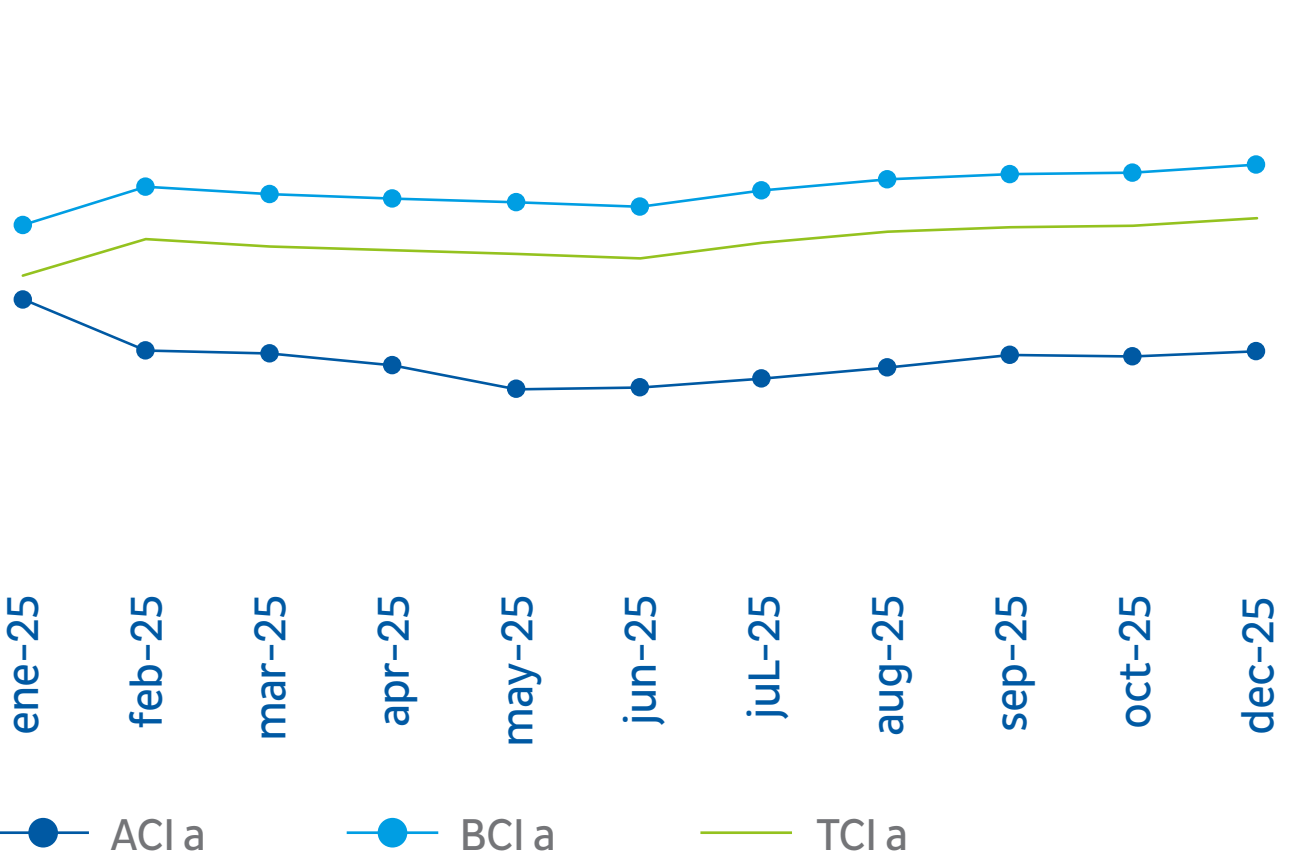
Indicator	Specific Electricity Consumption in the Ladle Furnace
Objective	Reduce specific electricity consumption in the Ladle Furnace by 0.5% compared to its energy baseline
Result	HIGH LEVEL OF COMPLIANCE

SPECIFIC ELECTRICITY CONSUMPTION IN THE LADLE FURNACE (KWH/T)



Indicator	Specific Natural Gas Consumption in the Electric Arc Furnace
Objective	Reduce specific natural gas consumption in Aceros Arequipa's Electric Arc Furnace by 5% compared to its energy baseline
Result	HIGH LEVEL OF COMPLIANCE

SPECIFIC NATURAL GAS CONSUMPTION IN THE ELECTRIC ARC FURNACE (SM³/T)



Note 1: The magnitude of the specific indicators is not disclosed, as the information is confidential.
Nota 2: AC (Actual Consumption Index), BCI (Baseline Consumption Index), TCI (Target Consumption Index).



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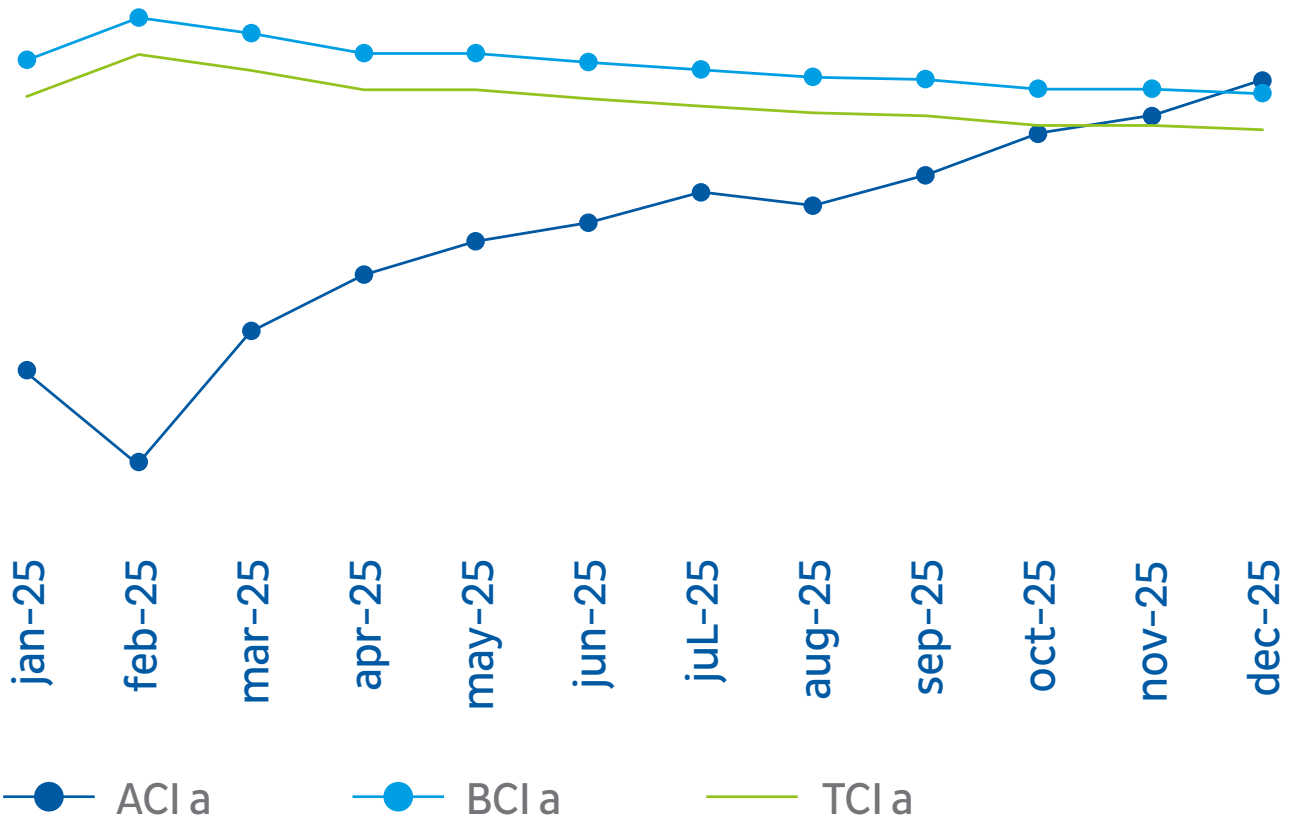
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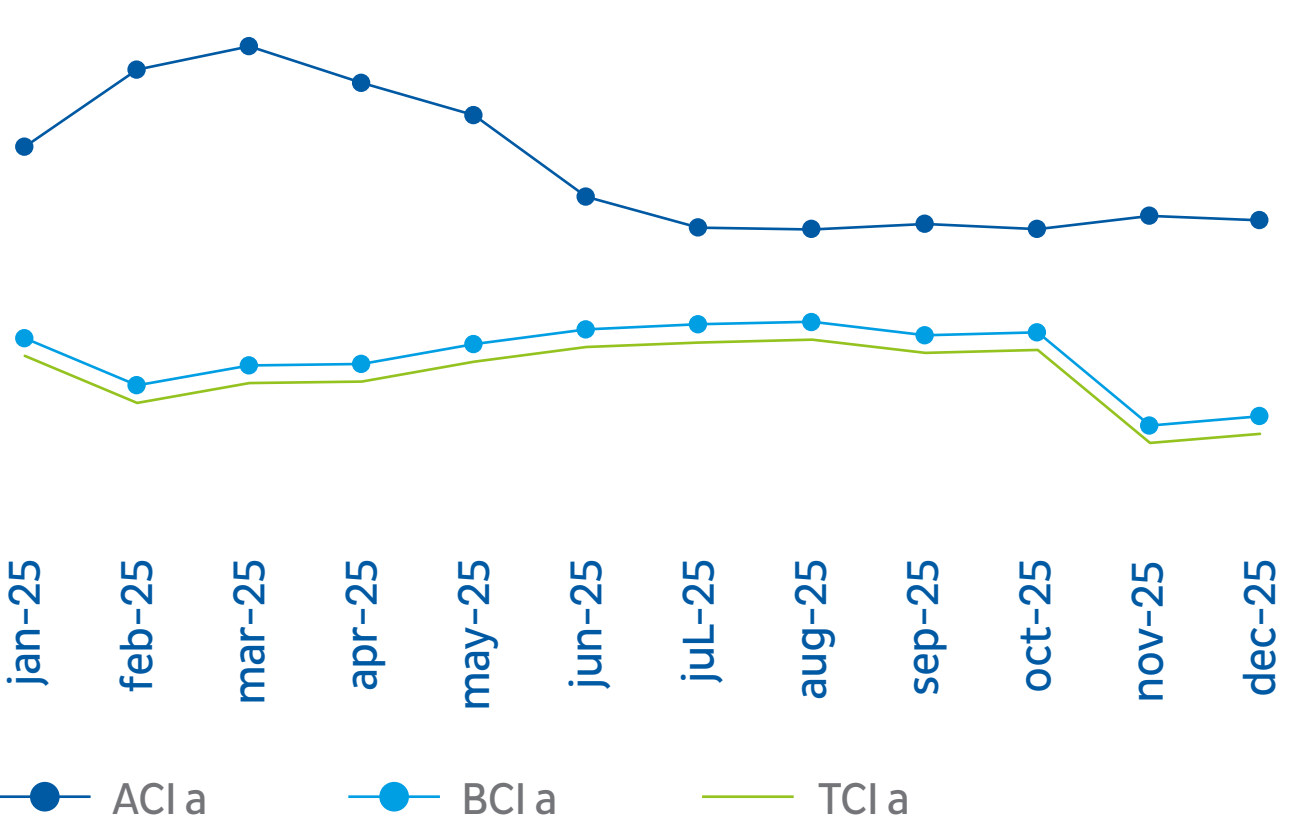
Indicator	Specific Natural Gas Consumption in Rolling Mill No. 1
Objective	Reduce specific natural gas consumption in Rolling Mill No. 1 by 1% compared to its energy baseline.
Result	MEDIUM LEVEL OF COMPLIANCE

SPECIFIC NATURAL GAS CONSUMPTION IN ROLLING MILL NO. 1 (SM3/T)



Indicator	Specific Natural Gas Consumption in Rolling Mill No. 2
Objective	Reduce specific natural gas consumption in Rolling Mill No. 2 by 0.5% compared to its energy baseline.
Result	LOW LEVEL OF COMPLIANCE

SPECIFIC NATURAL GAS CONSUMPTION IN ROLLING MILL NO. 2 (SM3/T)



Note 1: The magnitude of the specific indicators is not disclosed, as the information is confidential.
Nota 2: AC (Actual Consumption Index), BCI (Baseline Consumption Index), TCI (Target Consumption Index).



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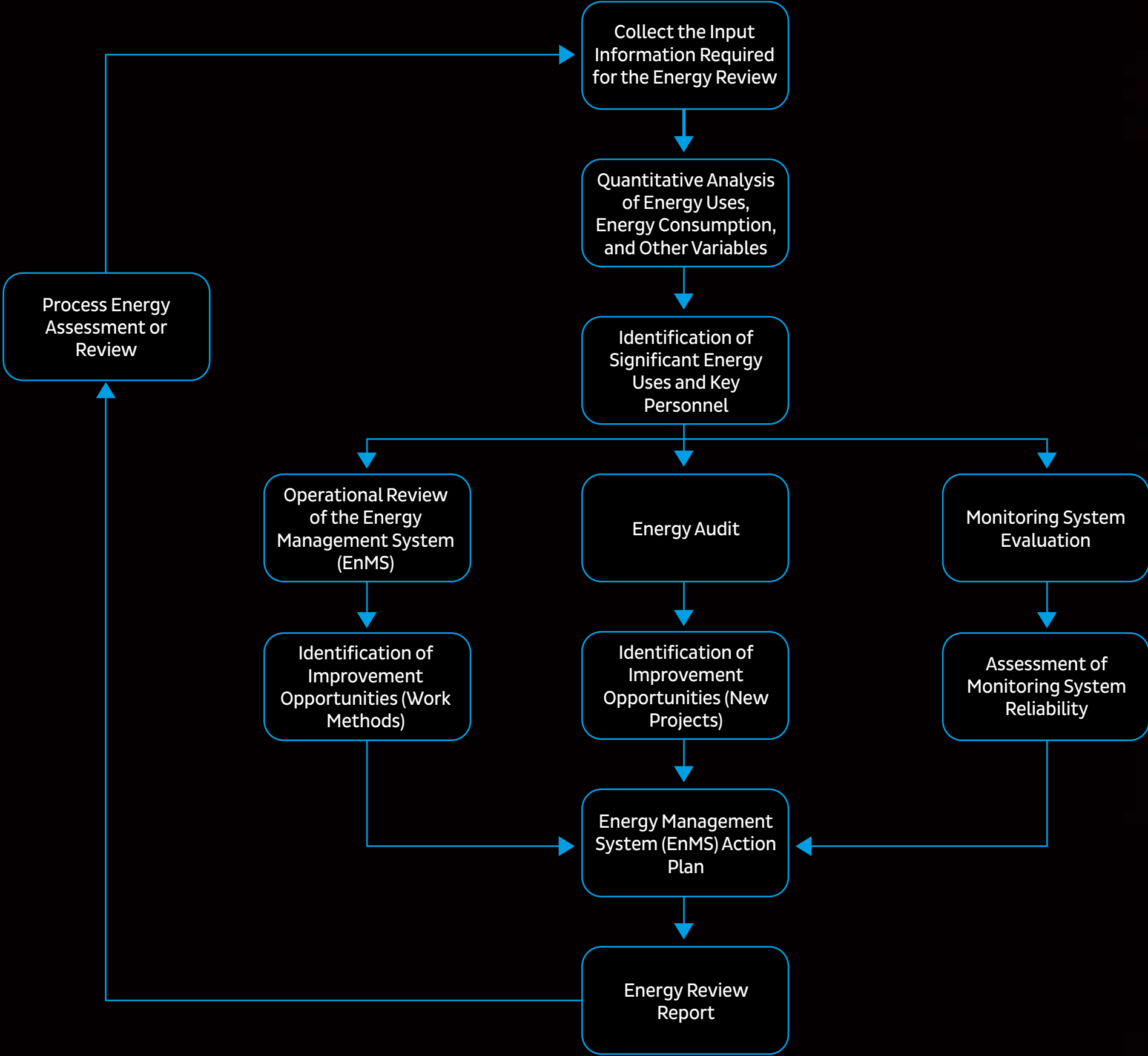
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ANNEX 5: ENERGY REVIEW PROCESS DIAGRAM





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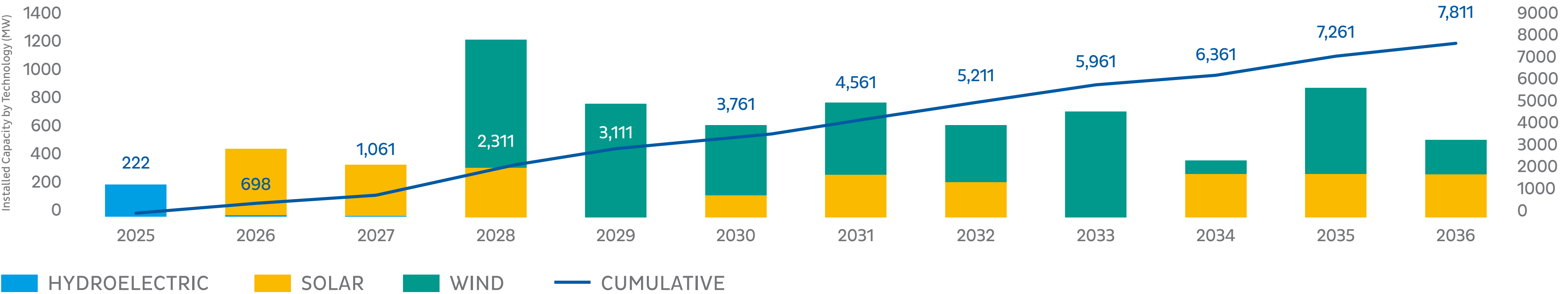
ANNEX 6: GREEN HYDROGEN AND RENEWABLE ENERGY PRODUCTION IN PERU

Green hydrogen has gained increasing relevance in Peru as part of the country’s energy transition. Since 2021, with the enactment of Law No. 31324, the legal foundations have been established to promote its production by leveraging the country’s renewable energy resources. This law supports research, technological development, and investment in infrastructure for green hydrogen production. Although Peru remains in the early stages of development, with pilot projects and a regulatory framework still under construction, the country continues to advance toward the decarbonization of its energy matrix. However, challenges

remain, particularly regarding infrastructure development and the fiscal incentives required to attract additional investment.

A key factor for green hydrogen production is the availability of electricity generated from renewable energy sources. As of year-end 2025, Peru’s peak electricity demand exceeded 7,500 MW, while total electricity generation reached 61,244.15 GWh, of which 63% was supplied from renewable sources, including hydroelectric, solar, and wind energy. According to the Diagnostic Report on the Operating Conditions of the

National Interconnected Electric System (SEIN) 2027–2036, prepared by the Economic Operation Committee of the National Interconnected System (COES-SINAC), the additional demand expected within the SEIN will be met through projects scheduled for implementation during the 2025–2027 period, adding 710.7 MW of installed hydroelectric and solar generation capacity. Furthermore, for the 2027–2036 period, non-committed projects are expected to contribute an additional 7,100 MW of installed solar and wind generation capacity. This outlook enhances the prospects for the development of green hydrogen projects within Peru.



Source: Adapted from the Diagnostic Report on the Operating Conditions of the National Interconnected Electric System (SEIN) 2027–2036, prepared by COES-SINAC.



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**COMMITTED ELECTRICITY GENERATION PROJECTS FOR
THE 2027–2036 PERIOD.**

Date	Project	Technology	Capacity (MW)
Jan-25	CH Centauro – Stage I	Hydroelectric	12.5
Aug-25	CH San Gabán III	Hydroelectric	209.3
Jan-26	CH Anashironi	Hydroelectric	20
Jan-26	CS San Martín Solar	Solar	252.4
Jan-26	CS Sunny	Solar	204
Jul-27	CH Centauro – Stage II	Hydroelectric	12.5

Source: Adapted from the Diagnostic Report on the Operating Conditions of the National Interconnected Electric System (SEIN) 2027–2036, prepared by COES–SINAC



**OTHER ELECTRICITY GENERATION PROJECTS FOR THE
2027–2036 PERIOD**

Date	Project	Technology	Capacity (MW)
2027	CS Poroma 1	Solar	100
	CS Moquegua 1	Solar	150
	CS San José 1	Solar	100
2028	CS San José 2	Solar	350
	CE Marcona 6	Wind	150
	CE Niña 2	Wind	250
	CE Marcona 1	Wind	100
	CE Marcona 3	Wind	300
	CE Niña 1	Wind	100
2029	CE Felam 1	Wind	200
	CE Marcona 2	Wind	300
	CE Marcona 4	Wind	150
	CE Marcona 10	Wind	150



Fecha	Proyecto	Teconología	Potencia (MW)
2030	CS San José 3	Solar	150
	CE Marcona 9	Wind	250
	CE Marcona 7	Wind	100
	CE Marcona 16	Wind	150
2031	CE Marcona 11	Wind	350
	CS Moquegua 2	Solar	300
	CE Felam 3	Wind	150
2032	CE Poroma 3	Wind	200
	CE Marcona 12	Wind	200
	CS San José 6	Solar	100
	CS San José 8	Solar	50
	CS San José 9	Solar	100

Fecha	Proyecto	Teconología	Potencia (MW)
2033	CE Marcona 13	Wind	250
	CE Niña 3	Wind	200
	CE Pariñas 3	Wind	300
2034	CS Montalvo 1	Solar	300
	CE Piura 1	Wind	100
2035	CE Marcona 15	Wind	250
	CE Chiclayo 1	Wind	200
	CS Montalvo 2	Solar	300
	CE Chiclayo 2	Wind	150
2036	CE Chiclayo 3	Wind	250
	CS Ocoña 2	Solar	300



ANNEX 7: CAASA CLIMATE MANAGEMENT PROCESS





CAASA CLIMATE MANAGEMENT SCOPE





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ANNEX 8: METHODOLOGIES AND SCENARIOS FOR TRANSITION RISK ASSESSMENT

METHODOLOGY: NATIONALLY DETERMINED CONTRIBUTIONS (NDCS)

For the qualitative assessment of transition risks, we use scenarios related to the achievement of the Peruvian Government’s Nationally Determined Contributions (NDCs) to identify potential future pathways based on the policies and actions implemented to support the transition toward a low-carbon economy and energy security.

Scenarios	Transformation	Coordination	Fragmentation (Lower Impacts)	Fragmentation (High Impacts)
Based on the analysis developed by Marsh & McLennan, we consider four scenarios:: 	100% achievement of the NDCs. Ambitious and stringent climate policies and mitigation actions place the world on a pathway to limit global warming to 1.5°C above pre-industrial temperatures by 2030.	Achievement of the NDCs between 50% and below 100% by 2030. Climate policies and mitigation actions are aligned and consistent, maintaining warming at approximately 2.0°C above pre-industrial temperatures by 2030.	Achievement of the NDCs between 30% and 50% by 2030. Limited climate action and a lack of coordination result in warming exceeding 2°C above pre-industrial temperatures by 2030.	Achievement of the NDCs below 30%. Limited climate action and a lack of coordination lead to warming of 4°C or more above pre-industrial temperatures by 2030. The physical impacts associated with this level of warming are experienced with greater severity.



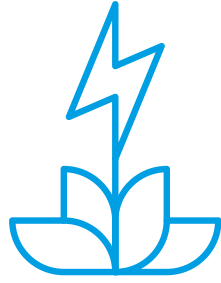
NDCS APPLICABLE TO CAASA

Based on the assessment of these scenarios, we identified the Nationally Determined Contributions (NDCs) applicable to the evaluation. Regarding Adaptation NDCs, no NDCs were identified that are directly related to CAASA and that involve specific risks or opportunities. However, several Mitigation NDCs were identified as applicable to the Company.

ADAPTATION NDCS

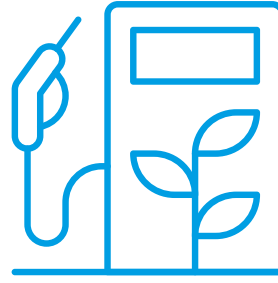
No Adaptation NDCs were identified that are directly related to CAASA and involve specific risks or opportunities.

MITIGATION NDCS



**Energy –
Stationary Combustion**

- > E1: Renewable energy integration.
- > E2: Cogeneration.
- > E3: Energy efficiency in the industrial sector.
- > E4: Use of waste-derived fuels as substitutes for fossil fuels in clinker production kilns. (This measure was considered because CAASA operates rotary kilns that could also be used for co-processing by producing alternative fuels from shredder waste.)
- > E5: Energy efficiency through comprehensive interventions in the manufacturing industry.
- > E6: Promotion of sustainable construction in new buildings. (This measure was considered because reinforcing steel bars used in sustainable buildings contribute toward LEED Materials and Resources credits.)



**Energy –
Mobile Combustion**

- > E7: Implementation of Lima’s Integrated Transport System Complementary Corridors.
- > E8: Implementation of Lima and Callao Metro Lines 1 and 2.
- > E9: Promotion of cleaner fuels.
- > E10: Promotion of electric vehicles nationwide. (This measure was considered because CAASA outsources transportation services for employees at the Pisco facility.)
- > E11: Eco-driving training for professional drivers.
- > E12: National Vehicle Scrappage and Fleet Renewal Program.
- > E13: “Trans-Andean Tunnel Construction” Project.
- > E14: Improvement of railway transportation services on the Tacna-Arica route.
- > E15: Comprehensive rehabilitation of the Huancayo-Huancavelica railway.



**Industrial Processes and
Product Use**

M1: Clinker substitution to reduce the clinker-to-cement ratio through the production of blended cements. (This measure was considered because CAASA generates steel slag, which is one of the materials proposed as a clinker substitute.)

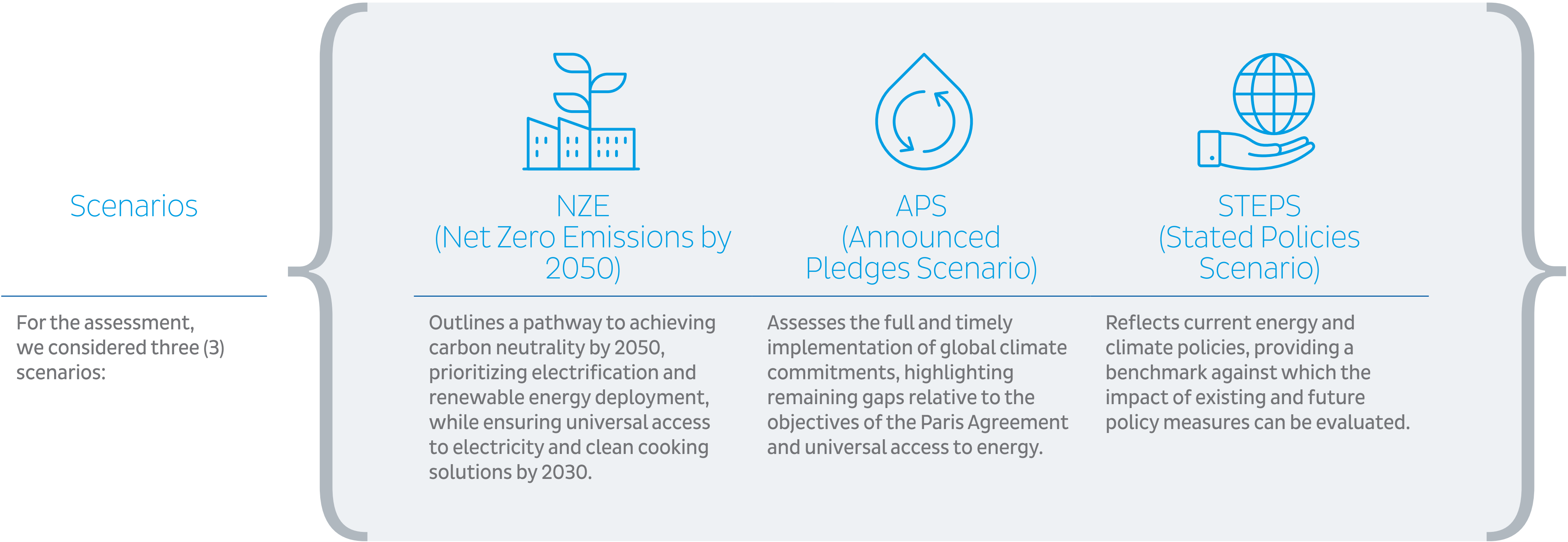


METHODOLOGY: IEA

For the quantitative assessment, we use the scenarios developed by the International Energy Agency (IEA) through its Global Energy and Climate (GEC) Model, the Agency’s primary tool for generating long-term energy and climate scenarios. The World Energy Outlook 2022 (WEO-2022) and Energy Technology Perspectives 2023 (ETP-2023) reports, both based on the GEC Model, explore three scenarios: NZE (Normative), APS, and STEPS (Exploratory). These scenarios consider initial conditions and market dynamics to analyze future energy pathways:

DETAILS

Although carbon pricing has not yet been implemented in Peru, our analysis considers the experience of countries such as Chile and Colombia in this regard. For the APS and NZE scenarios, we assume the context of an emerging and developing market economy, taking into account the commitments adopted by the Peruvian Government in 2021 toward achieving net-zero emissions.





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**CARBON PRICING FOR ELECTRICITY, INDUSTRY, AND ENERGY PRODUCTION IN
SELECTED REGIONS BY SCENARIO**

Carbon Price (US\$/t CO ₂)	2030	2040	2050
STEPS Scenario			
Canada	54	62	77
Chile, Colombia	13	21	29
China	28	43	53
European Union	90	98	113
Korea	42	68	89
APS Scenario			
Advanced economies with net-zero emissions pledges	135	175	200
Emerging market and developing economies with net-zero emissions pledges	40	110	160
Other emerging market and developing economies	---	17	47
NZE 2050 Scenario			
Advanced economies with net-zero emissions pledges	140	205	250
Emerging market and developing economies with net-zero emissions pledges	90	160	200
Other emerging market and developing economies	25	85	180





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ANNEX 9: NGFS METHODOLOGY: APPLICABLE TO TRANSITION AND PHYSICAL RISKS

METHODOLOGY: NGFS

In addition, we considered the scenarios developed by the Network for Greening the Financial System (NGFS), which were designed to provide a common reference framework for analyzing the impacts of climate risks on the economy and the financial system. These scenarios outline a range of possible futures depending on the evolution of climate change (physical risks), transition policies, technological developments, and changes in preferences (transition risks).

Dimensions and Scenarios	Orderly Transition	Disorderly Transition	Hot House World	Too Little, Too Late
For the assessment, we considered four (4) scenarios:	Assumes that climate policies are introduced early and become progressively more stringent over time. Under this scenario, both physical and transition risks remain relatively moderate.	Explores higher transition risks resulting from delayed or divergent policy implementation across countries and sectors. For example, carbon prices (explicit and implicit) are generally higher for a given temperature outcome.	Assumes that some climate policies are implemented in certain jurisdictions; however, global efforts remain insufficient to halt significant global warming. These scenarios result in severe physical risks, including irreversible impacts.	Assumes that a delayed and uncoordinated transition fails to limit physical risks effectively, leading to both elevated physical and transition risks.



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These four scenario groups comprise seven (7) individual scenarios:

→ Orderly

Net Zero 2050 Limits global warming to 1.5°C through stringent climate policies and innovation, achieving global net-zero CO₂ emissions by around 2050..

Below 2°C Gradually increases the stringency of climate policies, providing a 67% probability of limiting global warming to below 2°C.

Low Demand Assumes significant behavioral changes—particularly reduced energy demand—combined with carbon pricing (implicit carbon costs) and technological advancements, reducing the economic burden of achieving global net-zero CO₂ emissions by approximately 2050. Under this scenario, regions such as the United States, the European Union, the United Kingdom, Canada, Australia, and Japan reach net-zero emissions across all greenhouse gases (GHGs).

→ Disorderly

Delayed Transition Assumes that no additional climate policies are implemented until 2030. Consequently, stronger policy measures are required thereafter to limit warming to below 2°C. The availability of negative emissions technologies remains limited.

→ Hot House World

Nationally Determined Contributions (NDCs) Assumes that all pledged Nationally Determined Contributions (NDCs) are achieved, even if they are not yet supported by fully implemented policies.

Current Policies Assumes that only currently implemented climate policies remain in place, resulting in elevated physical climate risks.

→ Demasiado Poco – Demasiado Tarde

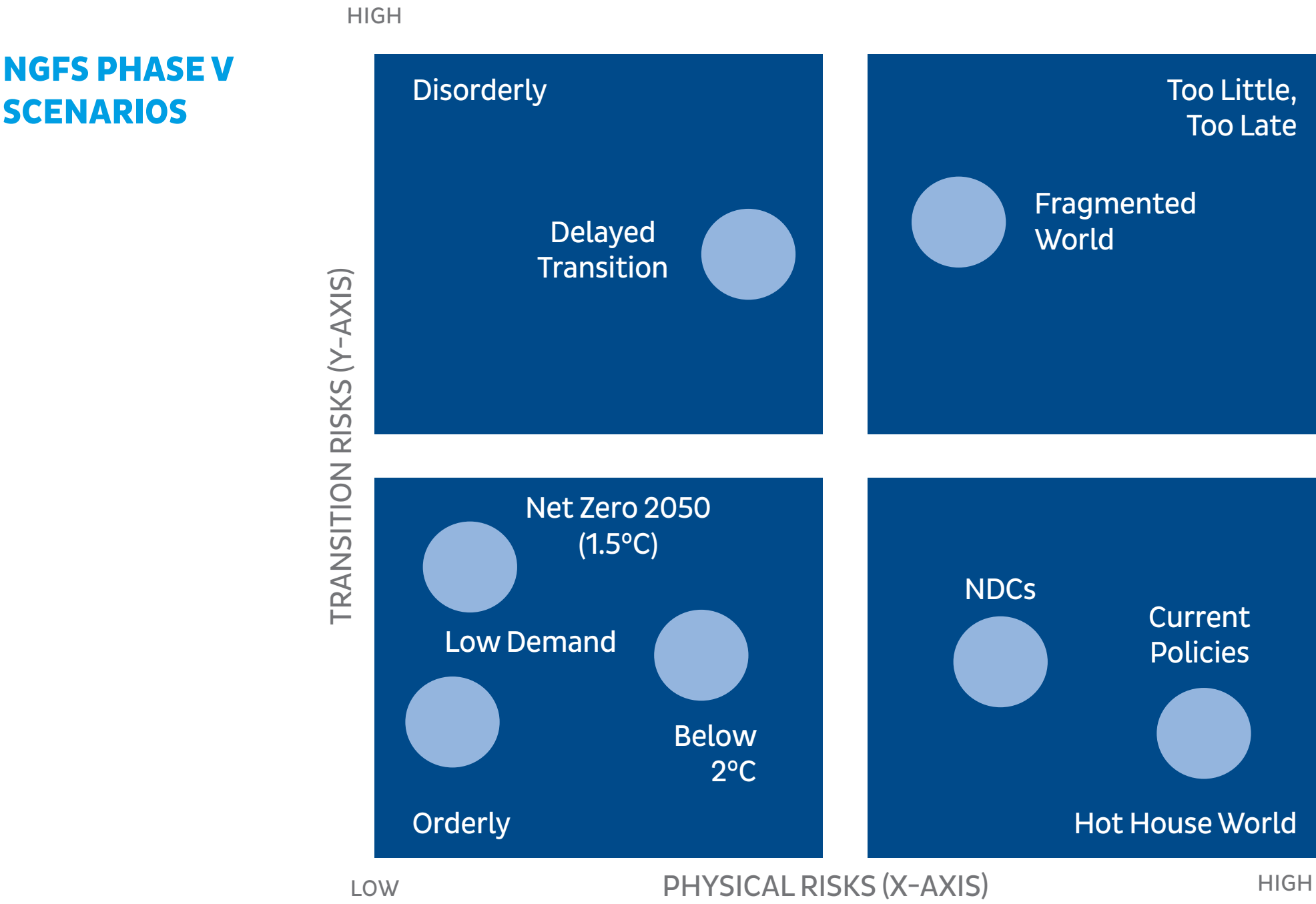
Fragmented World Assumes a delayed and divergent climate response across countries and regions, leading to significant physical and transition risks. Countries with net-zero commitments achieve only 80% of their targets, while all other countries continue under current policy pathways.



DETAILS

Under the NGFS scenarios, the primary policy mechanism driving the transition is a carbon price (implicit carbon price), which: (i) represents the marginal cost of reducing carbon emissions; and (ii) serves as an indicator of the overall ambition and effectiveness of climate policy, considering a range of real-world climate policy instruments (carbon taxes, subsidies, environmental standards, among others). [Annex 10](#)  presents the severity assessment of physical and transition risks under the NGFS scenarios..

The following figure illustrates selected variables and risk dimensions associated with the NGFS scenarios:



Source: Adapted from NGFS Long-Term Scenarios for Central Banks and Supervisors.



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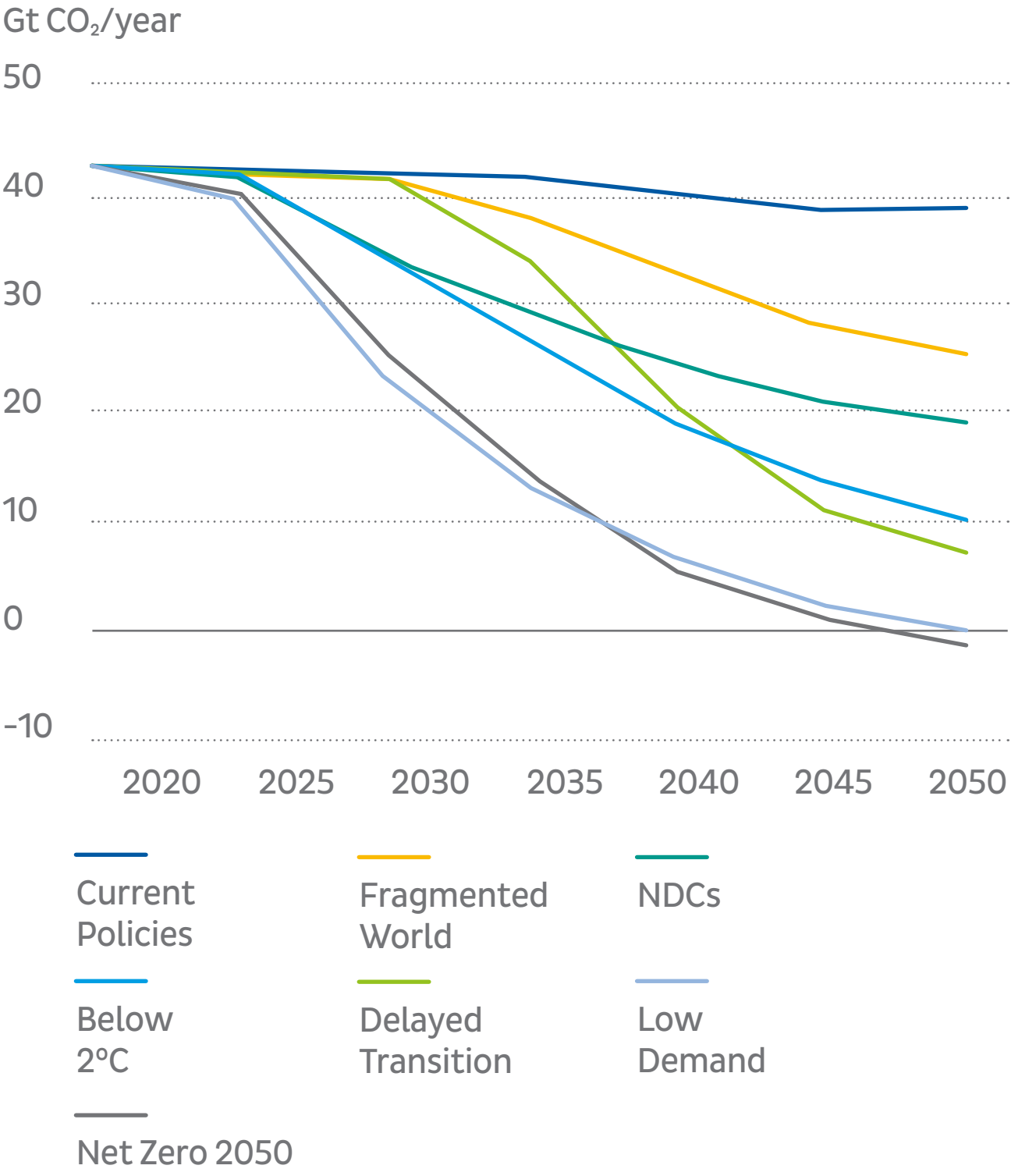
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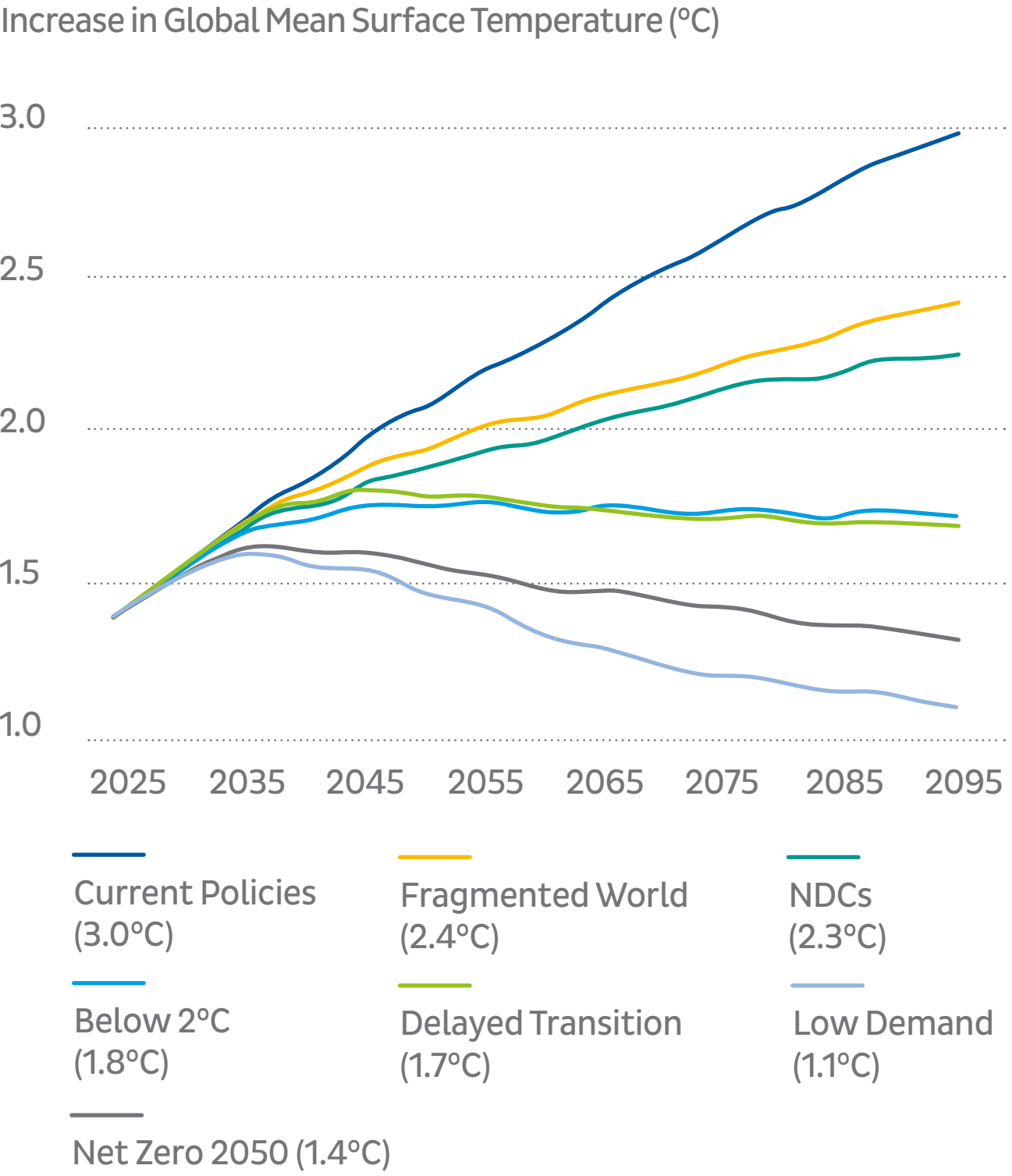
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GLOBAL ANNUAL CO₂ EMISSIONS
REMIND-MAgPIE



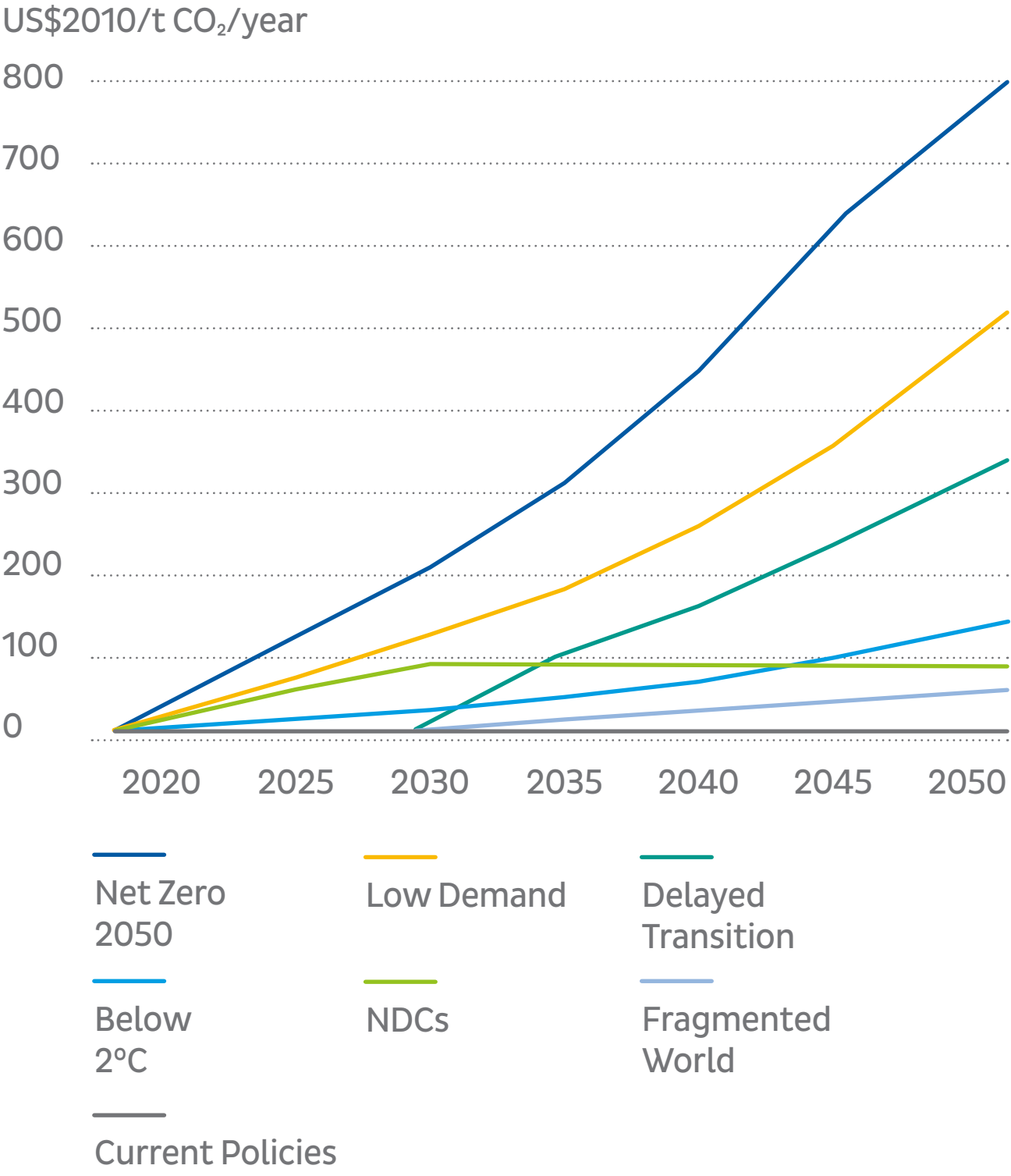
Source: NGFS Climate Scenarios Database, REMIND-MAgPIE model. Global aggregates mask significant differences across sectors and jurisdictions. Detailed information by region and sector is available through the IIASA Portal. The results shown represent end-of-century warming outcomes. Data are presented at five-year intervals.

TEMPERATURE EVOLUTION BY SCENARIO
Increase in AR6 Global Surface Air Temperature (GSAT),
MAGICC using REMIND-MAgPIE emissions
inputs



Source: NGFS Climate Scenarios Database, MAGICC model (using emissions inputs from REMIND-MAgPIE). MAGICC provides a range of temperature increases relative to pre-industrial levels. The temperature pathways shown here correspond to the 50th percentile.

IMPLIED CARBON PRICE
REMIND-MAgPIE



Source: NGFS Climate Scenarios Database, REMIND-MAgPIE model. Implied carbon prices are globally weighted averages. Detailed information by region and sector is available through the IIASA Portal. The results shown represent end-of-century warming outcomes. Data are presented at five-year intervals.



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		Physical Risks	Transition Risks			
Description	Scenario	End-of-Century Warming (Peak)	Policy Response	Technological Change	Carbon Dioxide Removal (CDR) ⁽¹⁾	Regional Policy Divergence ⁽²⁾
Orderly	Low Demand	1.1°C (1.6°C)	Immediate	Rapid Change	Medium Use	Medium Divergence
	Net Zero 2050	1.4°C (1.7°C)	Immediate	Rapid Change	Medium-High Use	Medium Divergence
	Below 2°C	1.8°C (1.8°C)	Immediate and Smooth	Moderate Change	Medium Use	Low Divergence
Disorderly	Delayed Transition	1.7°C (1.8°C)	Retrasado	Slow/Rapid Change	Medium Use	High Divergence
Hot House World	Nationally Determined Contributions (NDCs)	2.3°C (2.3°C)	NDCs	Slow Change	Low Use	Medium Divergence
	Current Policies	3.0°C (3.0°C)	No Additional Policies – Current Policies	Slow Change	Low Use	Low Divergence
Too Little, Too Late	Fragmented World	2.4°C (2.4°C)	Delayed and Fragmented	Slow Change/ fragmentado	Low-Medium Use	High Divergence

The color coding indicates whether each characteristic makes the scenario more or less severe from a macro-financial risk perspective.

Lower Risk Moderate Risk Higher Risk

(1) The impact of Carbon Dioxide Removal (CDR) on transition risk is twofold. On one hand, low levels of CDR increase transition costs because gross emission reductions must be achieved through other means. On the other hand, a high dependence on CDR also creates risks if the technology does not become more accessible in the coming decades.

(2) Risks tend to be greater in countries and regions with stronger climate policies. For example, under the Net Zero 2050 scenario, several countries and regions achieve net-zero greenhouse gas (GHG) emissions by 2050, while many others continue to emit several gigatonnes of CO₂ equivalent.

This assessment is based on expert judgment regarding how changes in these assumptions affect the main drivers of physical and transition risks. For example, higher temperatures are associated with greater impacts on physical assets and economic activity. From a transition perspective, economic and financial impacts increase when there are: (a) strong, abrupt, or divergent policies; (b) rapid technological changes, even when carbon price changes are moderate; (c) limited availability of carbon dioxide removal technologies, requiring a more abrupt transition in other sectors of the economy; and (d) more stringent policies in specific countries and regions.



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ANNEX 10: TRANSITION RISK ASSESSMENT BY SCENARIO

NDC SCENARIOS

High Considerable Moderate Low

NDC	Risk		Scenarios											
	Type	Description	Transformation (Tr) 100% NDC Achievement			Coordination (Coor.) NDC Achievement Be- tween 100% and 50%			Fragmentation (FD-) NDC Achievement Be- tween 50% and 30%			Fragmentation (FD+) NDC Achievement <30%		
			Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level
*T1	Te	RT1: Global trend in the steel industry toward lower-emission production technologies, such as Electric Arc Furnaces (EAFs), increasing competition for recycled steel and driving up its cost.	High (8)	High (8)	High (64)	High (8)	Considerable (4)	High (32)	High (8)	Moderate (2)	Considerable (16)	High (8)	Low (1)	Considerable (8)
*L1/ E1	PL	RT2: Increase in operating costs resulting from the implementation of carbon pricing mechanisms and/or higher fuel taxes..	High (8)	High (8)	High (64)	High (8)	Considerable (4)	High (32)	High (8)	Moderate (2)	Considerable (16)	High (8)	Low (1)	Considerable (8)
*Me1	Me	RT3: Growth in imports of high-emission steel products into regional markets, driven by climate policies in developed economies that restrict their market access.	Moderate (2)	High (8)	Considerable (16)	Moderate (2)	Considerable (4)	Considerable (8)	Moderate (2)	Moderate (2)	Mod. (4)	Mod. (2)	Low (1)	Low (2)

Source: Prepared by the Company.

* These are drivers of transition risks but are not part of the NDCs themselves; rather, they are associated with a stress scenario. The legend is: L = Legislation, Me = Market, and T = Technology.

Note 1: The classification themes used for the NDCs are identified as follows: E = Energy and M = Industrial Processes.

Note 2: The transition risk categories are identified as follows: PL = Policy and Legal, Te = Technology, Me = Market, and Re = Reputation.

Note 3: The risk assessment variables are identified as follows: Imp. = Impact, Prob. = Probability, Consid. = Considerable, and Mod. = Moderate.



IEA SCENARIOS

High Considerable Moderate Low

Risk		Scenario								
Type	Description	Net Zero Emissions by 2050 (NZE)			Announced Pledges Scenario (APS)			Stated Policies Scenario (STEPS)		
		Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level
Te	RT1: Global trend in the steel industry toward lower-emission production technologies, such as Electric Arc Furnaces (EAFs), increasing competition for recycled steel procurement and raising its cost.	High (8)	High (8)	High (64)	High (8)	High (8)	High (64)	High (8)	Considerable (4)	High (32)
PL	RT2: Increase in operating costs resulting from the implementation of carbon pricing mechanisms and/or higher fuel taxes.	High (8)	High (8)	High (64)	High (8)	High (8)	High (64)	High (8)	Considerable (4)	High (32)
Me	RT3: Growth in imports of high-emission steel products into regional markets, driven by climate policies in developed economies that restrict their market access.	Moderate (2)	High (8)	Considerable (16)	Moderate (2)	High (8)	Considerable (16)	Moderate (2)	Considerable (4)	Considerable (16)

Source: Prepared by the Company.
*These are drivers of transition risks but are not part of the NDCs themselves; rather, they are associated with a stress scenario. The legend is: L = Legislation, Me = Market, and T = Technology..
Note 1: The classification themes used for the NDCs are identified as follows: E = Energy and M = Industrial Processes.
Note 2: The transition risk categories are identified as follows: PL = Policy and Legal, Te = Technology, Me = Market, and Re = Reputation.
Note 3: The risk assessment variables are identified as follows: Imp. = Impact, Prob. = Probability, Consid. = Considerable, and Mod. = Moderate.



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NGFS SCENARIOS

High Considerable Moderate Low

Riesgos de transición		Orderly									Disorderly			Hot House World						Too Little, Too Late		
Code	Type	Low Demand			Net Zero 2050			Below 2°C			Delayed Transition			NDCs			Current Policies			Fragmented World		
		Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level
RT1	Technological Change	High (8)	High (8)	High (64)	High (8)	High (8)	High (64)	High (8)	Consid. (4)	High (32)	High (8)	Consid. (4)	High (32)	High (8)	Mod. (2)	Consid. (16)	High (8)	Mod. (2)	Consid. (16)	High (8)	High (8)	High (64)
RT2	Policy Response	High (8)	Consid. (4)	High (32)	High (8)	Consid. (4)	High (32)	High (8)	Mod. (2)	Consid. (16)	High (8)	High (8)	High (64)	High (8)	Mod. (2)	Consid. (16)	High (8)	Mod. (2)	Consid. (16)	High (8)	High (8)	High (64)
RT3	Regional Policy Divergence	Mod. (2)	High (8)	Consid. (16)	Mod. (2)	Consid. (4)	Consid. (8)	Mod. (2)	Mod. (2)	Mod. (4)	Mod. (2)	High (8)	Consid. (16)	Mod. (2)	Consid. (4)	Consid. (8)	Mod. (2)	Mod. (2)	Mod. (4)	Mod. (2)	High (8)	Consid. (16)

Source: Prepared by CAASA.
Note 1: The legend related to the risk assessment variables is as follows.



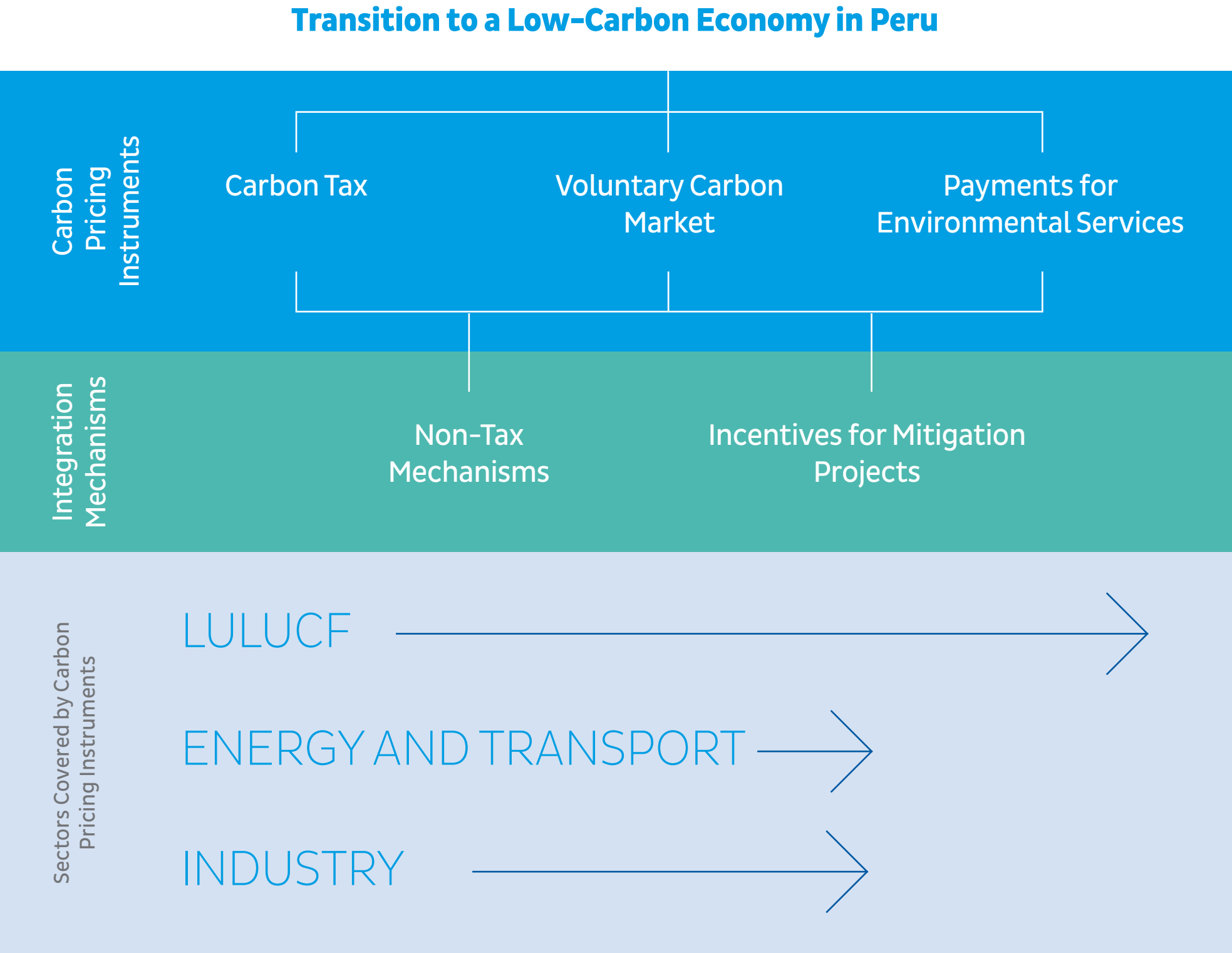
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ANNEX 11: STRESS TESTING ANALYSIS OF THE RISK OF CARBON PRICING IMPLEMENTATION IN PERU

The monetization of CO₂ emissions is a mechanism through which countries and markets assign a monetary value to emissions, requiring emitters to bear the cost of their greenhouse gas (GHG) impacts. This approach encourages environmentally beneficial decisions and investments while supporting sustainable economic growth. Carbon pricing contributes to GHG emissions reductions in a flexible and cost-effective manner. According to Peru’s Ministry of the Environment (MINAM), in 2019 a social cost of carbon was proposed to integrate the economic benefits and costs associated with reducing or increasing GHG emissions into decision-making processes. This value was estimated at US\$ 7.17 per tonne of CO₂e (equivalent to S/ 24.12 based on the exchange rate at year-end 2025, according to the Central Reserve Bank of Peru).

In 2024, the Ministry of Economy and Finance conducted a study entitled “Analysis of Carbon Pricing Instruments, Fiscal Schemes, and a Roadmap Proposal to Promote a Low-Carbon Transition in Specific Sectors in Peru”, with the objective of evaluating existing carbon pricing instruments in Peru and identifying alternatives for the design and implementation of a roadmap to promote the country's transition toward a low-carbon economy. This study resulted in a proposal to evaluate a mixed policy approach involving three carbon pricing instruments (1. Carbon Tax, 2. Voluntary Carbon Market, and 3. Payments for Environmental Services) applicable to activities within the Land Use, Land-Use Change and Forestry (LULUCF), Energy and Transport, and Industry sectors.

→ Mixed Policy Proposal



Source: Adapted from the study “Analysis of Carbon Pricing Instruments, Fiscal Schemes, and a Roadmap Proposal to Promote a Low-Carbon Transition in Specific Sectors in Peru” prepared by Peru’s Ministry of Economy and Finance (MEF).



RISK ASSOCIATED WITH RT2: INCREASE IN OPERATING COSTS DUE TO THE IMPLEMENTATION OF CARBON PRICING IN PERU

Scenario	Carbon Footprint (tCO ₂ e) Scope 1	Carbon Price (S/ per tCO ₂ e)	Amount (S/ per year)	Probability	Impact	Severity
Current Scenario (2024): No carbon pricing mechanism has been established in Peru. (S/ 0.00/t CO ₂ e)	244,111	0	0	NA	NA	NA
Stress Scenario (2028): A carbon price is implemented in 2028, using as a reference the value proposed by MINAM and updated to the 2025 exchange rate. (S/ 24.12/t CO ₂ e)	244,111	24.12	5,887,957	High (8)	High (8)	High





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ANNEX 12: METHODOLOGIES AND SCENARIOS FOR PHYSICAL RISK ASSESSMENT

METHODOLOGY: IPCC ALIGNED WITH SCHNEIDER'S CONCEPTUAL FRAMEWORK

This methodology considers climate physical risk as the result of the interaction between climate hazards, exposure, and vulnerability, enabling a systematic assessment of the potential impacts of climate change on assets, operations, and business continuity.

For our climate analysis, we use physical climate scenarios relevant to organizations exposed to acute or chronic climate-related changes, such as long-lived fixed assets, operations located in climate-sensitive regions, and value chains exposed to these risks.

The IPCC AR6 defines five Shared Socioeconomic Pathways (SSPs) which, when combined with different radiative forcing levels, result in multiple climate scenarios. For the purposes of physical risk assessment, the IPCC utilizes a representative set of scenarios ranging from low-emission to very high-emission pathways.

SCENARIOS

The SSPs (Shared Socioeconomic Pathways) are global socioeconomic development scenarios developed by the IPCC to analyze how changes in society, the economy, and resource use throughout the 21st century may influence greenhouse gas (GHG) emissions and, consequently, climate change.

Unlike previous approaches (such as the RCPs), SSPs do not directly describe climate outcomes, but rather the socioeconomic conditions that lead to different emissions pathways and, subsequently, different climate impacts.

Under the IPCC AR6, SSPs are combined with climate models to generate projections of temperature, precipitation, and extreme weather events, which are then used for physical risk assessments. The analysis was conducted using IPCC AR6 climate projections and considering the following scenarios:





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DETAILS

A description of each scenario is provided below:

SSP1-2.6
(Sustainability)

This scenario is characterized by a high level of international cooperation, balanced economic growth, and an accelerated transition toward clean energy and resource efficiency. Greenhouse gas (GHG) emissions are significantly reduced, limiting the increase in global temperatures. Physical climate risks are relatively lower, although they do not disappear entirely, particularly over the long term.

SSP2-4.5
(Middle-of-the-Road
Pathway)

This scenario reflects the continuation of current socioeconomic trends, with moderate progress in climate policies and low-carbon technologies. Emissions gradually stabilize, resulting in a moderate increase in global temperatures. Physical climate risks continue to grow and require active management and progressive adaptation measures.

SSP3-7.0
(Regional Rivalry)

This scenario is characterized by limited international cooperation, uneven economic growth, and intensive reliance on fossil fuels. Economic priorities outweigh environmental objectives, resulting in high emissions and increased pressure on natural resources. In this context, physical climate risks are elevated, with more frequent and intense extreme weather events.

SSP5-8.5
(High Emissions – Stress
Scenario)

This scenario assumes energy-intensive economic growth, strong dependence on fossil fuels, and the absence of effective climate mitigation policies. It leads to a substantial increase in global temperatures and severe physical risks over the medium and long term. This scenario is primarily used as a stress scenario to assess asset resilience and the robustness of adaptation strategies.





CLIMATE HAZARD

Acute Short-duration, high-intensity events with immediate impacts	Chronic Long-term gradual changes that accumulate impacts over time
> Flooding (Potentially affected area) > Strong winds (Number of events per year >90 km/h) > Wildfires (Probability of occurrence) > El Niño phenomenon	> Heat (Number of days per year >28°C) > Water Stress (Intensity) > Cold (Number of days per year <0°C) > Precipitation (Maximum rainfall in 24 hours – mm) > Drought (Number of dry days per year)

INDICATORS

Global Risk Signal

This composite indicator represents the aggregated level of physical climate risk associated with a specific asset or location, considering all relevant climate hazards, the climate scenarios evaluated, and the time horizons analyzed.

The indicator integrates, on a weighted basis, the probability of occurrence of climate events, the asset’s exposure to those hazards, and its vulnerability to each identified climate hazard.

Conceptually, it is based on the IPCC formulation: **Risk = Hazard × Exposure × Vulnerability**

INDICATOR SEVERITY SCALE

Rating (Score)	Description
Extreme (>221)	Assets face an extreme risk from hazardous climate events capable of causing significant physical damage and severe operational disruptions.
High (181–220)	Assets are exposed to a high risk from hazardous climate events that have the potential to cause substantial physical damage and affect operations.
Moderate (142–180)	Assets face a moderate risk from hazardous climate events that may result in physical damage and potential operational interruptions.
Low (100–140)	Assets are subject to a low risk from hazardous climate events, with limited potential to cause physical damage or disrupt operations.
Very Low (0–99)	Assets face a very low risk from hazardous climate events, indicating minimal potential for physical damage or operational disruptions.



Global Severity

This indicator measures the magnitude or intensity of the potential impact associated with the extreme climate events considered in the analysis, regardless of their frequency. It assesses how severe the consequences of a climate event could be if it were to occur, considering impacts on infrastructure, operations, human safety, and business continuity.

INDICATOR SEVERITY SCALE:

Rating	Score
Extreme	29-35
High	22-28
Moderate	15-21
Low	8-14
Very Low	0-7

EQUIVALENCIES BETWEEN THE GLOBAL RISK SIGNAL AND THE GIRO METHODOLOGY

To integrate the quantitative physical risk methodology with the GIRO methodology, we established equivalencies between the Global Risk Signal indicator levels and the GIRO probability levels, as shown in the table below:

Global Risk Signal	Likelihood (GIRO)			
Description	Exposure (Qualitative)	Likelihood Estimate (Qualitative)	Historical Frequency (Quantitative)	
Extremo (>221)	High (8) Continuous exposure, above the acceptable threshold	High (8) High likelihood of occurrence	High (8) The event occurred more than once during the last year	High (8) More than 5% of cases or transactions
High (181-220)	Considerable (4) Continuous exposure, between 75% and 100% of the acceptable threshold	Considerable (4) Considerable likelihood of occurrence	Considerable (4) The event occurred once during the last year	Considerable (4) Between 1% and 5% of cases or transactions
Moderate (142-180)	Moderate (2) Continuous exposure, between 50% and 75% of the acceptable threshold	Moderate (2) Moderate likelihood of occurrence	Moderate (2) The event did not occur during the last year but has occurred previously	Moderate (2) Between 0.5% and 1% of cases or transactions
Low (100-140)	Low (1) Continuous exposure, below 50% of the acceptable threshold	Low (1) Low likelihood of occurrence	Low (1) The event has never occurred	Low (1) Less than 0.5% of cases or transactions
Very Low (0-99)				



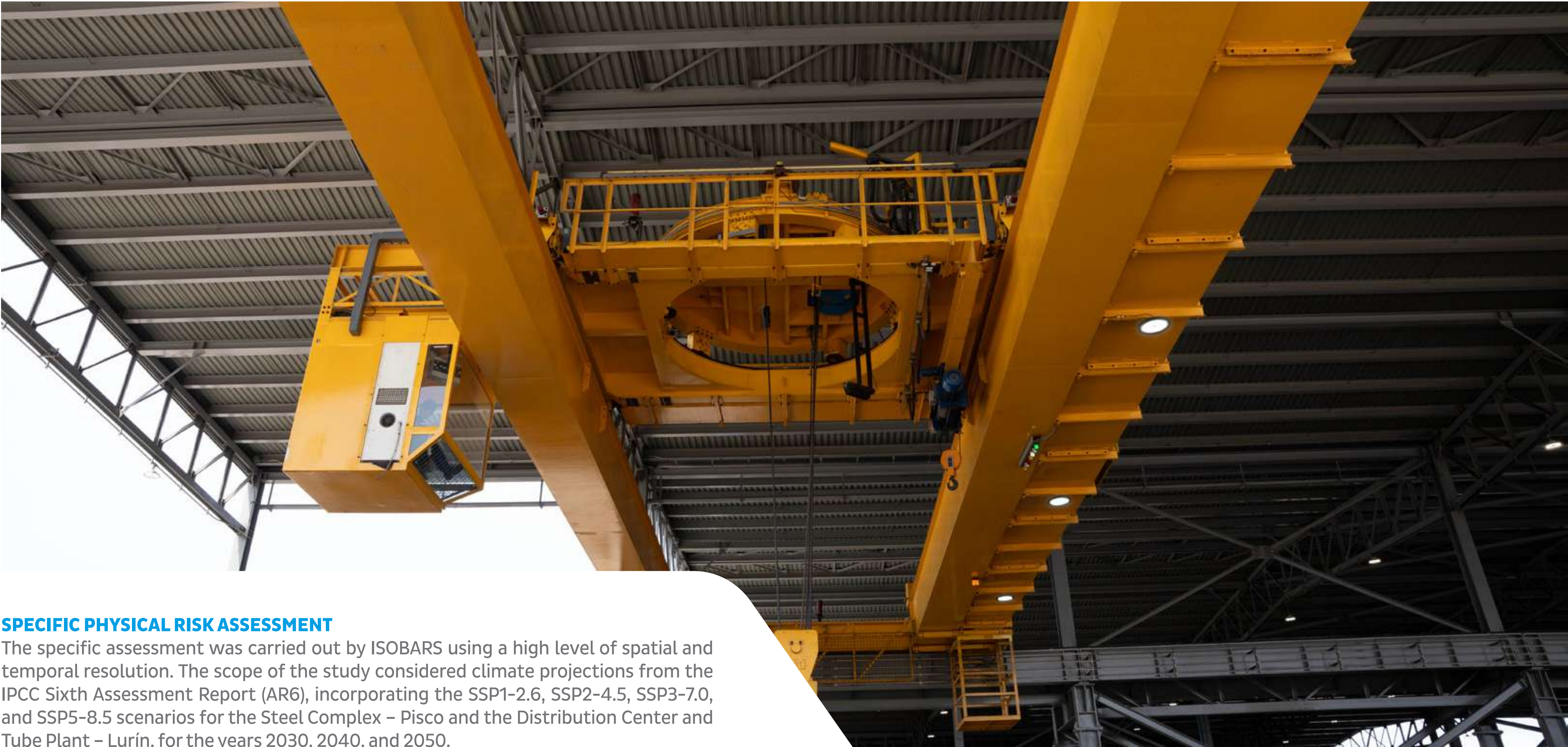
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SPECIFIC PHYSICAL RISK ASSESSMENT

The specific assessment was carried out by ISOBARS using a high level of spatial and temporal resolution. The scope of the study considered climate projections from the IPCC Sixth Assessment Report (AR6), incorporating the SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5 scenarios for the Steel Complex – Pisco and the Distribution Center and Tube Plant – Lurín, for the years 2030, 2040, and 2050.



STEEL COMPLEX – PISCO

Global Risk Signal			
Scenario	2030	2040	2050
SSP1-2.6	132 Low	135 Low	136 Low
SSP2-4.5	144 Moderate	145 Moderate	149 Moderate
SSP3-7.0	145 Moderate	148 Moderate	150 Moderate
SSP5-8.5	151 Moderate	152 Moderate	153 Moderate

Overall Severity			
Scenario	2030	2040	2050
SSP1-2.6	14 Low	14 Low	15 Moderate
SSP2-4.5	15 Moderate	15 Moderate	16 Moderate
SSP3-7.0	16 Moderate	17 Moderate	17 Moderate
SSP5-8.5	17 Moderate	17 Moderate	18 Moderate

DISTRIBUTION CENTER AND TUBE PLANT – LURÍN

Global Risk Signal			
Scenario	2030	2040	2050
SSP1-2.6	126 Low	128 Low	128 Low
SSP2-4.5	130 Low	131 Low	134 Low
SSP3-7.0	131 Low	133 Low	135 Low
SSP5-8.5	132 Low	133 Low	136 Low

Overall Severity			
Scenario	2030	2040	2050
SSP1-2.6	13 Low	13 Low	14 Low
SSP2-4.5	14 Low	14 Low	15 Moderate
SSP3-7.0	15 Moderate	16 Moderate	16 Moderate
SSP5-8.5	16 Moderate	16 Moderate	16 Moderate



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OVERVIEW OF CLIMATE RISK SIGNALS

Steel Complex – Pisco													
Hazard		SSP1-2.6			SSP2-4.5			SSP3-70			SSP5-8.5		
		2030	2040	2050	2030	2040	2050	2030	2040	2050	2030	2040	2050
Cronic	Heat												
	Cold	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Precipitation												
Acute	Flooding	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Wind												
	Drought												
	Wildfire												

Global Warming Ranges (IPCC AR6):
Scenario SSP1-2.6: ~1,8°C (1,3–2,4°C).
Scenario SSP2-4.5: ~2,7°C (2,1–3,5°C).
Scenario SSP3-7.0: ~3,6°C (2,8–4,6°C).
Scenario SSP5-8.5: ~4,4°C (3,3–5,7°C).
N/A: A meaningful assessment cannot be provided.

Distribution Center and Tube Plant – Lurín													
Hazard		SSP1-2.6			SSP2-4.5			SSP3-70			SSP5-8.5		
		2030	2040	2050	2030	2040	2050	2030	2040	2050	2030	2040	2050
Cronic	Heat												
	Cold	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Precipitation												
Acute	Flooding	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Wind												
	Drought												
	Wildfire												

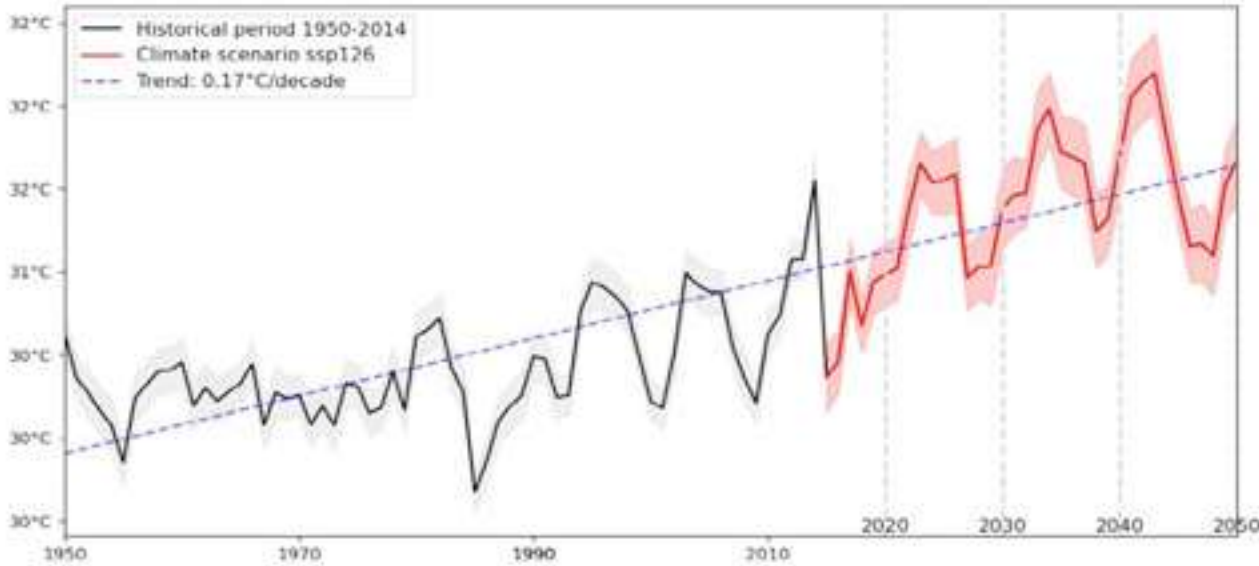
VERY LOW	LOW	MODERATE	HIGH	EXTREME
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IPCC AR6 MODEL PROJECTIONS – SSP1-2.6

Steel Complex – Pisco

HEAT RISK:

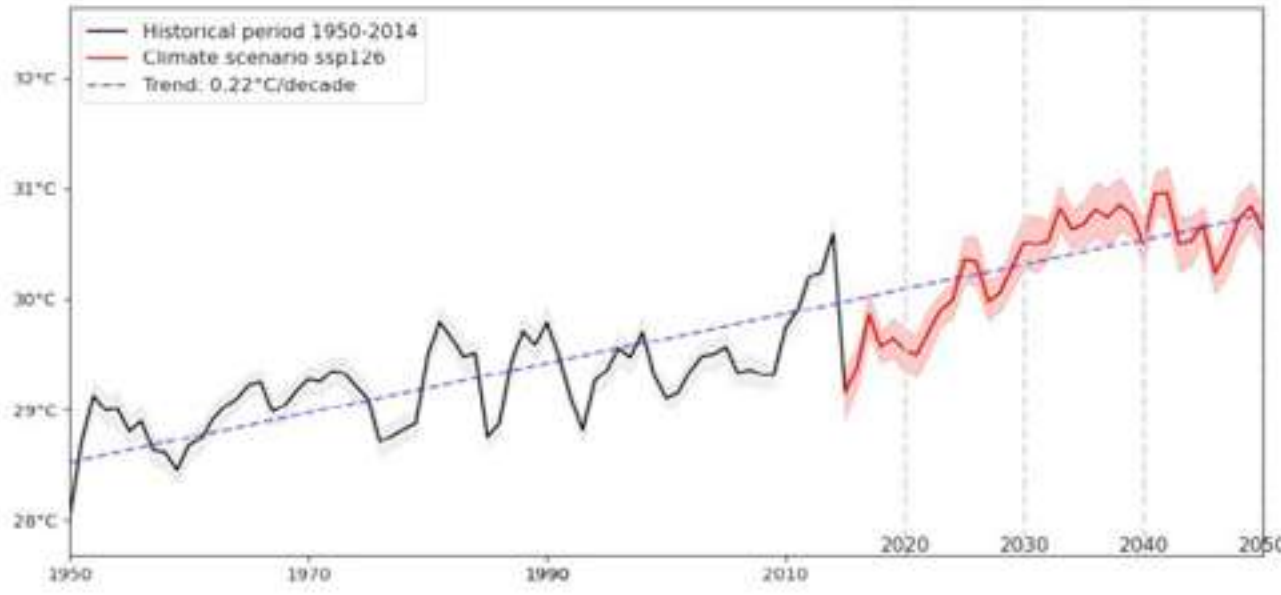
Heat risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Maximum temperature is expected to increase by an average of 0.96°C by 2030, rising from a baseline of 30.42°C to 31.38°C. The projected trend is 0.17°C per decade.



Distribution Center and Tube Plant – Lurín

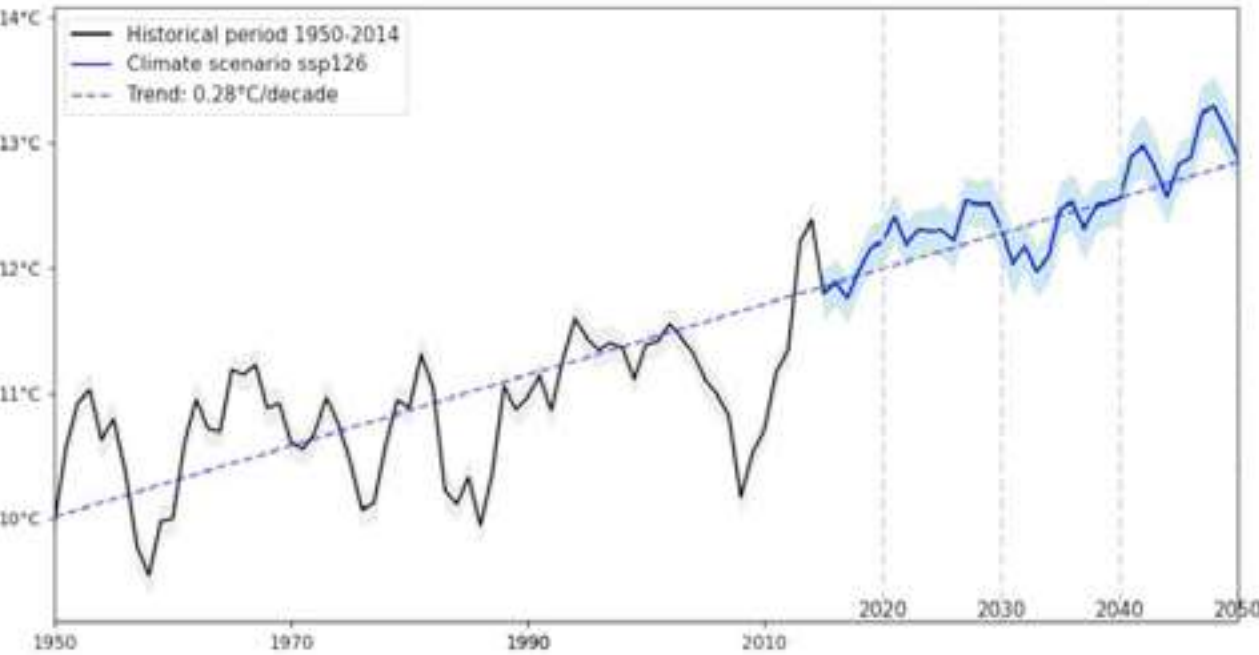
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Maximum temperature is expected to increase by an average of 1.28°C by 2030, rising from a baseline of 29.23°C to 30.51°C. The projected trend is 0.22°C per decade.



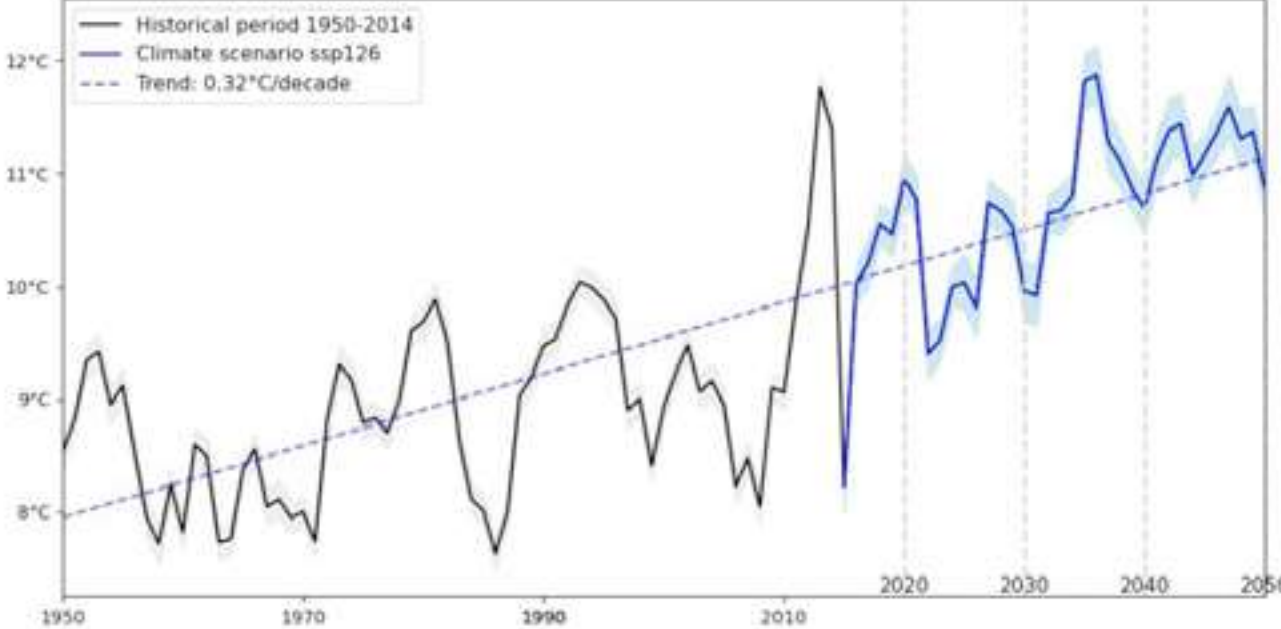
COLD RISK:

Cold risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Minimum temperature is expected to increase by an average of 1.47°C by 2030, rising from a baseline of 10.84°C to 12.31°C. The projected trend is 0.28°C per decade.



COLD RISK:

Cold risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Minimum temperature is expected to increase by an average of 1.04°C by 2030, rising from a baseline of 8.92°C to 9.96°C. The projected trend is 0.32°C per decade.

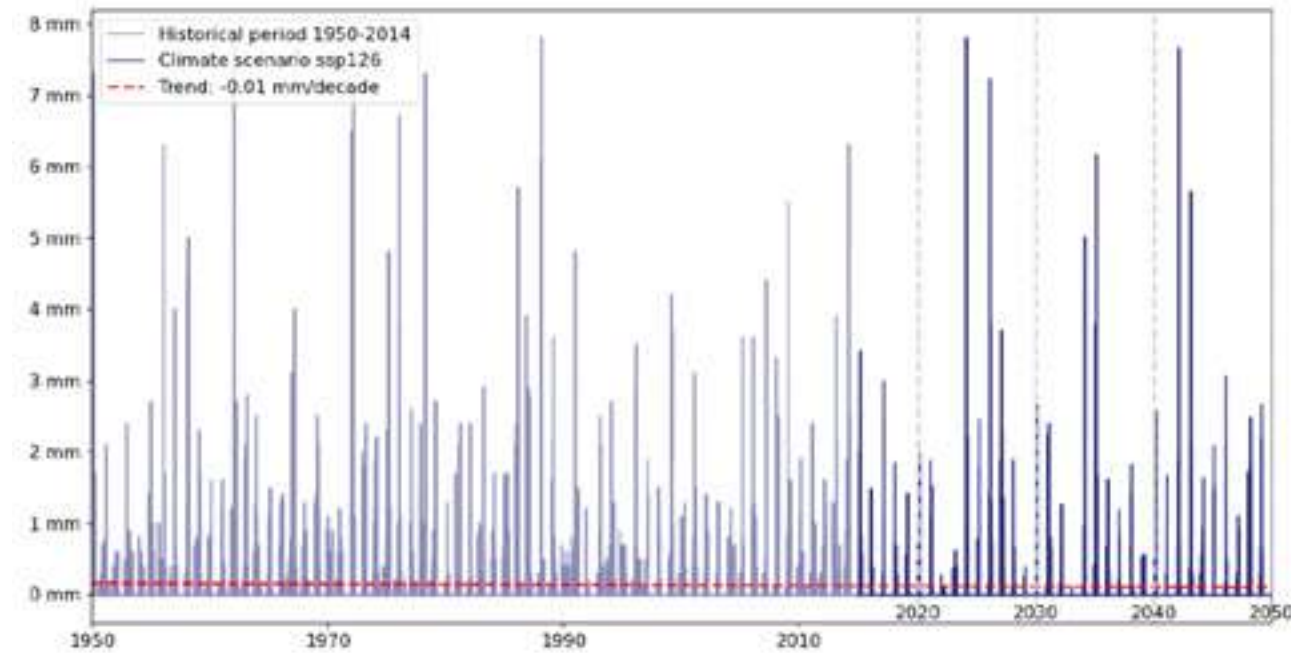




Steel Complex – Pisco

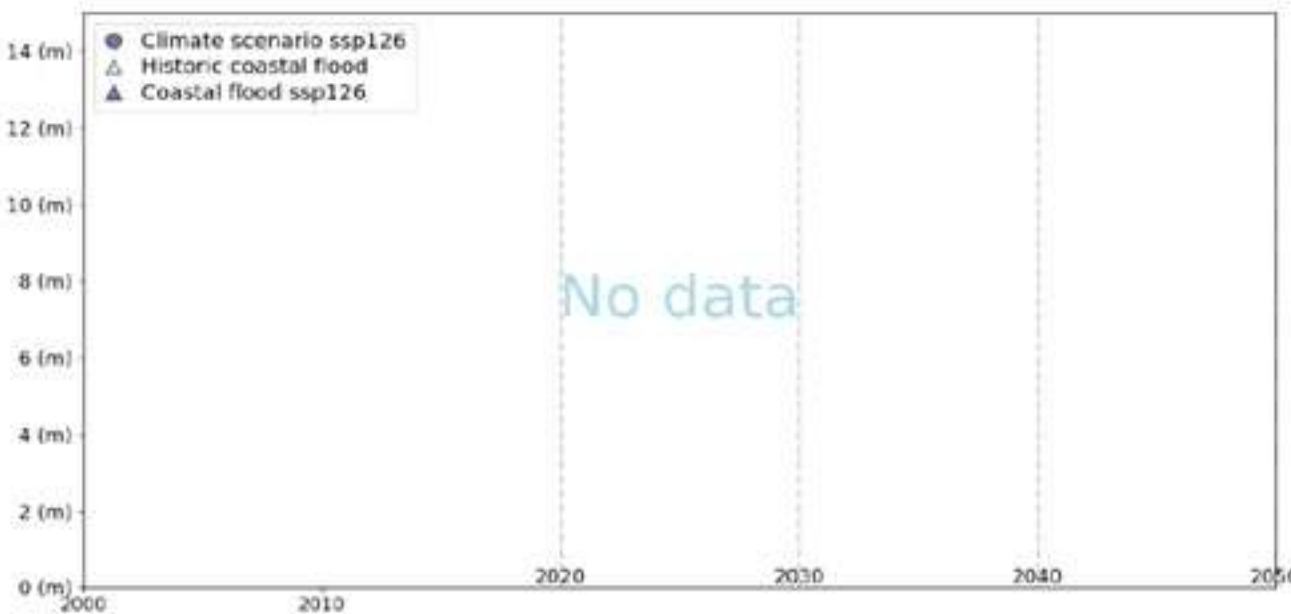
PRECIPITATION RISK:

Maximum 5-day precipitation is expected to decrease by an average of 0.07 mm by 2030, declining from a baseline of 0.15 mm to 0.08 mm.



FLOOD RISK:

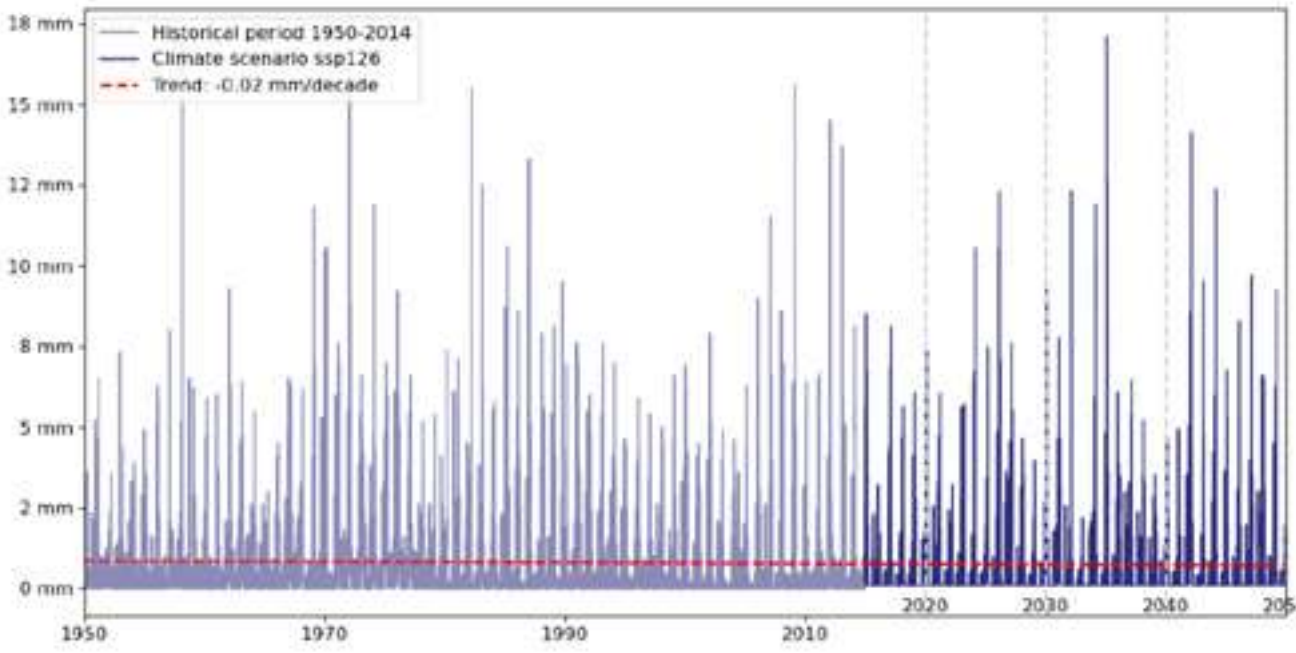
Flood risk at this asset is assessed as not applicable (N/A) relative to the levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Distribution Center and Tube Plant – Lurín

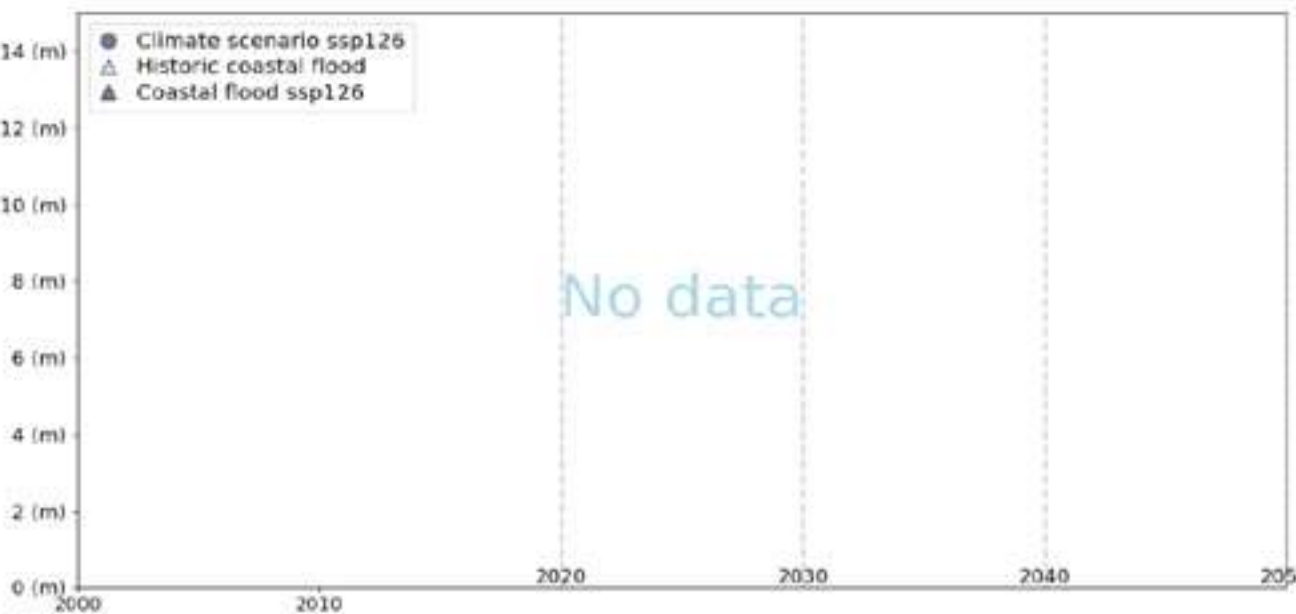
PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to the levels observed during the 1970s. Maximum 5-day precipitation is expected to decrease by an average of 0.09 mm by 2030, declining from a baseline of 0.80 mm to 0.71 mm.



FLOOD RISK:

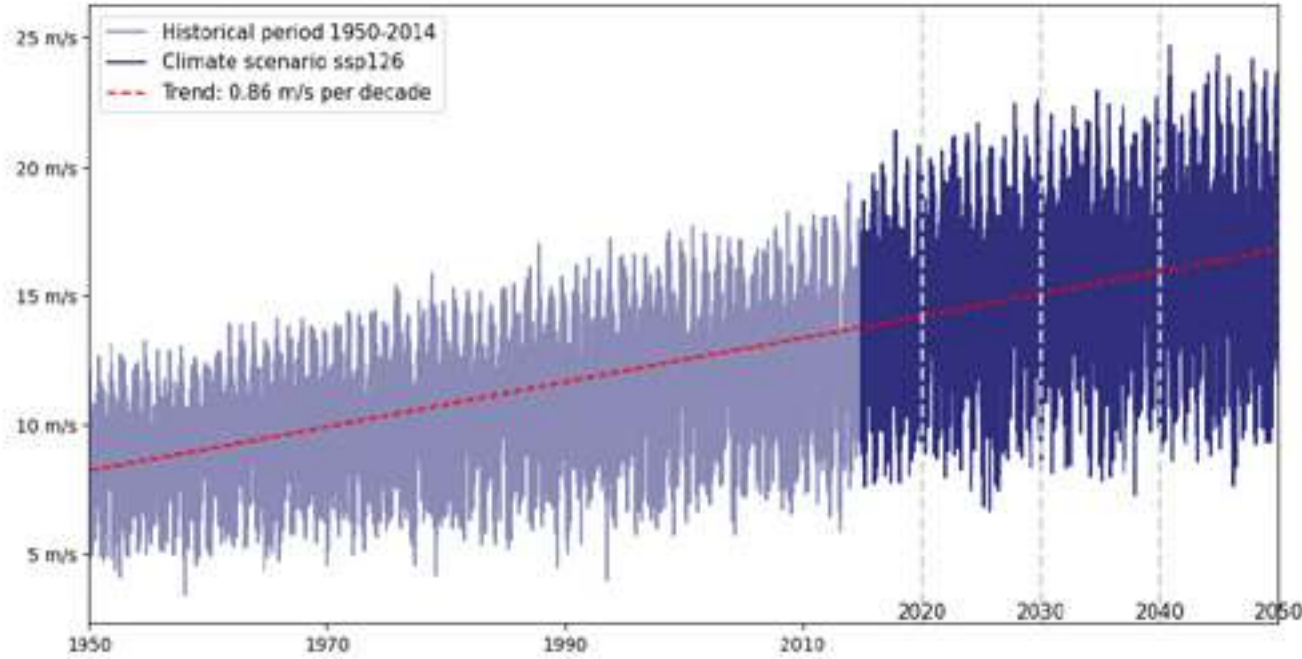
Flood risk at this asset is assessed as not applicable (N/A) relative to the levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Steel Complex – Pisco

WIND RISK:

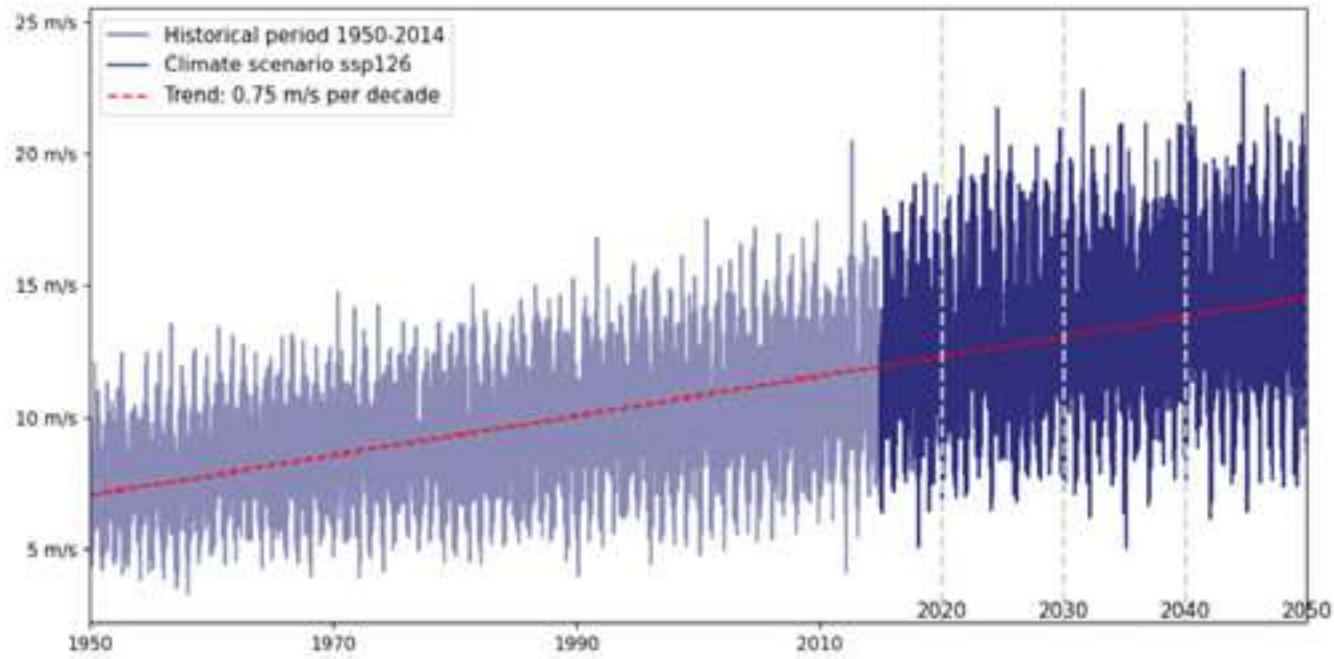
Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 4.99 m/s by 2030, rising from a baseline of 10.83 m/s to 15.82 m/s. The projected trend is 0.86 m/s per decade.



Distribution Center and Tube Plant – Lurín

WIND RISK:

Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 4.39 m/s by 2030, rising from a baseline of 9.34 m/s to 13.73 m/s. The projected trend is 0.75 m/s per decade.

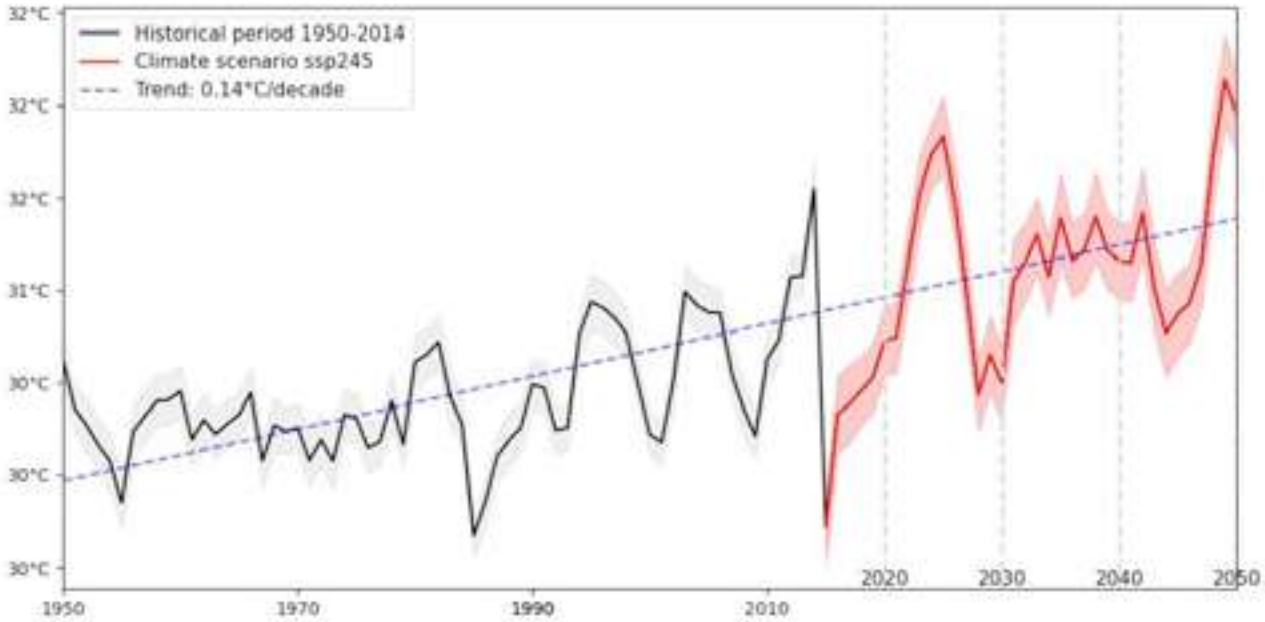


IPCC AR6 MODEL PROJECTIONS – SSP2-4.5.5

Steel Complex – Pisco

HEAT RISK:

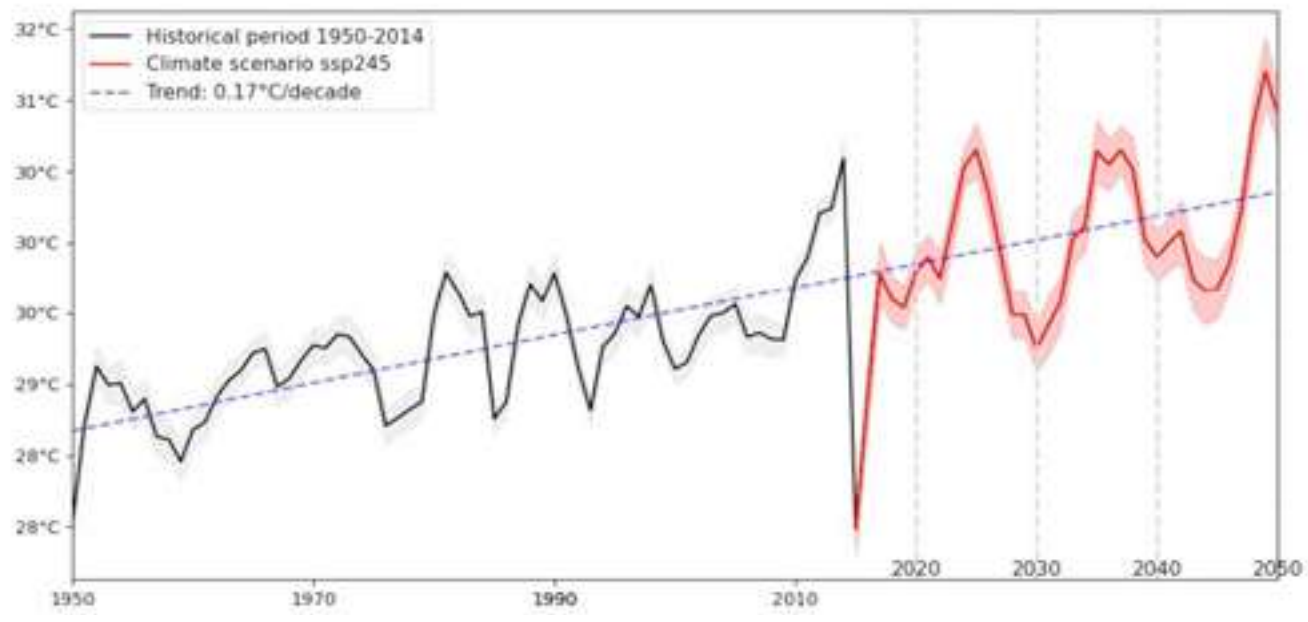
Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 0.07°C by 2030, rising from a baseline of 30.42°C to 30.49°C. The projected trend is 0.14°C per decade.



Distribution Center and Tube Plant – Lurín

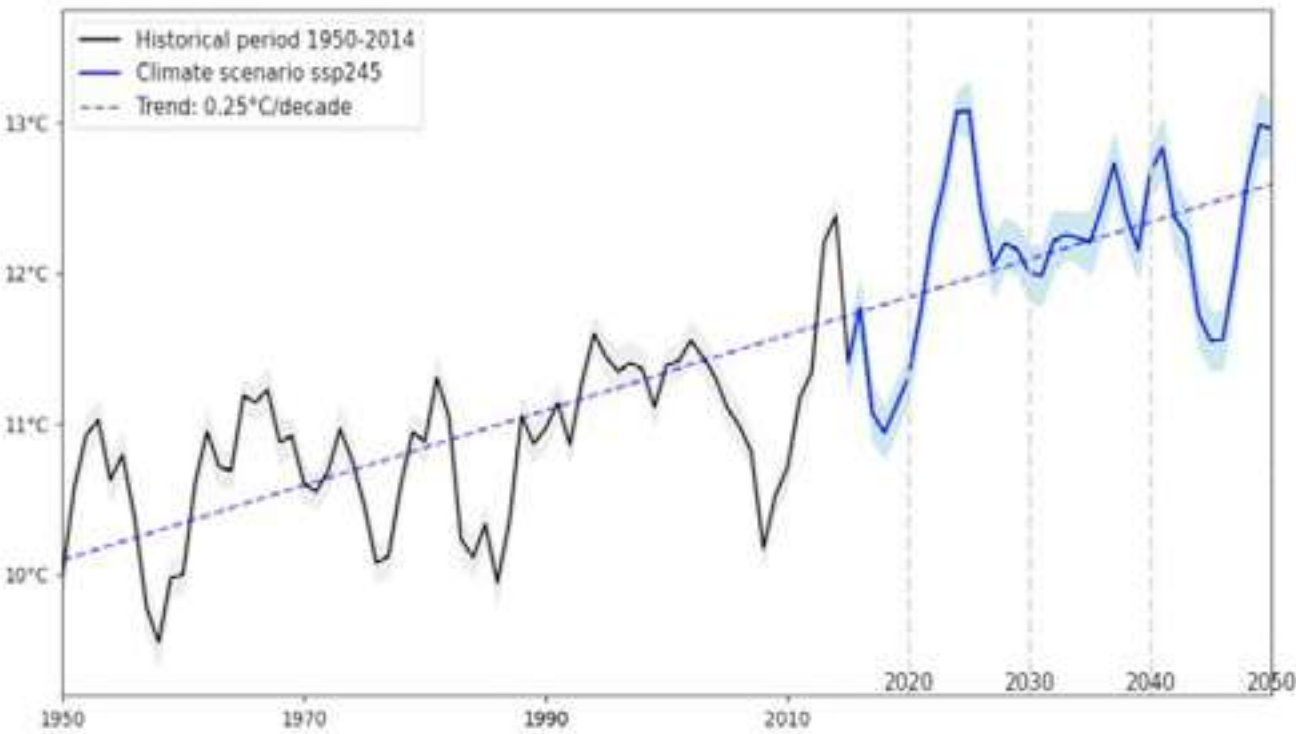
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 0.01°C by 2030, rising from a baseline of 29.23°C to 29.24°C. The projected trend is 0.17°C per decade..



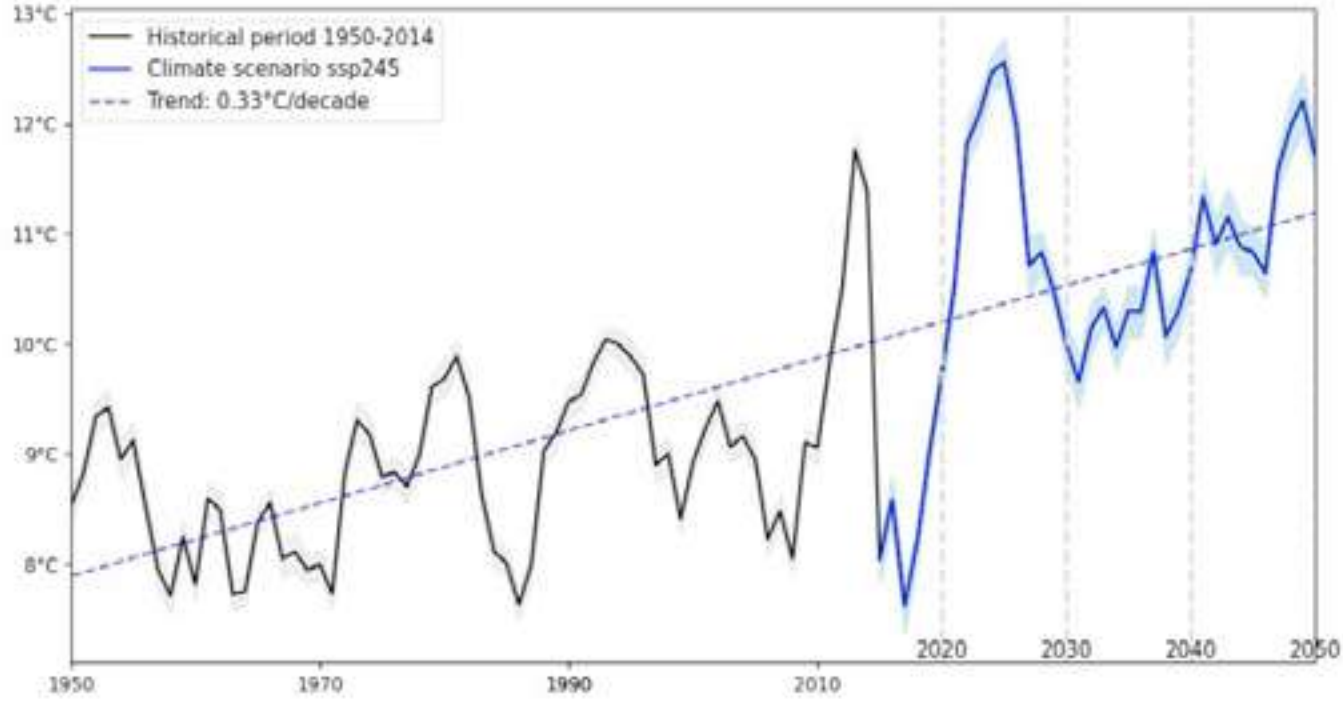
COLD RISK:

Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 1.16°C by 2030, rising from a baseline of 10.84°C to 12.00°C. The projected trend is 0.25°C per decade.



COLD RISK:

Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 1.08°C by 2030, rising from a baseline of 8.92°C to 10.00°C. The projected trend is 0.33°C per decade.





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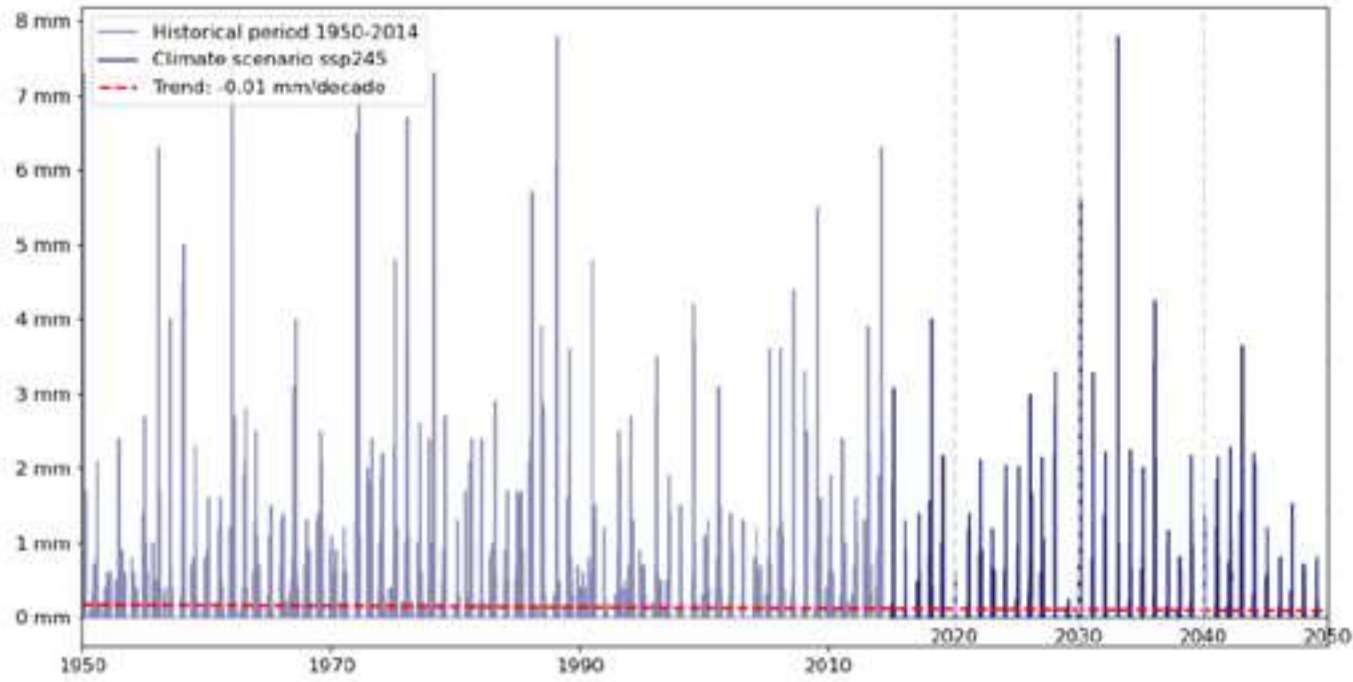
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Steel Complex – Pisco

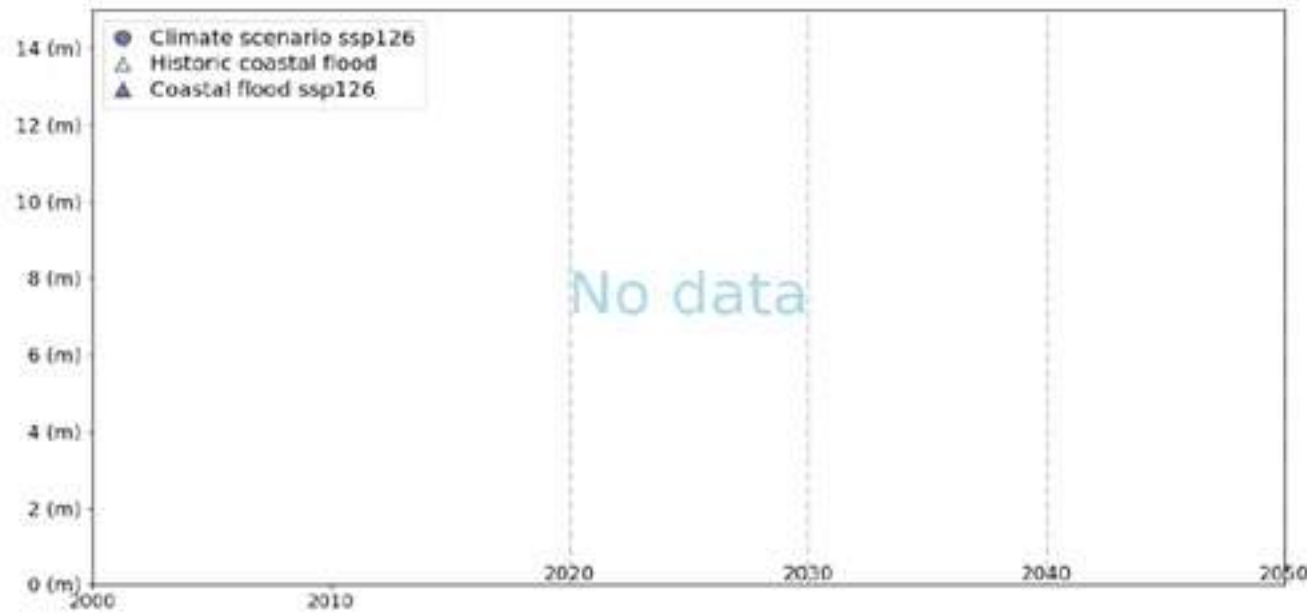
PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to the levels observed during the 1970s. However, the maximum 5-day precipitation is expected to increase by an average of 0.07 mm by 2030, rising from a baseline of 0.15 mm to 0.22 mm.



FLOOD RISK:

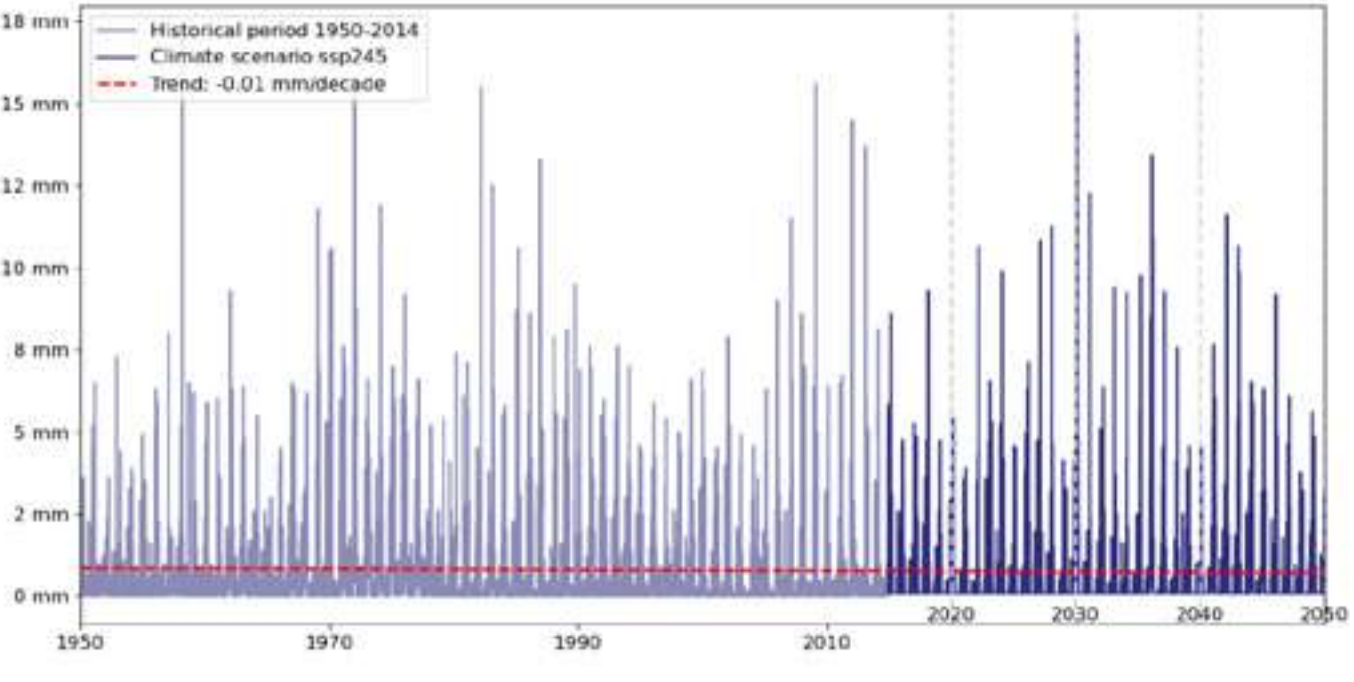
Flood risk at this asset is assessed as not applicable (N/A) relative to the levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Distribution Center and Tube Plant – Lurín

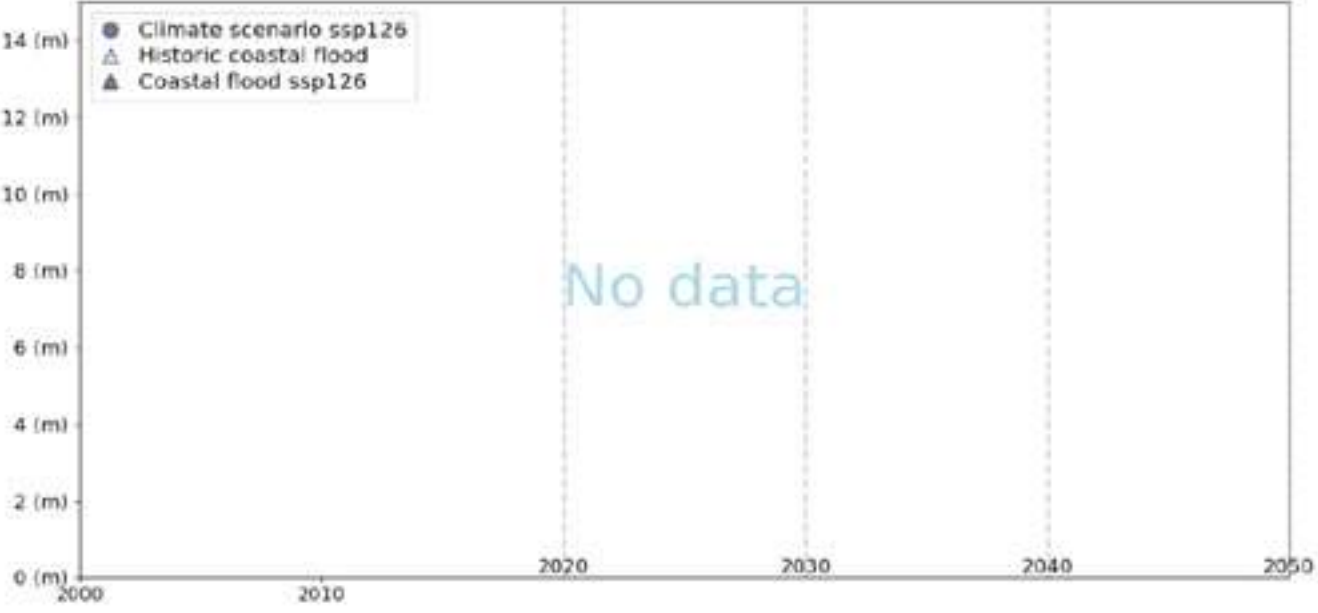
PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to the levels observed during the 1970s. However, the maximum 5-day precipitation is expected to increase by an average of 0.23 mm by 2030, rising from a baseline of 0.80 mm to 1.03 mm.



FLOOD RISK:

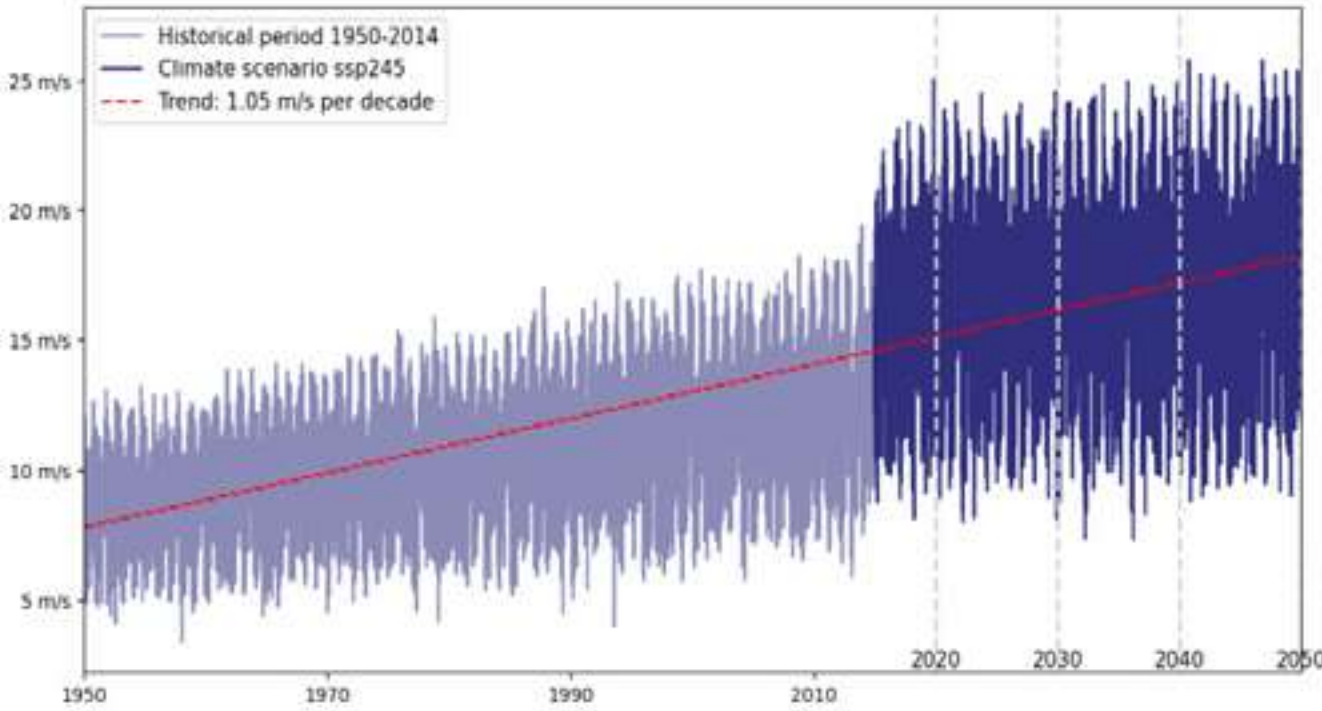
Flood risk at this asset is assessed as not applicable (N/A) relative to the levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Steel Complex - Pisco

WIND RISK:

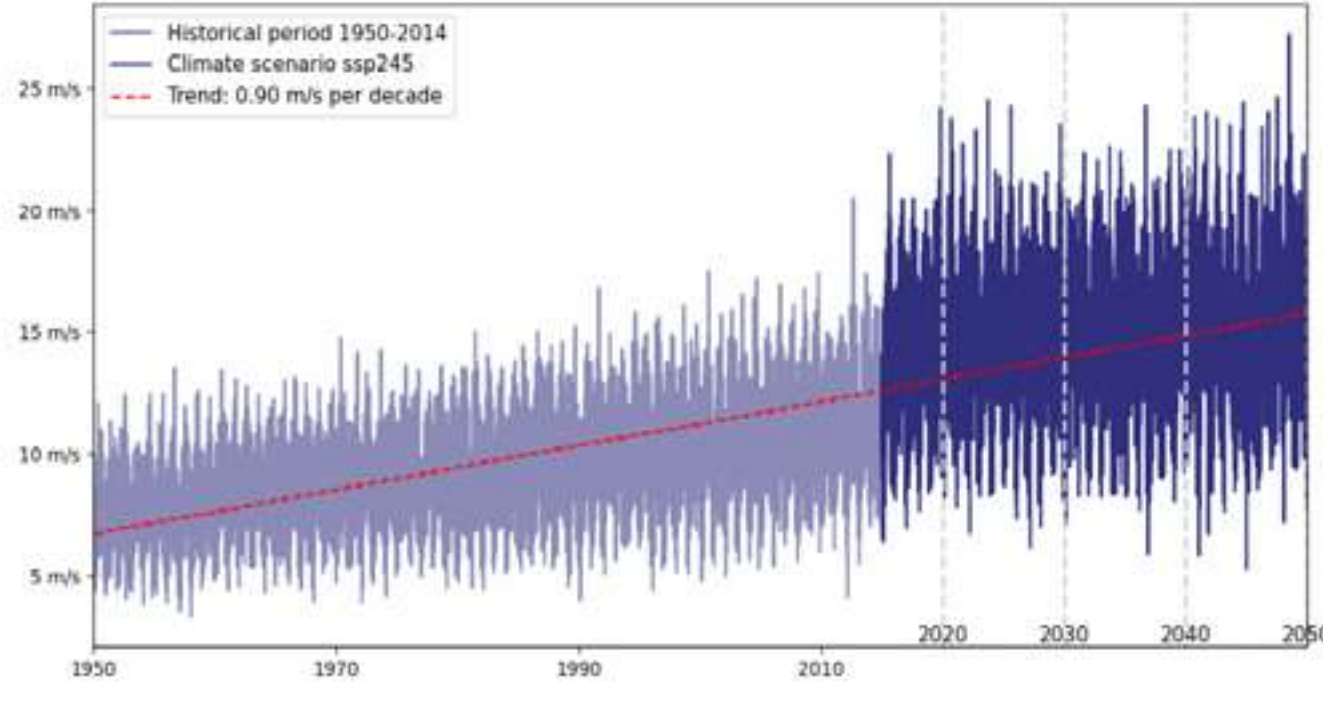
Wind risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 6.03 m/s by 2030, rising from a baseline of 10.83 m/s to 16.86 m/s. The projected trend is 1.05 m/s per decade.



Distribution Center and Tube Plant - Lurín

WIND RISK:

Wind risk at this asset is projected to increase on average relative to the levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 5.09 m/s by 2030, rising from a baseline of 9.34 m/s to 14.43 m/s. The projected trend is 0.90 m/s per decade.

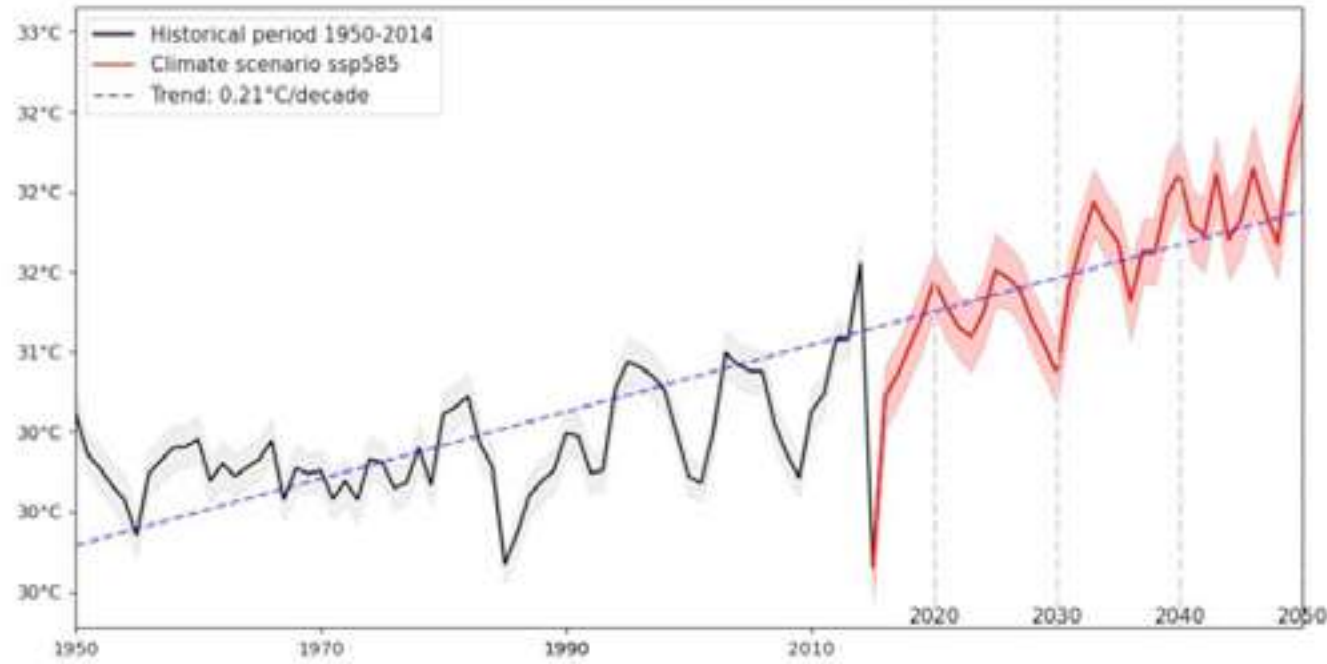


IPCC AR6 MODEL PROJECTIONS – SSP3-7.0

Steel Complex – Pisco

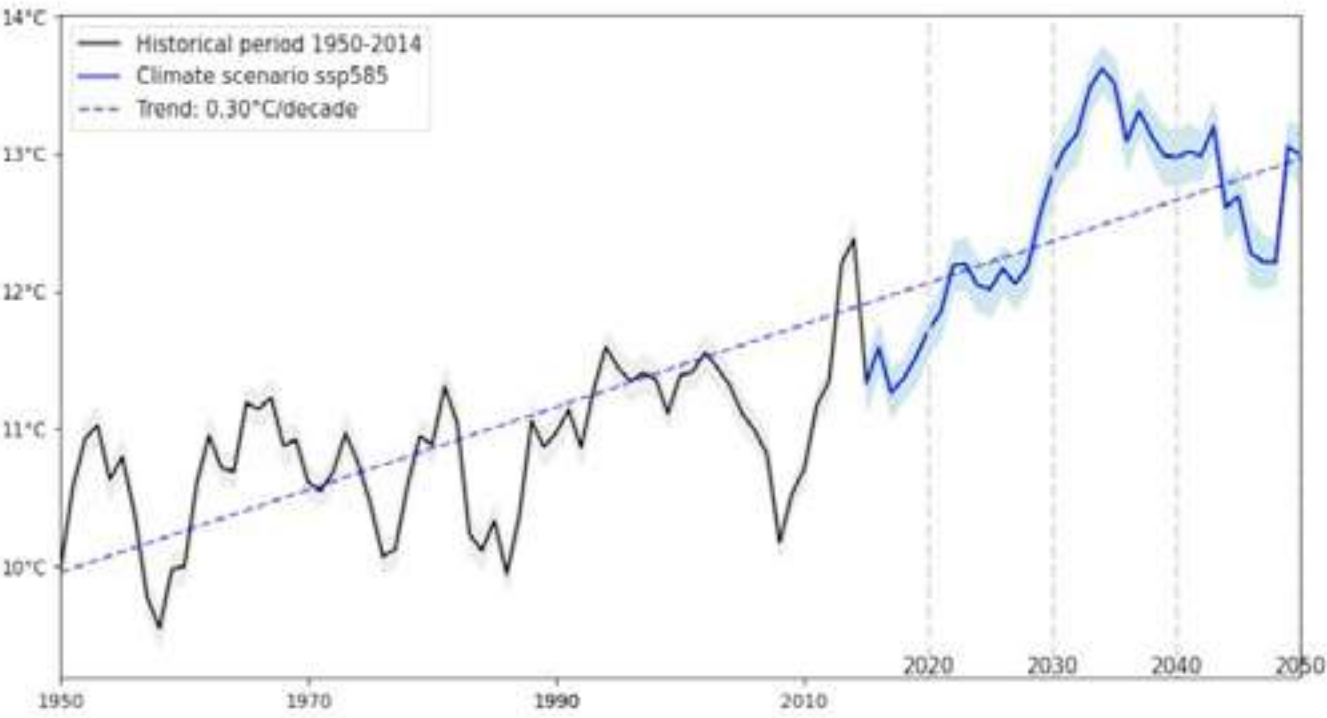
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 1.02°C by 2030, rising from a baseline of 30.42°C to 31.44°C. The projected trend is 0.23°C per decade.



COLD RISK:

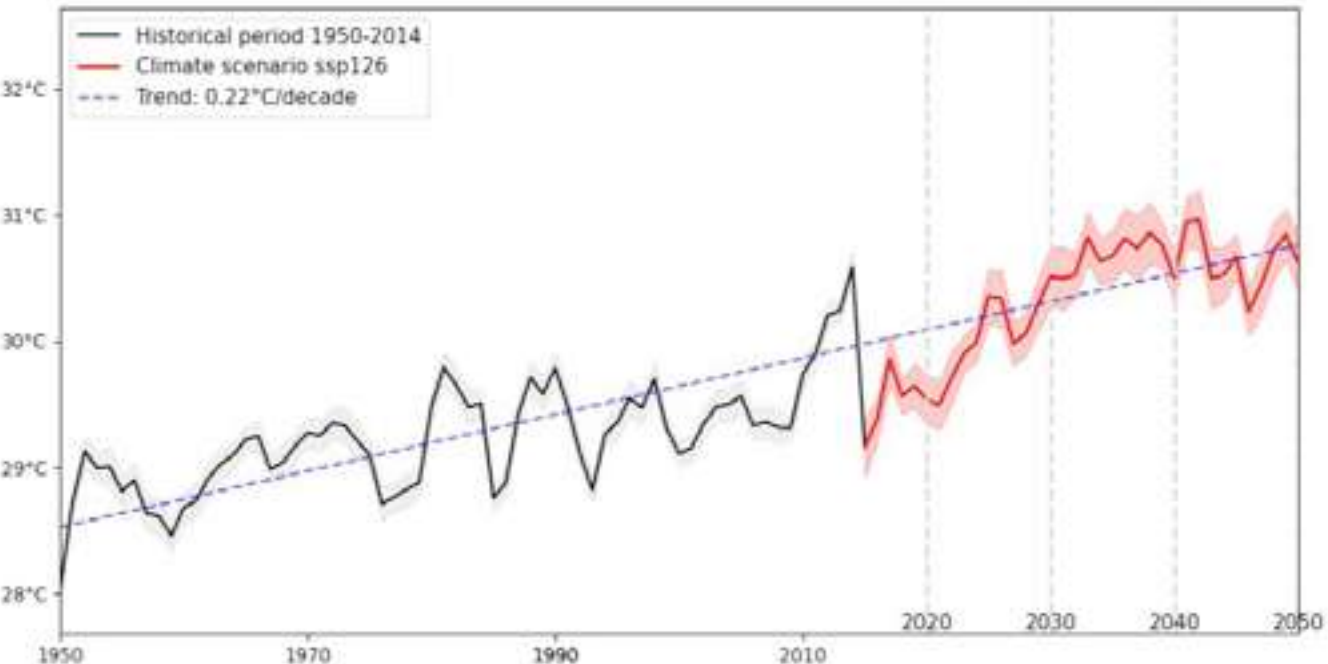
Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 2.15°C by 2030, rising from a baseline of 10.84°C to 12.99°C. The projected trend is 0.35°C per decade.



Distribution Center and Tube Plant – Lurín

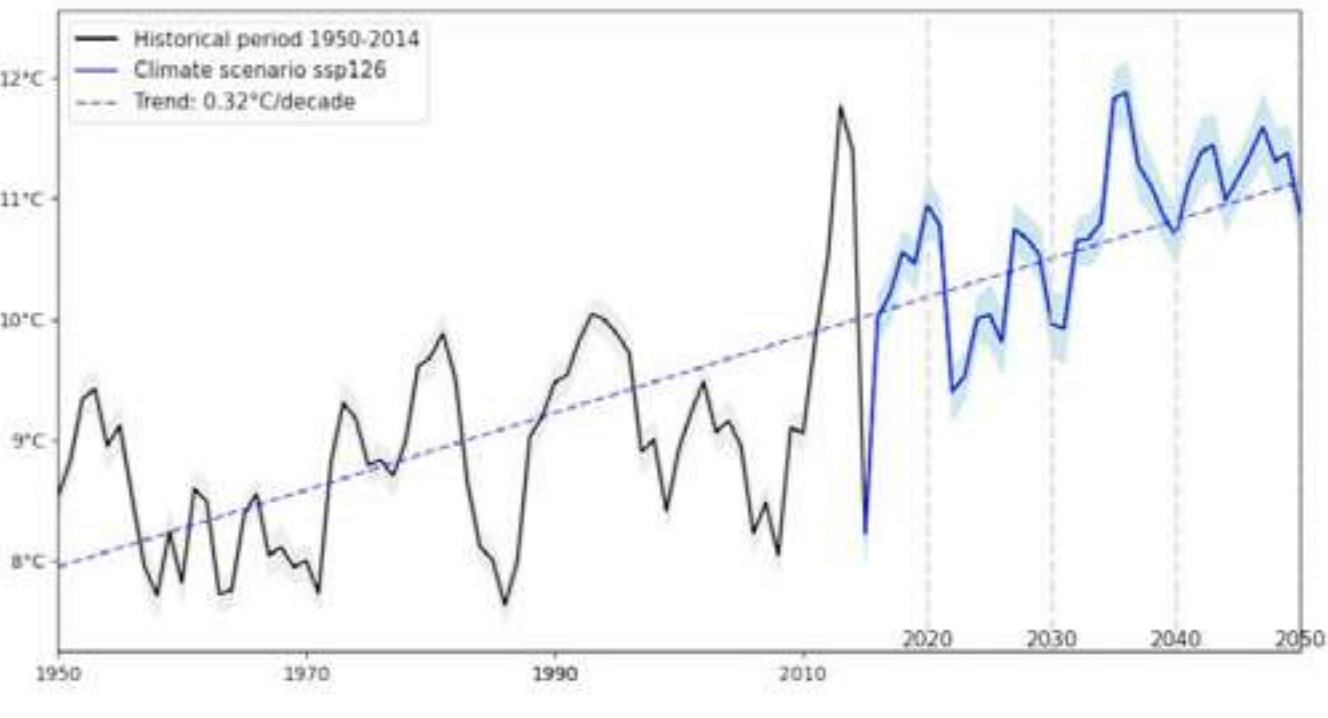
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 1.21°C by 2030, rising from a baseline of 29.42°C to 30.63°C. The projected trend is 0.21°C per decade.



COLD RISK:

Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 1.09°C by 2030, rising from a baseline of 8.95°C to 10.04°C. The projected trend is 0.34°C per decade.





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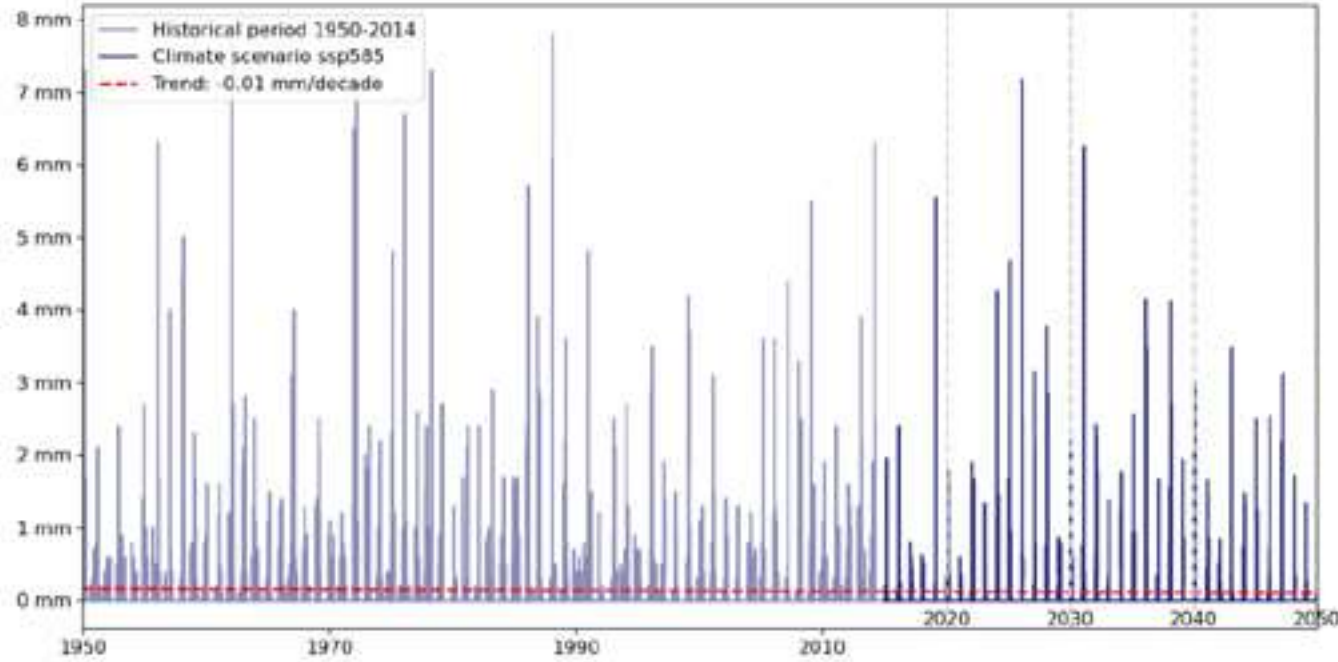
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Steel Complex - Pisco

PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to levels observed during the 1970s. Maximum 5-day precipitation is expected to decrease by an average of 0.09 mm by 2030, declining from a baseline of 0.15 mm to 0.06 mm.



FLOOD RISK:

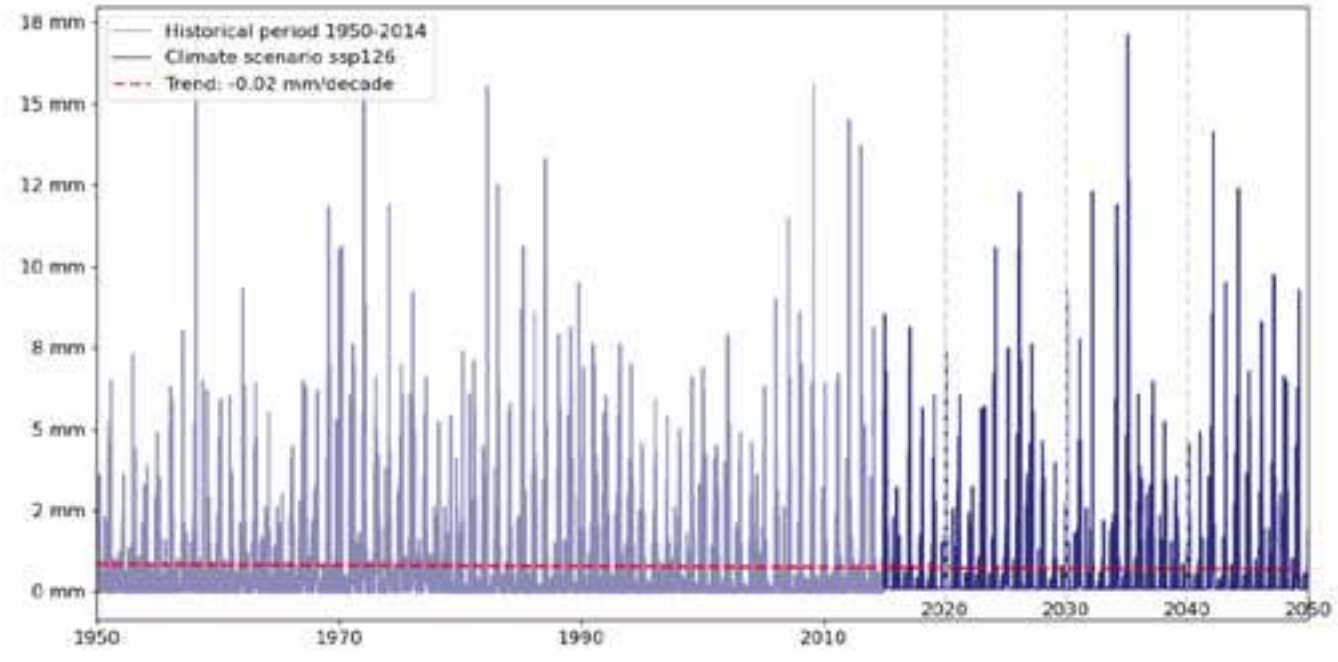
Flood risk at this asset is assessed as not applicable (N/A) relative to levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Distribution Center and Tube Plant - Lurín

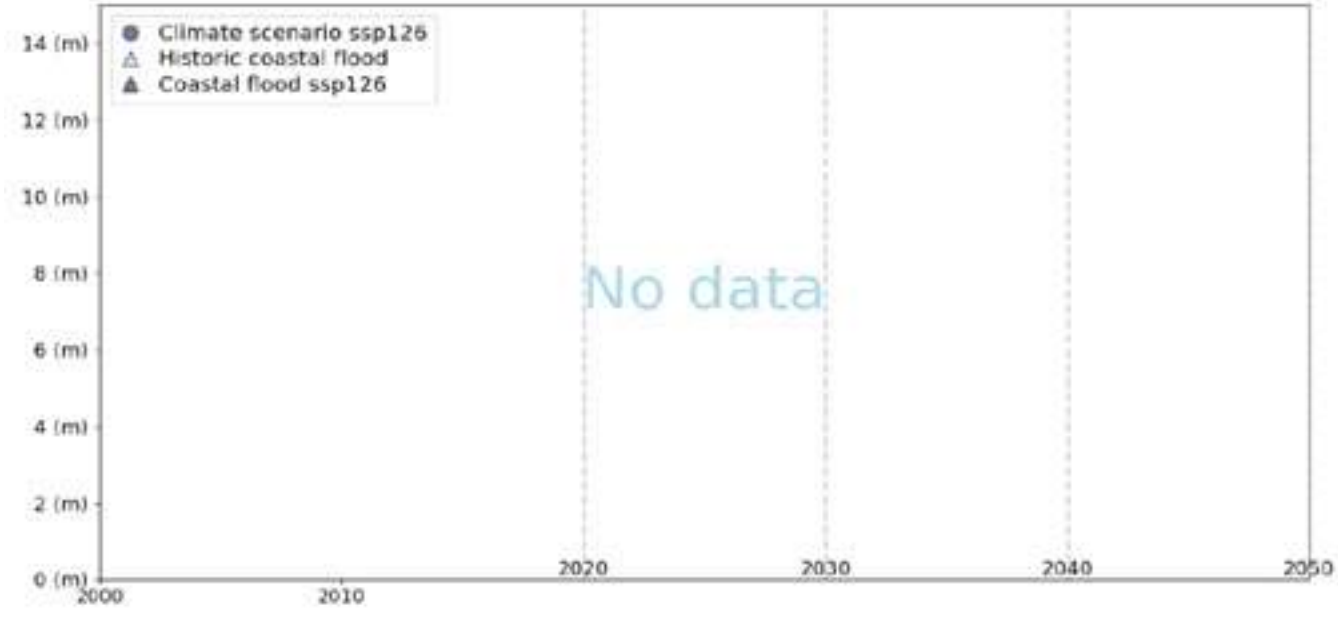
PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to levels observed during the 1970s. Maximum 5-day precipitation is expected to decrease by an average of 0.08 mm by 2030, declining from a baseline of 0.15 mm to 0.07 mm.



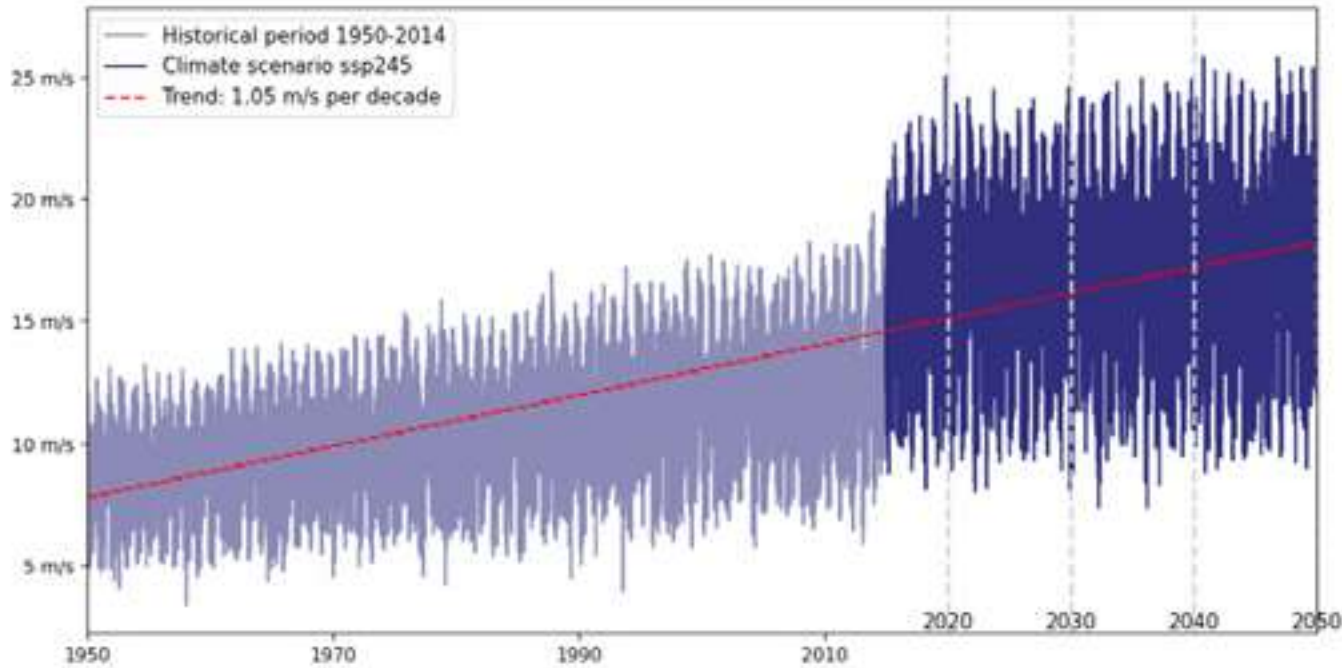
FLOOD RISK:

Flood risk at this asset is assessed as not applicable (N/A) relative to levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



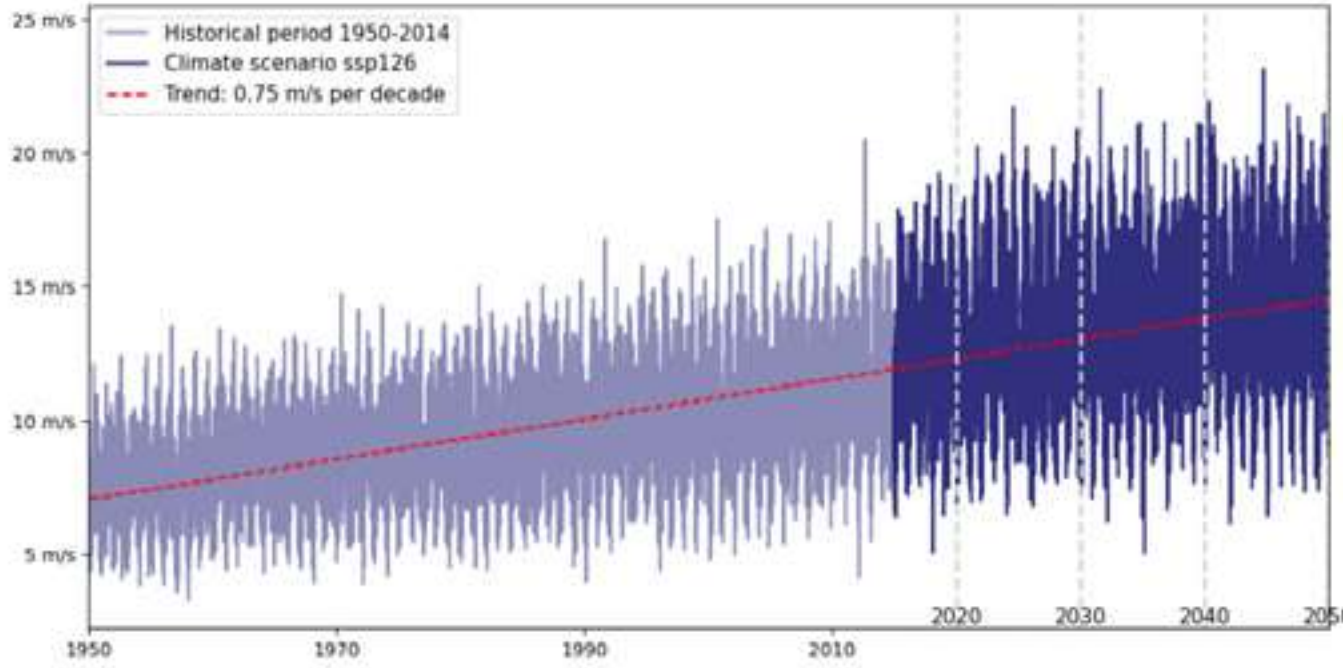
Steel Complex - Pisco

WIND RISK:
Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 5.45 m/s by 2030, rising from a baseline of 10.83 m/s to 16.28 m/s. The projected trend is 1.05 m/s per decade.



Distribution Center and Tube Plant - Lurín

WIND RISK:
Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 5.48 m/s by 2030, rising from a baseline of 10.83 m/s to 16.31 m/s. The projected trend is 1.07 m/s per decade.

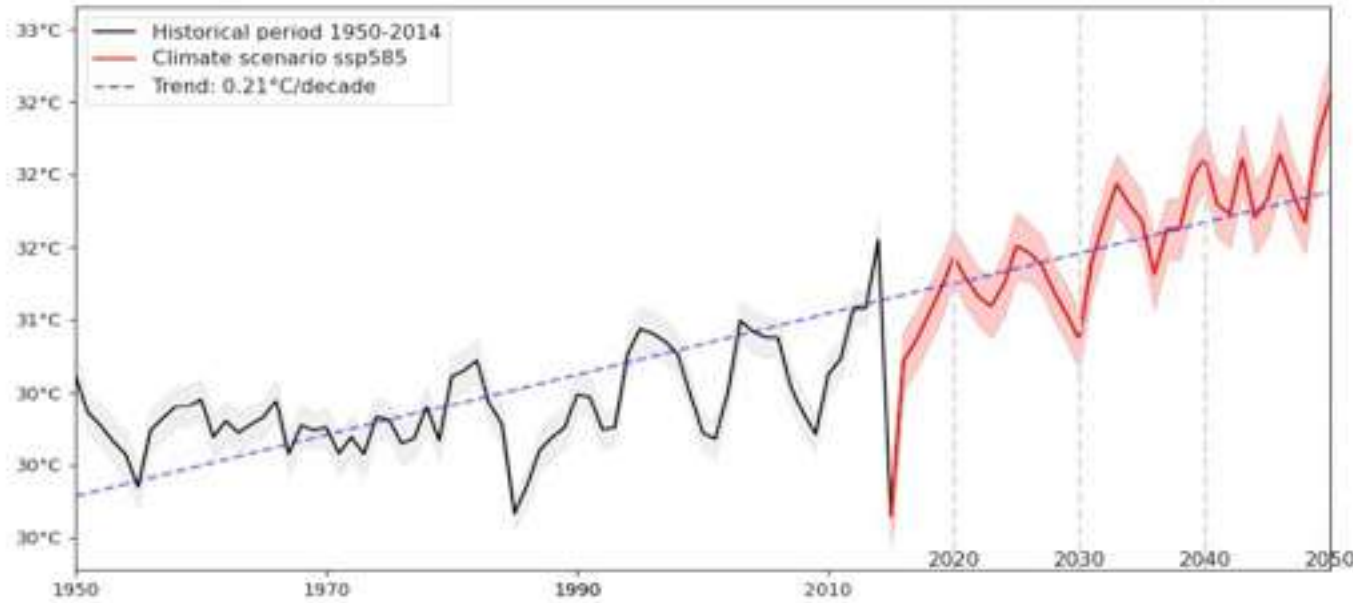


PROYECCIONES DE LOS MODELOS – IPCC AR6 SSP5-8.5

Steel Complex – Pisco

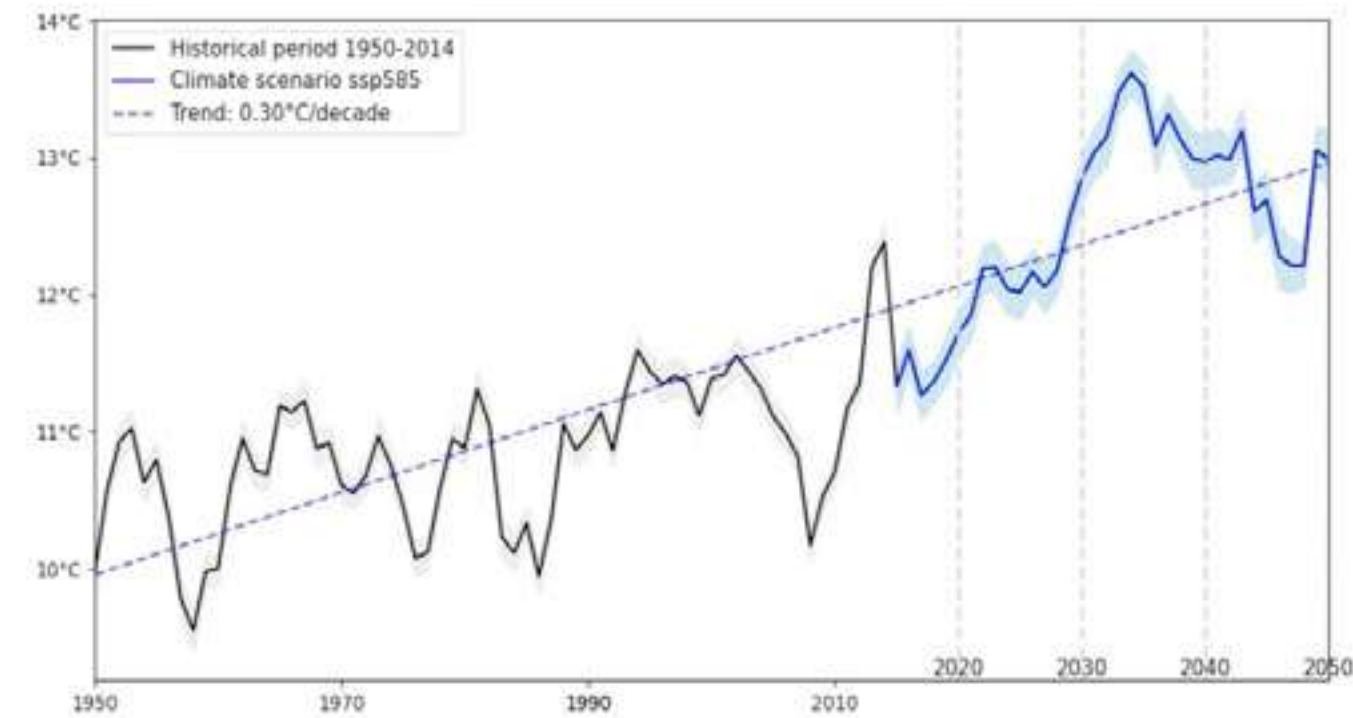
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 0.44°C by 2030, rising from a baseline of 30.42°C to 30.86°C. The projected trend is 0.21°C per decade..



COLD RISK:

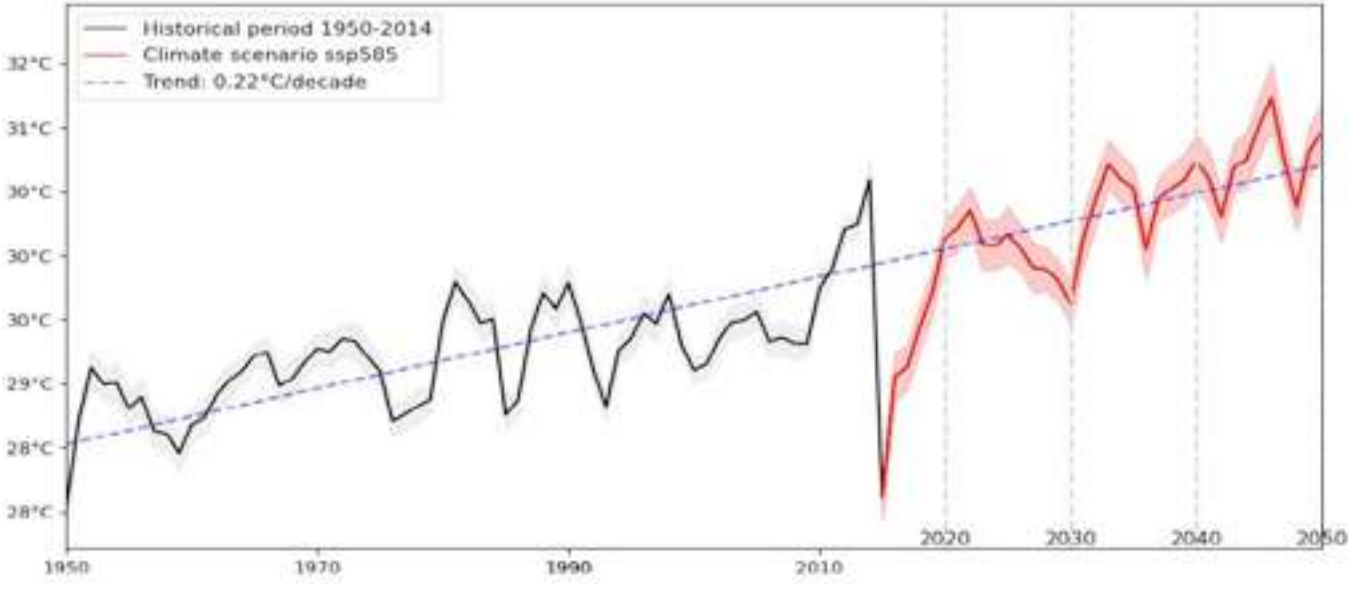
Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 2.01°C by 2030, rising from a baseline of 10.84°C to 12.85°C. The projected trend is 0.30°C per decade.



Distribution Center and Tube Plant – Lurín

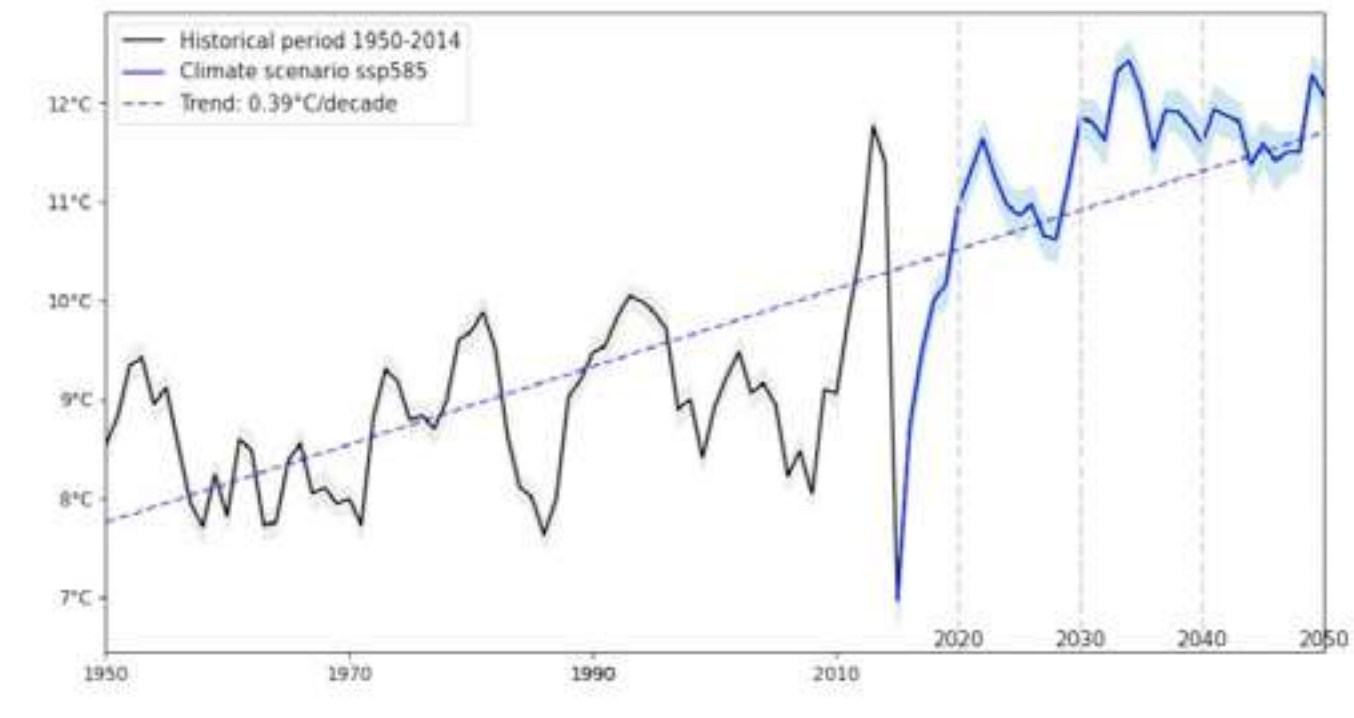
HEAT RISK:

Heat risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum temperature is expected to increase by an average of 0.39°C by 2030, rising from a baseline of 29.23°C to 29.63°C. The projected trend is 0.22°C per decade.



COLD RISK:

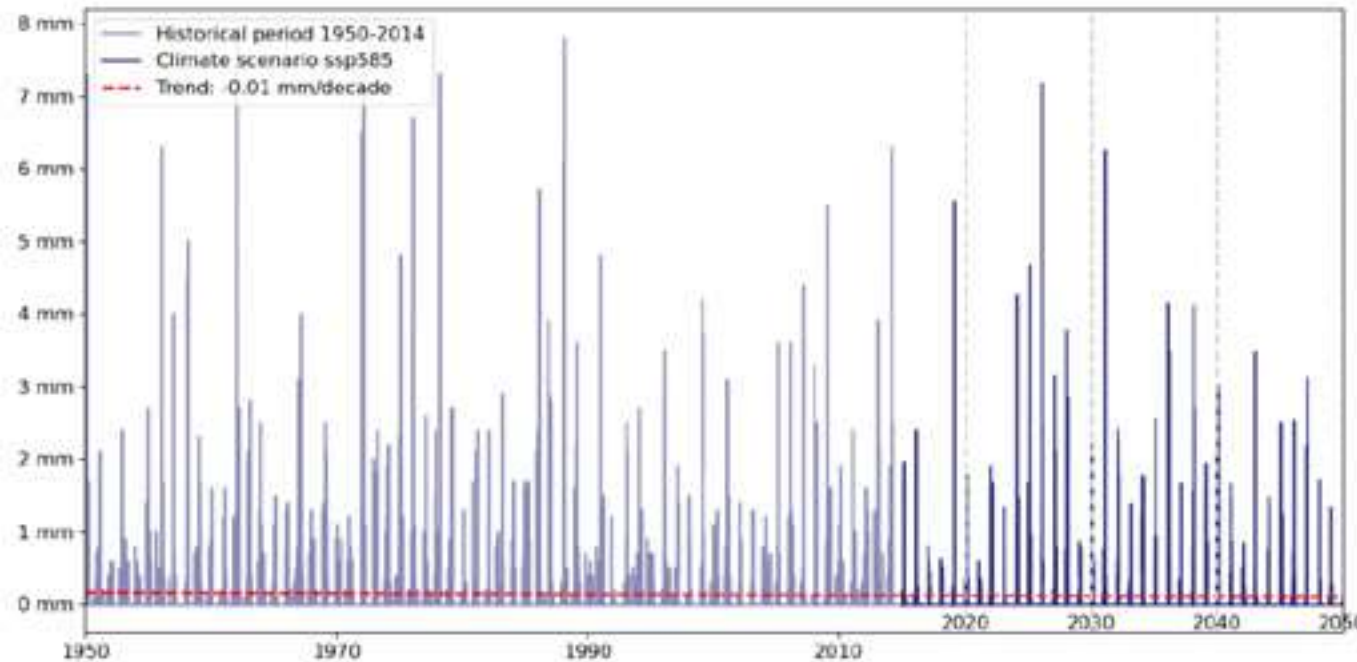
Cold risk at this asset is projected to increase on average relative to levels observed during the 1970s. Minimum temperature is expected to increase by an average of 2.93°C by 2030, rising from a baseline of 8.92°C to 11.85°C. The projected trend is 0.39°C per decade.



Steel Complex - Pisco

PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to levels observed during the 1970s. Maximum 5-day precipitation is expected to decrease by an average of 0.08 mm by 2030, declining from a baseline of 0.15 mm to 0.07 mm.



FLOOD RISK:

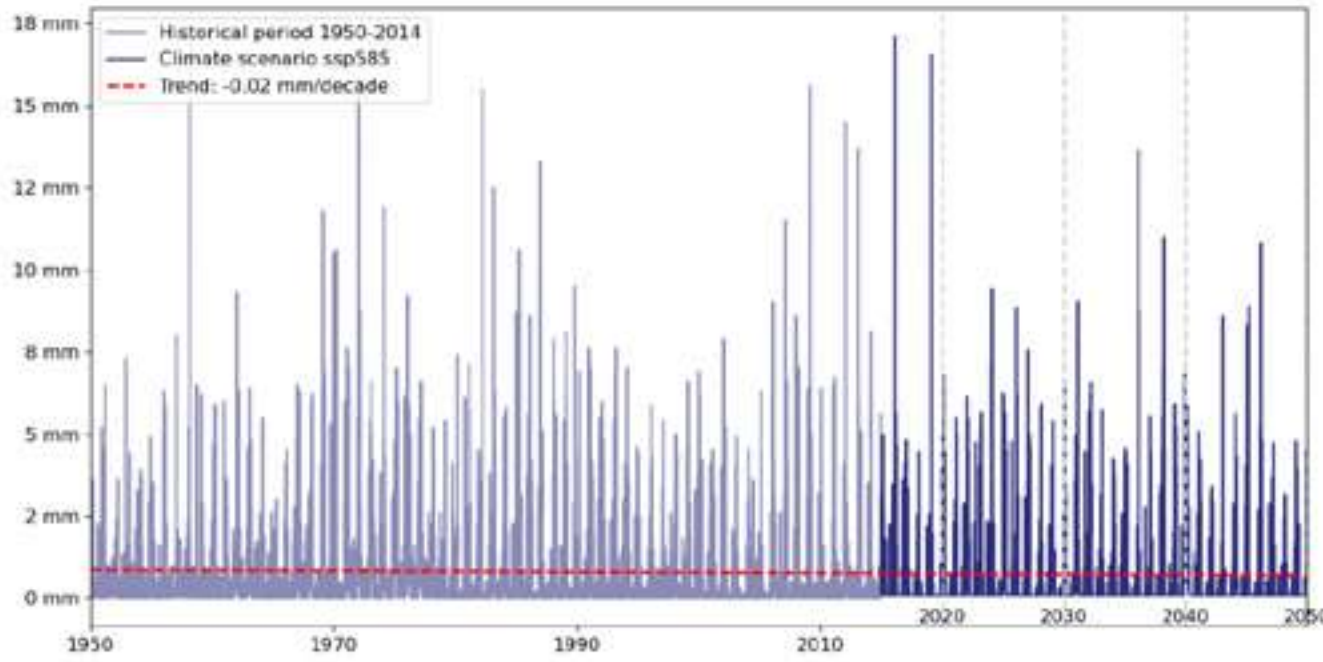
Flood risk at this asset is assessed as not applicable (N/A) relative to levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Distribution Center and Tube Plant - Lurín

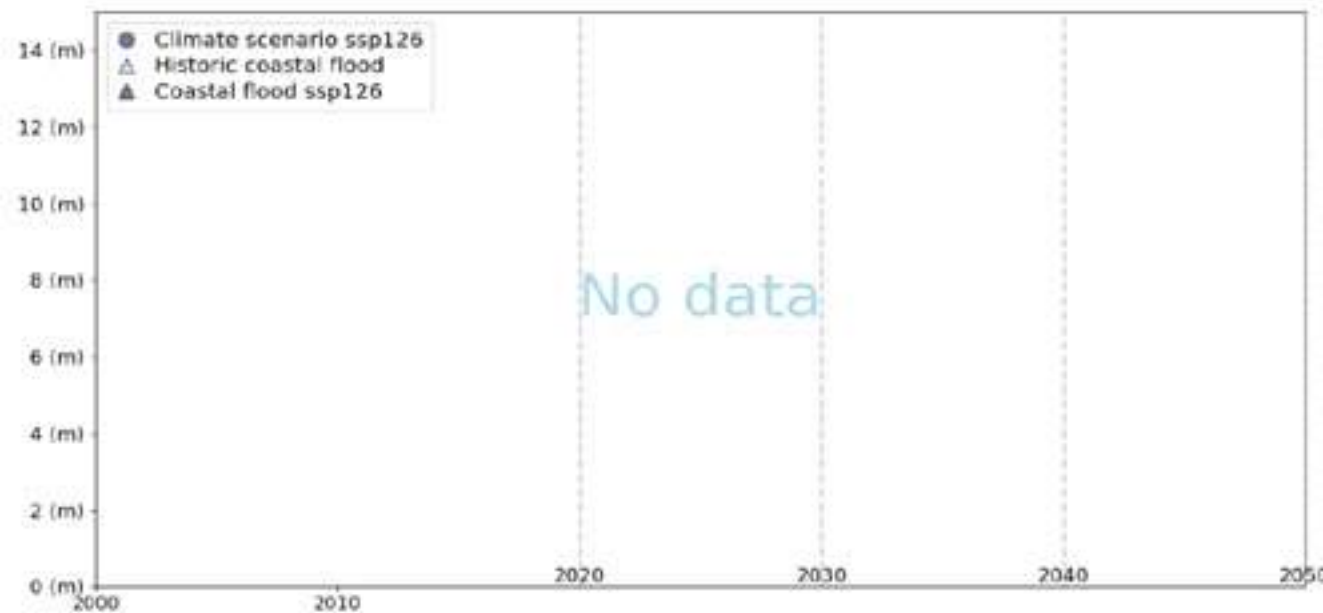
PRECIPITATION RISK:

Precipitation risk at this asset is projected to decrease on average relative to levels observed during the 1970s. Maximum 5-day precipitation is expected to decrease by an average of 0.19 mm by 2030, declining from a baseline of 0.80 mm to 0.61 mm.



FLOOD RISK:

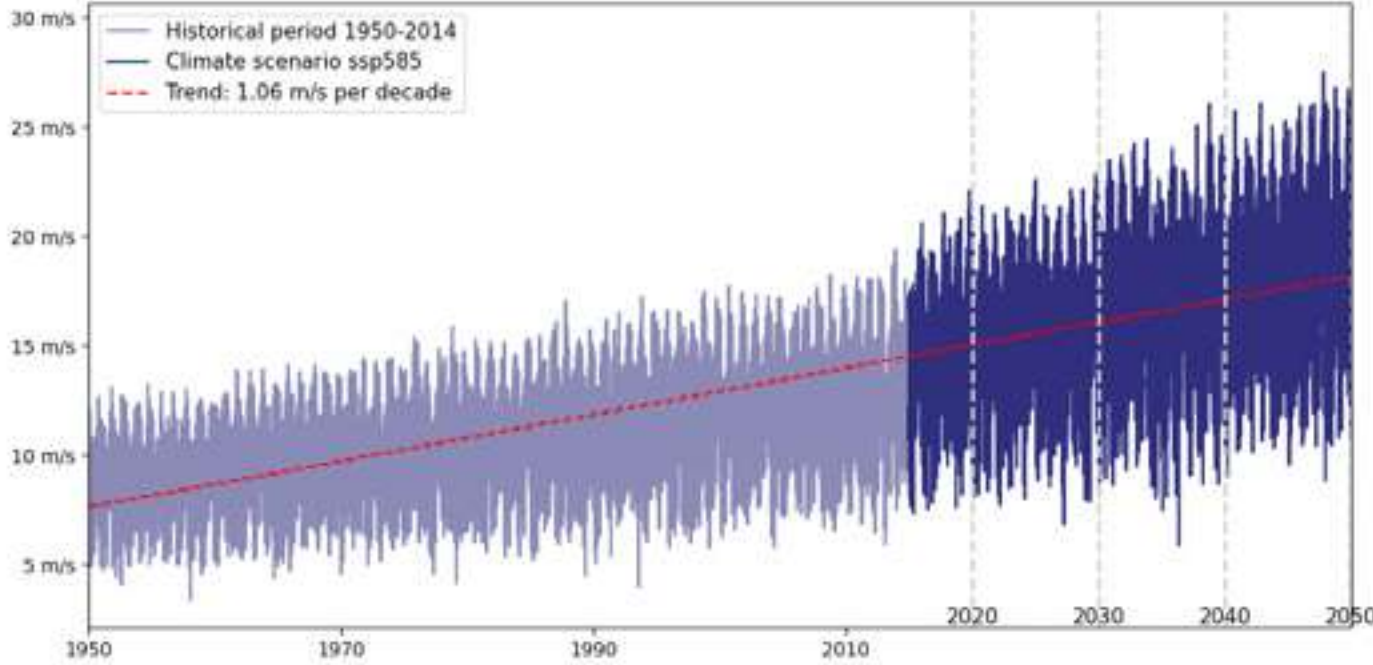
Flood risk at this asset is assessed as not applicable (N/A) relative to levels observed during the 1970s. River flood depth is expected to remain not applicable (N/A) by 2030, with no measurable change from the baseline.



Steel Complex - Pisco

WIND RISK:

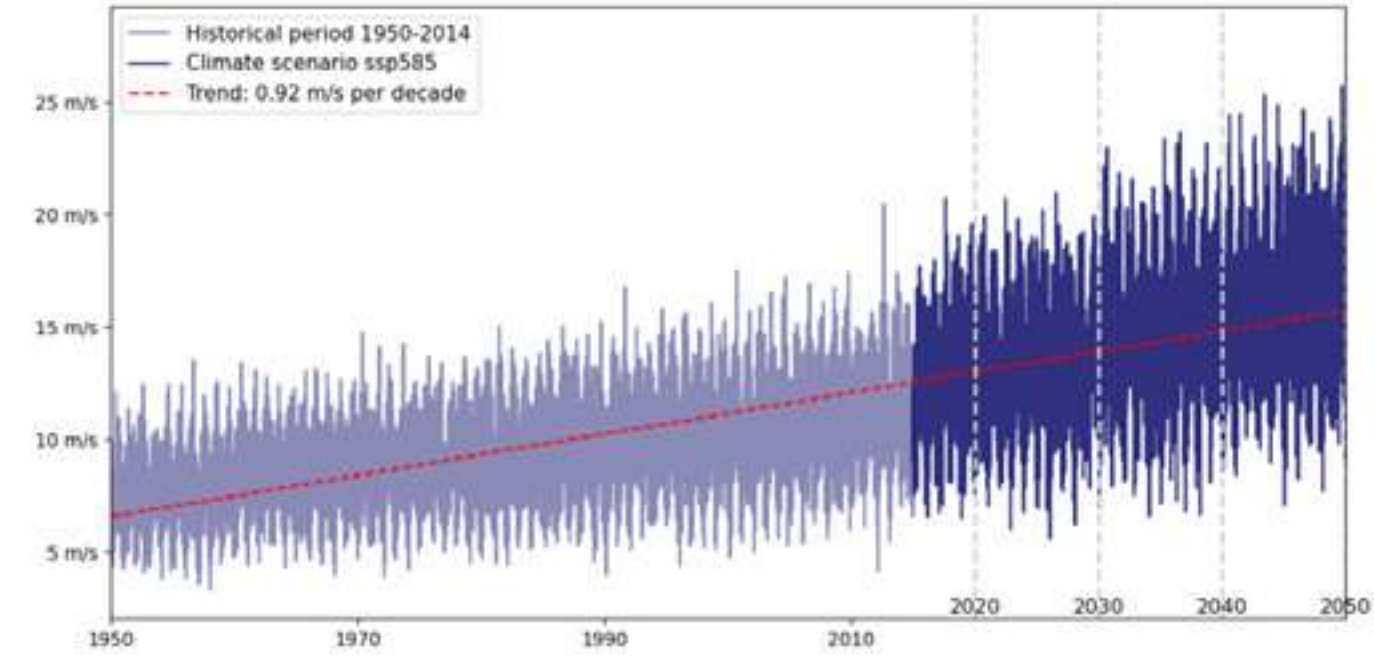
Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 5.50 m/s by 2030, rising from a baseline of 10.83 m/s to 16.33 m/s. The projected trend is 1.06 m/s per decade.



Distribution Center and Tube Plant - Lurín

WIND RISK:

Wind risk at this asset is projected to increase on average relative to levels observed during the 1970s. Maximum extreme wind speed is expected to increase by an average of 5.08 m/s by 2030, rising from a baseline of 9.34 m/s to 14.42 m/s. The projected trend is 0.92 m/s per decade.



**KEY FINDINGS FROM THE PHYSICAL RISK ASSESSMENT
OF THE PISCO STEEL COMPLEX**

Diagnosis

The Pisco Steel Complex presents an average Global Risk Signal of 145 (Moderate level), with a slight upward trend between 2030 and 2050 across all IPCC AR6 climate scenarios: SSP1-2.6 (132→135→136), SSP2-4.5 (144→145→149), SSP3-7.0 (145→148→150), and SSP5-8.5 (151→152→153), while overall severity remains around Moderate (≈17–18). The dominant hazards are heat and drought/water stress, with increasing wind speeds toward 2050 and a low contribution from precipitation; river flooding is not applicable in Pisco due to the absence of permanent watercourses. However, during El Niño episodes, exposure to intense rainfall and localized flooding is moderate, analogous to the events experienced in 1982–83, 1997–98, and 2017.

Considering the most extreme climate scenario according to the IPCC AR6, corresponding to the “AR6 SSP5-8.5” projection, and distinguishing by specific hazards, heat intensifies (+0.44°C increase in average temperature by 2030, from 30.42°C to 30.86°C), with the possibility of up to approximately 89 days per year above 28°C, similar to February 2024; cold decreases operationally due to rising minimum temperatures (+2.01°C by 2030, from 10.84°C to 12.85°C); precipitation extremes decrease slightly (–0.08 mm by 2030); extreme wind increases significantly and becomes more relevant toward 2050 (+5.50 m/s by 2030, from 10.83 m/s to 16.33 m/s; ≈1.06 m/s per decade). Likewise, Paracas winds (coastal channeling winds) show strengthening toward the end of 2050; and drought/wa-

ter stress may become extreme during La Niña phases, with the potential to exceed the severe drought of 2004–05. No flood signal is identified for this site. For 2030 and 2040, the occurrence of heat waves with temperatures exceeding 28°C is projected, with an estimated frequency of 89 and 93 days per year, respectively, similar to or greater than those experienced in March 2017 and February 2024. Likewise, the Extreme Drought Index increases to –3.14 in 2030 and –6.73 in 2040. This phenomenon is stron-

gly influenced by La Niña conditions, under which the risks of water deficits and agricultural drought increase and may equal or exceed historical events such as 2003–2004 (severe drought/national emergency), 2014, 2015, 2016, March 2020, and October–December 2024. The entire area is exposed to extreme water stress during La Niña events. El Niño phenomenon: due to this phenomenon, rainfall increases intermittently at this location, and flash flooding in surrounding areas may be expectededdores.





Based on the hydrological modeling carried out and historical evidence, if rainfall events are prolonged, consecutive, or highly intense, the potential for flooding, exceedance of hydraulic thresholds, and erosion of riverbanks near the high-voltage transmission line increases significantly. As objective references, the Pisco River reached approximately 257.7 m³/s (red hydrological threshold, February 2024) and approximately 450 m³/s (February 2012), flow rates capable of cutting off access routes, increasing flow velocities beyond the critical thresholds of riverbank materials, and undermining the utility pole adjacent to the river channel, with the risk of loss of vertical stability and localized power supply interruptions. These scenarios are typically triggered during El Niño/Coastal El Niño conditions due to intense rainfall in the upper Andes, with high hourly rainfall peaks (mm/hr) and extreme daily accumulations.

Historical Events

Dominant pattern (Pisco; -13.792, -76.170): peaks in river flooding and urban inundation are associated with El Niño 1982–83 and 1997–98, as well as the rainy seasons of 2017 (Coastal El Niño) and 2024; in addition, recurring Paracas winds (winter–spring) reduce visibility and damage roofing and signage. In the Ica Valley (which includes Pisco), major flooding events were documented in 1983, 1986, and 1998, associated with channel alterations and intense rainfall in the Andes. During February–March 1998 (El Niño 1997–98), extensive damage was reported in Ica; the Province of Pisco experienced river overflows and impacts on transportation and agriculture. In February 2012, the Pisco River reached approximately 450

m³/s, affecting 251 families (Huancano, Huamani Bridge), in a compound event involving Andean rainfall, river overflow, and flooding. During January–March 2017 (Coastal El Niño), flows in the Pisco River were well above average and SENAMHI issued warnings for intense winds in Pisco (gusts ≥40–44 km/h), generating blowing sand and reduced visibility. In February 2024, the Pisco River reached the red hydrological threshold (257.7 m³/s) with a risk of overflow; during that summer, rainfall-related emergencies were declared in several districts along the central coast. At the same time, the area faces chronic water stress due to the overexploitation of the Ica–Pisco aquifer, increasing vulnerability to droughts, storm surges, and water supply interruptions. In conclusion, the recurrence of impacts in Pisco is explained by ocean–atmosphere drivers (El Niño/Coastal El Niño), Andean rainfall that feeds the Pisco River basin, and Paracas winds; typical damages include road and port disruptions, drainage system failures, agricultural impacts, and service interruptions.

KEY FINDINGS FROM THE PHYSICAL RISK ASSESSMENT OF THE DISTRIBUTION CENTER AND TUBE PLANT – LURÍN

Diagnosis

The Distribution Center and Tube Plant – Lurín presents an average Global Risk Signal of 131 (Low level), with a slight increase between 2030 and 2050 across all IPCC AR6 scenarios: SSP1-2.6 (126→128→128), SSP2-4.5 (130→131→134), SSP3-7.0 (131→133→135), and SSP5-8.5 (132→133→136). The dominant hazards, according to the global distribution, are heat (~43.4%) and drought/water

stress (~24.9%), followed by wildfires (~15.3%), extreme wind (~9.3%), and precipitation (~7.0%); river flooding is not applicable at the site due to the absence of permanent watercourses, although during El Niño episodes, exposure to intense rainfall and localized flooding is moderate, with analogues to 1982–83, 1997–98, and 2017..

Considering the most extreme climate scenario according to the IPCC AR6, corresponding to the “AR6 SSP5–8.5” projection, and distinguishing by specific hazards, heat intensifies (+0.39°C average increase by 2030, 29.23→29.63°C; trend of 0.22°C/decade), with the possibility of approximately 44 days/year >28°C in 2030 and approximately 46 days/year in 2040, in line with observations from March 2017 and February 2024; cold decreases operationally due to rising minimum temperatures (+2.93°C by 2030, 8.92→11.85°C; trend of 0.39°C/decade); precipitation extremes show a slight decrease; extreme wind increases moderately (+5.08 m/s by 2030, 9.34→14.42 m/s; ≈0.92 m/s/decade); likewise, the Extreme Drought Index increases to -3.38 in 2030 and -5.79 in 2040. This phenomenon is strongly influenced by the predominance of La Niña, during which the risks of water deficit and agricultural drought increase and may equal or exceed historical events such as 2003–2004 (severe drought/national emergency), 2014, 2015, 2016, March 2020, and October–December 2024. The entire area is exposed to extreme water stress during La Niña events. El Niño phenomenon: due to this phenomenon, rainfall increases intermittently at this location, and flash flooding is expected in surrounding areas.



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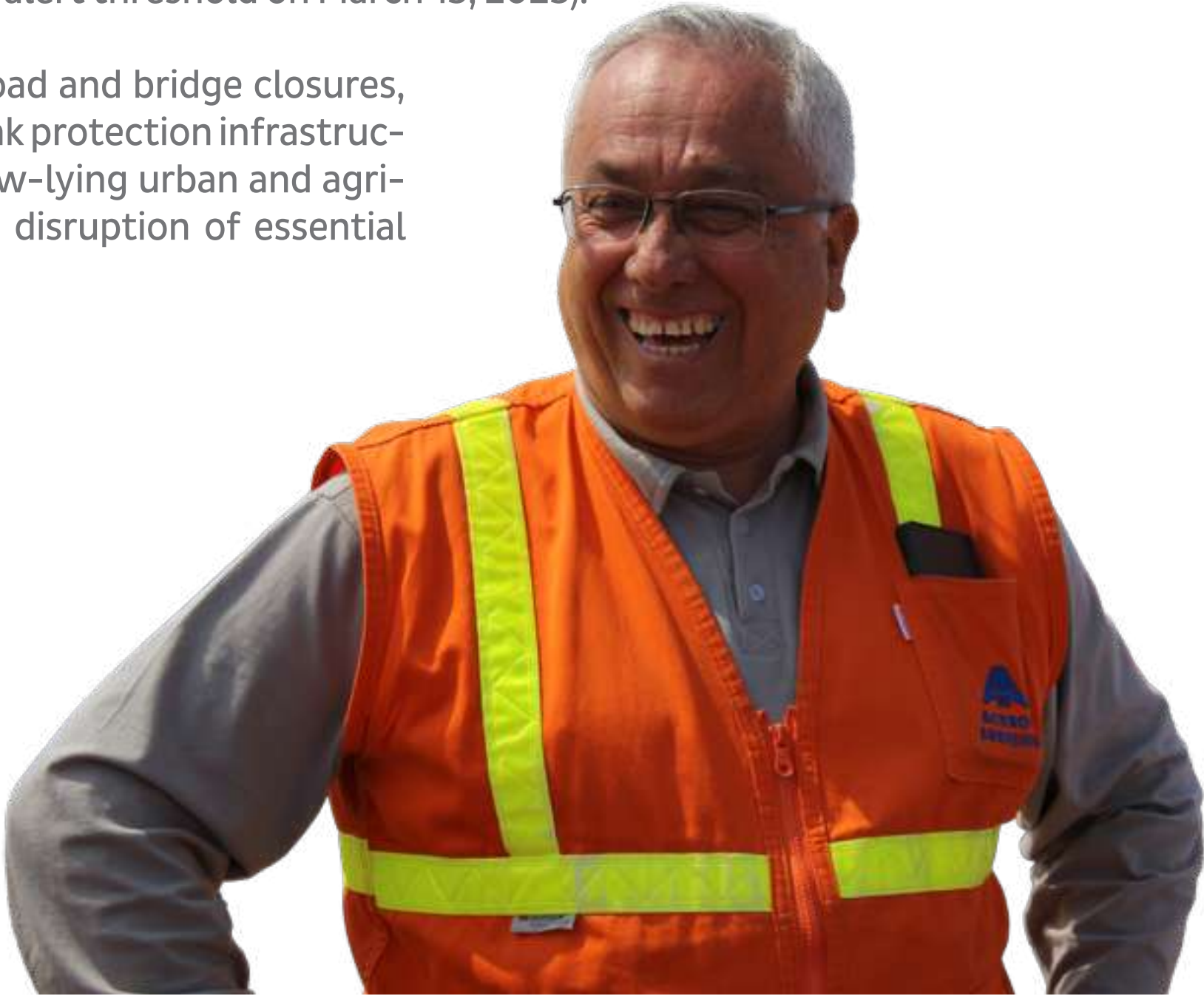


Historical Events

Dominant pattern (Lurín, Lima; -12.2689, -76.8099): Peak impacts are associated with ENSO events—particularly the 1982–83 and 1997–98 El Niño episodes, the 2017 Coastal El Niño, and the Yaku cyclone (March 2023)—which trigger flooding of the Lurín River and the activation of high-Andean ravines. These events are further compounded by urban flooding caused by limited drainage capacity in the valley.

Key events: The 1982–83 and 1997–98 El Niño events caused major flooding in Lima and led to the development of flood hazard maps for the Lurín River (CENEPRED/IGP, 2022). On March 5–6, 2015, the river overflowed in Pachacámac (Pampa Flores), affecting homes and agricultural lands. On March 14–16, 2017, a historic flood event prompted the closure of four bridges in Cieneguilla and the issuance of a red alert. At Antapucro, river discharge increased to 70–80 m³/s (compared to an average of approximately 23 m³/s), causing erosion of the riverfront embankment and retaining wall. On March 15–16, 2023 (Yaku event), the river overflowed near km 28 in Cieneguilla, resulting in casualties, missing persons, and significant damage. INDECI reported the event, while SENAMHI issued hydrological warnings (Antapucro discharge reached 35.26 m³/s, exceeding the yellow alert threshold on March 15, 2023).

Typical impacts: Road and bridge closures, damage to riverbank protection infrastructure, flooding in low-lying urban and agricultural areas, and disruption of essential services.





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ANNEX 13: PHYSICAL RISK ASSESSMENT UNDER NGFS SCENARIOS

High Considerable Moderate Low

Riesgos físicos		Orderly									Disorderly			Hot House World						Too Little, Too Late		
Code	Type	Low Demand			Net Zero 2050			Below 2°C			Delayed Transition			NDCs			Current Policies			Fragmented World		
		Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level	Imp.	Prob.	Level
RF1	Cronic	Mod. (2)	Low (1)	Low (2)	Mod. (2)	Low (1)	Low (2)	Mod. (2)	Mod. (2)	Mod. (4)	Mod. (2)	Mod. (2)	Mod. (4)	Mod. (2)	Consid. (4)	Consid. (8)	Mod. (2)	Consid. (4)	Consid. (8)	Mod. (2)	Consid. (4)	Consid. (8)
RF2	Acute	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)
RF3	Acute	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)
RF4	Cronic	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Low (1)	Mod. (4)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Mod. (2)	Consid. (8)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)	Consid. (4)	Consid. (4)	Consid. (16)

Source: Prepared by CAASA.
Note 1: The legend related to the risk assessment variables is as follows: Imp. = Impact, Prob. = Probability, Consid. = Considerable, and Mod. = Moderate.



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ANNEX 14: STRESS TESTING ANALYSIS OF GROUNDWATER SCARCITY IN THE AREA WHERE THE STEEL COMPLEX IS LOCATED (RF1)

In the specific physical risk assessment of the Steel Complex, drought/water stress was identified as one of the dominant hazards within the risk profile. Exposure is classified as extreme, particularly during La Niña events, with the possibility of episodes equal to or exceeding historical droughts. The modeling (SSP5-8.5) classifies drought as “Extreme” and reports dry periods longer than 43–47 consecutive days and maximum durations of approximately 230–237 days, confirming a chronic and cumulative risk. This is compounded by chronic water stress associated with the overexploitation of the Ica–Pisco aquifer, for which water continuity measures are recommended (48–72-hour storage capacity and alternative water supply sources).

Although this risk is expected to intensify in the future, we have already begun experiencing the effects of reduced availability of freshwater from the groundwater aquifers that supply our operations. This situation increases our dependence on desalinated water for operational activities. Given that desalinated water has a significantly higher tariff than conventional water sources, its use results in higher operating costs.

Base Scenario: 2025	
Regular water tariff (ANA) for underexploited aquifers	0.0977 soles/m³
Regular water tariff (ANA) for overexploited aquifers	0.2931 soles/m³
Desalinated water tariff	6.58008 soles/m³
Water consumption from underexploited aquifer wells (million m³)	0.26 (17.45%)
Water consumption from overexploited aquifer wells (millones de m³)	0.27 (18.12%)
Desalinated water consumption (million m³)	0.96 (64.43%)
Total water consumption 2024 (million m³)	1.49
Total water consumption cost 2024	S/ 6.40 millones



Increase in costs of
approximately S/ 2.45 million per year.



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Stress Scenario: By 2028, Groundwater Scarcity Increases the Need to Use Desalinated Water to 90%	
Regular water tariff (ANA) (for aquifers in balance)	0.0977 soles/m³
Regular water tariff (ANA) (for overexploited aquifers)	0.2931 soles/m³
Desalinated water tariff	6.58008 soles/m³
Water consumption from aquifers in balance (millones de m³)	0.075 (10%)
Water consumption from overexploited aquifers (million m³)	0.075 (10%)
Desalinated water consumption (million m³)	1.34 (90%)
Total water consumption 2024 (million m³)	1.49
Total water consumption cost in 2030	S/ 8.85 million

Scenario	Probability	Impact	Criticality
SSP1-2.6	Low	Moderate	Low
SSP2-4.5	Moderada	Moderate	Moderada
SSP3-7.0	Moderada	Moderate	Moderada
SSP5-8.5	Considerable	Moderate	Considerable





ANNEX 15: PHYSICAL RISK ANALYSIS BY REGION

PHYSICAL RISK ANALYSIS IN THE NORTHERN REGION

Under the SSP5-8.5 scenario, Trujillo and Piura would face a significant increase in temperatures, a greater frequency of heat waves, and high climate variability, with extreme rainfall associated with El Niño alternating with prolonged droughts. This would intensify water stress, together with coastal risks arising from sea-level rise and erosion.

Below is the physical risk assessment for the Trujillo and Piura Distribution Centers, together with the Trujillo Scrap Yard, located in the northern region of Peru.:

■ High ■ Considerable ■ Moderate ■ Low

Risk Code	Sites			Impact / Explanation
	Trujillo DC	Trujillo Scrap Yard	Piura DC	
RF1	Considerable	Not Applicable	Considerable	This risk is inherent to the Pisco Steel Complex but may primarily affect the distribution centers, as, in the worst-case scenario, it could impact the operation of the Trujillo and Piura Distribution Centers. In the case of the Trujillo Scrap Yard, it is not applicable because its operations are located upstream from the site where the risk would materialize.
RF2	Considerable	Not Applicable	Considerable	This risk is inherent to the Pisco Steel Complex but may primarily affect the distribution centers and could ultimately impact the operation of the Trujillo and Piura Distribution Centers. This could result in supply shortages at the Trujillo and Piura Distribution Centers and the loss of customers in northern Peru. For the Trujillo Scrap Yard, it is not applicable because its operations are located upstream from the site where the risk would materialize.
RF3	Considerable	Not Applicable	Considerable	This risk may arise from landslides, slope failures, and bridge collapses, which could disrupt supply to northern Peru and generate losses in sales for the organization.
RF4	Considerable	Considerable	Considerable	This risk exists because we maintain finished products and equipment at the Trujillo and Piura Distribution Centers, while the Trujillo Scrap Yard operates an electric material handler. Losses could exceed S/ 0.6 million per year.



ANNEX 15: PHYSICAL RISK ANALYSIS BY REGION

Under the SSP5-8.5 scenario, Metropolitan Lima would face a significant increase in extreme temperatures and water stress, with differentiated impacts by area. Magdalena would be exposed to coastal risks associated with sea level rise and erosion; Cajamarquilla would face extreme heat, water stress, and river flooding events; while Lurín would be exposed to increasing water scarcity and river flooding risk, creating a compounded physical risk scenario for the city.

The following presents the physical risk assessment for the Administrative Offices (Magdalena), the Huachipa Scrap Yard, and the Distribution Center and Tube Plant – Lurín, located in the central region (Lima) of Peru:

High Considerable Moderate Low

Risk Code	Sede			Impact / Explanation
	Administrative Offices	Huachipa Scrap Yard	Distribution Center and Tube Plant – Lurín	
RF1	Not Applicable	Not Applicable	Not Applicable	Not Applicable
RF2	Not Applicable	Not Applicable	Not Applicable	This risk applies to potential damage and power supply interruptions affecting the Trapiche Tube Distribution Center due to its proximity to the Chillón River (0.92 km).
RF3	Not Applicable	Not Applicable	Considerable	This risk may result from landslides, slope failures, and bridge collapses, which could disrupt the supply of raw materials and finished products between these facilities, generating sales losses for the organization.
RF4	Not Applicable	Considerable	Considerable	This risk exists because we maintain finished products on-site, and at the Huachipa Scrap Yard we operate an electric material handler. Potential losses could range from S/ 0.6 million to S/ 2.5 million per year. For the Administrative Offices, impacts are minimal because no operational equipment or critical infrastructure is located at the site. Additionally, the Huachipa Scrap Yard is more vulnerable to flooding and mudslides because its topography is characterized as a ravine and due to the potential overflow of the Huaycoloro River.



PHYSICAL RISK ANALYSIS IN THE CENTRAL REGION (CALLAO)

Under the SSP5-8.5 scenario, Callao would experience increased heat stress and heightened coastal risks. In the Callao Metropolitan Area, sea level rise, coastal erosion, and marine flooding events could affect critical urban and logistics infrastructure, while in Oquendo, risks associated with heat waves, pressure on water availability, and impacts on industrial activities would intensify, creating a compounded physical risk scenario for the province.

The following presents the physical risk assessment for the Callao Distribution Center, the Callao Nail Manufacturing Plant, and the Oquendo Scrap Yard, located in the central region (Callao) of Peru:

■ High ■ Considerable ■ Moderate ■ Low

Risk Code	Sites			Impact / Explanation
	Callao DC	Callao Nail Plant	Oquendo Scrap Yard	
RF1	Considerable	Considerable	Not Applicable	This risk is inherent to the Pisco Steel Complex but may primarily affect the distribution centers. In the case of the Oquendo Scrap Yard, it is not applicable because its operations are located upstream from the site where the risk would materialize.
RF2	Considerable	Considerable	Not Applicable	This risk is inherent to the Pisco Steel Complex but may primarily affect the distribution centers. In the case of the Callao Distribution Center, it may result in shortages of finished products, while at the Callao Nail Manufacturing Plant it could increase raw material costs (wire rod).
RF3	Considerable	Considerable	Not Applicable	This risk may arise due to landslides, slope failures, and bridge collapses, which could disrupt supply to northern Peru, generating sales losses for the organization.
RF4	Considerable	Considerable	Considerable	This risk exists because we maintain finished products on site, and at the Oquendo Scrap Yard we operate an electric material handler. Potential losses could reach S/ 2.5 million per year. Additionally, the scrap yard is the most vulnerable facility in the central region due to its proximity to the sea (0.7 km).



PHYSICAL RISK ANALYSIS IN THE SOUTHERN REGION

Under the SSP5-8.5 scenario, Pisco would experience a significant increase in water stress associated with higher temperatures, reduced effective water availability, and greater climate variability, increasing the vulnerability of industrial operations and business continuity, particularly during prolonged drought events. In Arequipa, particularly along the Uchumayo Bypass, an increase in extreme heat, greater pressure on water resources, and higher exposure to intense climate events are projected,

including concentrated rainfall that could affect transport, logistics, and industrial infrastructure, creating a scenario of significant physical risks for the regiona.

The following presents the physical risk assessment for the Pisco Steel Complex and the Arequipa Distribution Center, located in southern Peru:

■ High ■ Considerable ■ Moderate ■ Low

Risk Code	Sites		Impact / Explanation
	Pisco Steel Complex	Arequipa Distribu- tion Center	
RF1	Considerable	Considerable	Due to the water-stressed area in which the Steel Complex is located, it is necessary to identify alternative water sources or additional water conservation and efficiency projects. This would result in higher production costs, which could ultimately be passed through to distribution centers, including the Arequipa Distribution Center.
RF2	Considerable	Considerable	The Steel Complex receives electricity through the Independencia transmission line. This line is located near the Pisco River, whose flow increases during the summer months (January–March) due to rainfall in the Andean region. This could affect transmission towers located near the river and interrupt electricity supply to the Steel Complex for more than two days. The risk would mainly affect distribution centers such as the Arequipa Distribution Center.
RF3	Considerable	Considerable	This risk may arise from landslides, slope failures, and bridge collapses, which could disrupt supply to southern Peru and result in sales losses for the organization.
RF4	Considerable	Considerable	In the province of Pisco, rainfall is infrequent; however, when it occurs, it may damage a significant portion of infrastructure, equipment, and products that are not stored under cover. The Distribution Center is also exposed to risk because it is located in an area with high rainfall intensity.



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ANNEX 16: RESPONSE TO THE OPPORTUNITY ASSESSMENT (GIRO METHODOLOGY)

MONITOR:

Monitor risks and the effectiveness of controls to ensure their proper management.

CONTROL

Define and implement actions or controls to manage identified risks.



IDENTIFY

Recognize events that could affect the achievement of the objectives of a process or the organization.

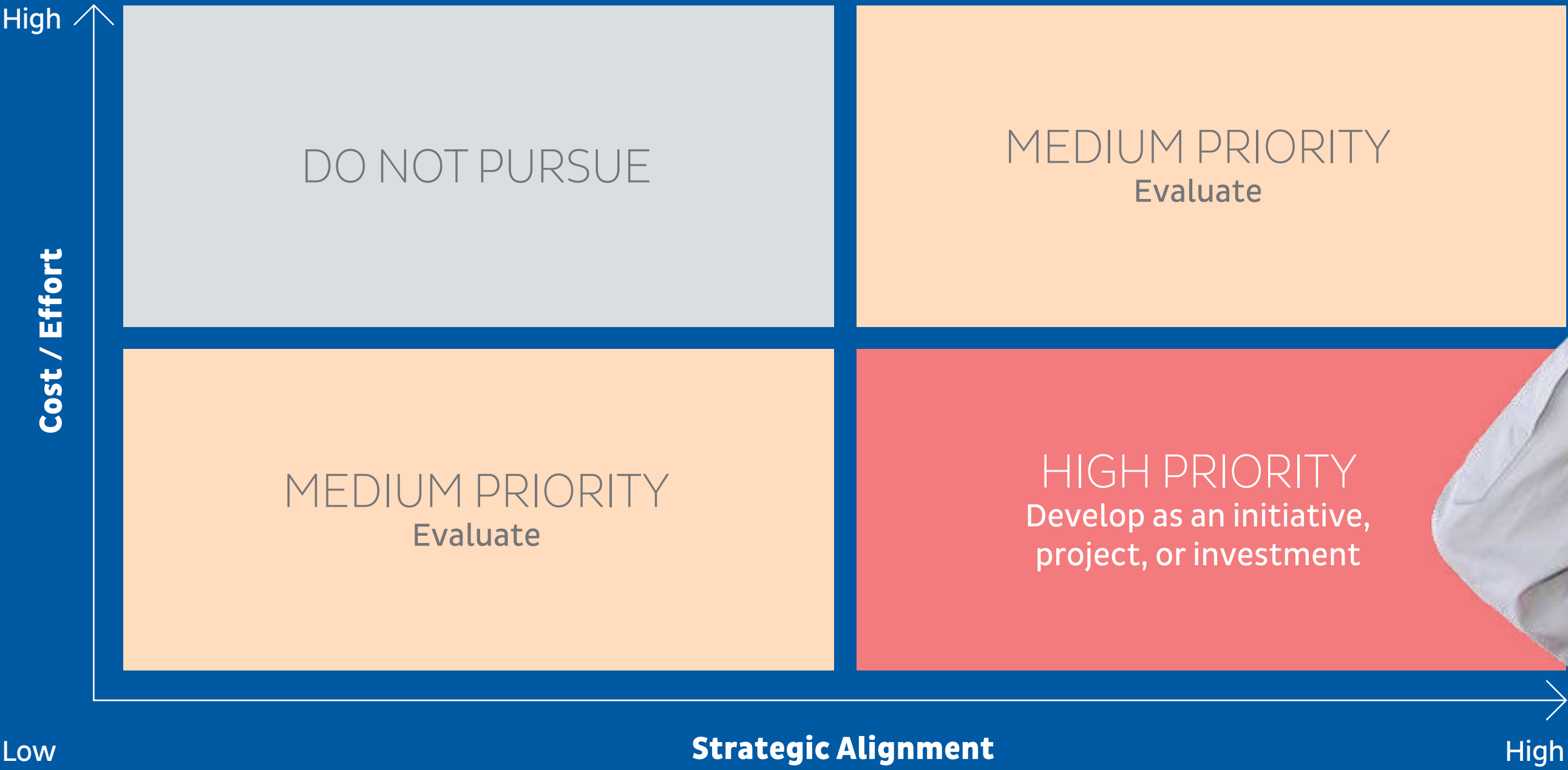
ASSESS

Analyze the probability and impact of risks to determine their level of severity.





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- High Priority**
Develop due to the high strategic alignment and low cost/effort required.
- Medium Priority**
Evaluate. Additional analysis should be conducted to determine whether it represents an improvement opportunity necessary for CAASA.
- Do Not Pursue**
Characterized by low strategic alignment and high cost for the organization.





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DEVELOP AS AN INITIATIVE, PROJECT, OR INVESTMENT

NDC	Opportunity		Scenarios											
	Type	Description	Transformation (Tr) 100% NDC Achievement			Coordination (Coor.) NDC Achievement Between <100% and 50%			Fragmentation (FD-) NDC Achievement Between <50% and 30%			Fragmentation (FD+) NDC Achievement <30%		
			Cost / Effort	Strategic Alignment	Level	Cost / Effort	Alineam. estratég.	Level	Cost / Effort	Alineam. estratég.	Level	Cost / Effort	Strategic Alignment	Level
E9	FS	OP1: Leverage our low carbon footprint to access international green financing opportunities.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority
*Me	P&S/ M	OP2: Enter new markets through a competitive advantage derived from lower-emission products.	Low	High	High Priority	Low	High	High Priority	High	High	Medium Priority	High	High	Medium Priority
E6	P&S	OP3-A: Participate in projects using CAASA products and services that support clients in obtaining credits associated with sustainable construction.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority
E7	P&S	OP3-B: Participate in the Complementary Corridors Project of Lima's Integrated Transport System with CAASA products and services.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority
E8	P&S	OP3-C: Participate in Lima and Callao Metro Lines 1 and 2 projects with CAASA products and services.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority



NDC	Opportunity		Scenarios											
	Type	Description	Transformation (Tr) 100% NDC Achievement			Coordination (Coor.) NDC Achievement Between <100% and 50%			Fragmentation (FD-) NDC Achievement Between <50% and 30%			Fragmentation (FD+) NDC Achievement <30%		
			Cost / Effort	Strategic Alignment	Level	Cost / Effort	Alineam. estratég.	Level	Cost / Effort	Alineam. estratég.	Level	Cost / Effort	Strategic Alignment	Level
E13	P&S	OP3-D: Participate in the Trans-Andean Tunnel Project with CAASA products and services.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority
E14	P&S	OP3-E: Participate in the Railway Transport Service Improvement Project on the Tacna-Arica section with CAASA products and services.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority
E15	P&S	OP3-F: Participate in the Comprehensive Rehabilitation Project of the Huancayo-Huancavelica Railway with CAASA products and services.	Low	High	High Priority	Low	High	High Priority	Low	High	High Priority	Low	Low	Medium Priority
E4	RE/ES	OP4: Co-processing at the Steel Complex.	High	High	High Priority	High	High	High Priority	High	High	High Priority	High	Low	Medium Priority
M1	RE/ES	OP5: Valorize steel slag for use in construction projects as an alternative aggregate material and commercialize steel slag to cement manufacturers so they can meet NDC-related targets.	High	High	Medium Priority	High	High	Medium Priority	Low	Low	Medium Priority	Low	Low	Medium Priority

Source: Prepared by the Company.

* These are sources of opportunities; however, they are not part of the NDCs, but rather relate to a scenario involving the implementation of actions to address climate change. Their legend is: Me – Market and T – Technology..

Note 1: The classification categories used for the NDCs are represented by the following legend: E – Energy and M – Industrial Processes.

Note 2: The legend for the types of opportunities is as follows: RE – Resource Efficiency, ES – Energy Source, P&S – Products and Services, M – Markets, and R – Resilience.

Note 3: The legend related to the opportunity variables is as follows: Prior.: Priority / Strat. Align.: Strategic Alignment / Dev.: Develop.

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ANNEX 18: INCENTIVES FOR CLIMATE ACTION

Through our Strategic Management Cycle (SMC), we define, cascade, and monitor CAASA's and its Subsidiaries' Strategic Plan on an annual basis. This process includes the analysis of the operating environment, the identification of strategic risks and opportunities, and the generation of organizational clarity and alignment around defined objectives, in accordance with corporate governance best practices.

As part of the SMC, we cascade corporate strategic guidelines throughout all levels of the organization, ensuring that functional plans, departmental plans, and

individual objectives are aligned with the Corporate Strategy. This enables us to ensure that our workforce has the appropriate incentives to contribute to the achievement of strategic objectives and to effectively manage risks that could compromise them.

Climate action, one of the fundamental pillars of our Sustainability Strategy, is fully integrated into this process. Through the cycle, we ensure that strategic objectives are translated into individual objectives, including targets related to resource efficiency, emissions reduction, and circularity, all of which are

key elements of our long-term strategy.

Senior management has a set of annual objectives whose achievement is linked to a financial incentive, combining:

- > **Common objectives**, such as corporate financial results, team development, among others. Within these objectives, there is a specific indicator that measures the level of compliance with corporate risk management standards.
- > **Role-specific objectives** related to the responsibilities and functions of each position.





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To ensure achievement of the objectives defined at the management level, each management team aligns the necessary objectives with its teams, following a top-down deployment approach..

STRATEGIC
C-level

Senior management has financial incentives linked to the achievement of its strategic objectives. Likewise, management teams that have a direct impact on the Company's environmental management and climate action incorporate annual objectives aimed at improving environmental management, generating efficiencies in the use of natural resources, reducing emissions, and promoting circularity. These objectives include, for example:

- > Commissioning of Zinc Oxide Kiln No. 2: A project that will increase the valorization of steelmaking dust generated in the EAF process, recovering zinc for reintegration into the production chain and reducing waste disposal, thereby contributing to the circular economy and reducing emissions associated with primary zinc production.
- > Phase 2 – Recycled Steel Cleaning: An investment project that will contribute to reducing CO₂ emissions from our steelmaking process.
- > Port Manatee Non-Ferrous Metals Plant: An investment project that will contribute to the increased recovery of industrial by-products at our recycled steel scrap yard in the United States.
- > Steelmaking Shop Upgrade: A project that will contribute to improved energy efficiency in our steelmaking operations.

TACTICAL
Managers / Middle
Managers

The objectives defined at the management level are cascaded throughout all teams, with managers and middle managers playing a key role in aligning operations with strategic priorities and risk management. Therefore, the objectives established at the C-Level are also incorporated into the performance evaluations of managers and middle managers to ensure operational alignment and achievement of those objectives.

- > Commissioning of Zinc Oxide Kiln No. 2: A project that will increase the valorization of steelmaking dust generated in the EAF process, recovering zinc for reintegration into the production chain and reducing waste disposal, thereby contributing to the circular economy and reducing emissions associated with primary zinc production.
- > Phase 2 – Recycled Steel Cleaning: An investment project that will contribute to reducing CO₂ emissions from our steelmaking process.
- > Port Manatee Non-Ferrous Metals Plant: An investment project that will contribute to the increased recovery of industrial by-products at our recycled steel scrap yard in the United States.
- > Steelmaking Shop Upgrade: A project that will contribute to improved energy efficiency in our steelmaking operations.



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OPERATIONAL
Supervisors / Team Leaders
Employees

These elements serve as inputs to the individual performance evaluation process, which forms the basis for determining salary adjustments, promotions, and the implementation of improvement plans or, where necessary, the reassignment or termination of employment of employees.





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ANNEX 19: CAASA'S ADVOCACY ACTIVITIES IN RELATION TO THE PARIS AGREEMENT

Latin American Steel Association
(Alacero)

PROGRAM:

- > Environmental Public Policy Committee (COPAM)
- > Environmental Technology Committee (COTEC)

DESCRIPTION:

Alacero is composed of more than 60 steel manufacturing and related companies whose combined production amounts to approximately 65 million tonnes of steel per year, representing 95% of all steel produced in Latin America. COPAM and COTEC address sustainability-related topics such as ESG reporting, positions regarding the Carbon Border Adjustment Mechanism (CBAM), and the decarbonization of the Latin American steel industry.

OBJECTIVE OF PARTICIPATION:

To gain knowledge of the environmental standards and practices adopted by the Latin American steel industry.

RESULTS:

- > Participation in meetings held within the COPAM and COTEC frameworks.
- > Submission of ESG indicators for the development of Alacero's Sustainability Report for the corresponding year.

Ministry of Production / National
Institute for Quality (INACAL)

PROGRAM:

- > Climate Change Subcommittee.

DESCRIPTION:

INACAL is the governing body and highest technical and regulatory authority of Peru's National Quality System. It also promotes a culture that encourages the adoption of quality management practices throughout the country and supports improvements in business competitiveness, public sector efficiency, and the protection of citizens and the environment. The Greenhouse Gas Subcommittee is responsible for proposing the adoption of international climate change standards through a national interpretation process, resulting in the development of Peruvian Technical Standards (NTPs).

OBJECTIVE OF PARTICIPATION:

To contribute to the adaptation of international standards so that Peruvian organizations have guidance and frameworks that support climate management.

RESULTS:

In 2025, we participated in the development and review of the following standards: (1) 1. NTP-ISO 14068-1:2025 – Climate Change Management – Transition to Net Zero – Part 1: Carbon Neutrality. This standard provides a standardized approach for the quantification, reporting, validation, and verification of greenhouse gas (GHG) emissions, complementing the ISO 14060 family of standards and other international standards related to environmental declarations and labeling. (2) 2. ETP-ISO/TS 14092:2025 – Climate Change Adaptation. This standard specifies requirements and guidance for climate adaptation planning by local governments and communities based on vulnerability, impact, and risk assessments.



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Ministry of Production / General Directorate of Environmental Affairs for Industry

PROGRAM:

> Cleaner Production Agreement Program (CPA).

DESCRIPTION:

The General Directorate of Environmental Affairs for Industry, within the framework of the Environmental Management Regulation for Manufacturing Industry and Domestic Trade (Supreme Decree No. 019-2015-PRODUCE) and its subsequent amendments, promotes sustainable production and encourages organizations to establish environmental targets through a Cleaner Production Agreement (CPA).

OBJECTIVE OF PARTICIPATION:

To sign a Cleaner Production Agreement and be recognized as a company aligned with circular economy principles.

RESULTS:

In August 2025, we signed a Cleaner Production Agreement (CPA) with PRODUCE, establishing targets aimed at increasing the utilization of an industrial by-product and reducing the consumption of virgin coal in the corresponding production process.

Ministry of the Environment / General Directorate of Climate Change and Desertification (DGCCD)

PROGRAM:

> Peru Carbon Footprint Program

DESCRIPTION:

The DGCCD is the national authority responsible for implementing Peru’s commitments under the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD). Among these commitments, the Paris Agreement is particularly significant. The DGCCD is also the authority responsible for matters related to combating desertification and drought. The Peru Carbon Footprint Program, administered by the DGCCD, is an innovative climate action tool developed by the Peruvian government that formally recognizes the efforts of public and private organizations to reduce their greenhouse gas (GHG) emissions through emissions quantification and the reporting of actions aimed at reducing and/or neutralizing emissions.

OBJECTIVE OF PARTICIPATION:

To report our GHG inventories and obtain recognition for effective climate management practices.

RESULTS:

For the second consecutive year, we achieved the fourth star under the Peru Carbon Footprint Program. This recognition is awarded to organizations that have reached the highest level of the Program, which involves calculating, verifying, reducing, and maintaining reductions in their GHG inventory.



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Ministry of Energy and Mines /
General Directorate of Energy
Efficiency

PROGRAM:

> Energy Management Systems Learning Network

DESCRIPTION:

As part of Peru’s Nationally Determined Contributions (NDCs) in the energy sector, the Ministry of Energy and Mines, with the support of the Euroclima Programme and in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), launched the first Energy Management Systems Learning Network in Peru, with the objective of promoting the standardization of energy management practices across various sectors of the Peruvian economy.

OBJECTIVE OF PARTICIPATION:

To implement an Energy Management System (EnMS) based on the ISO 50001 standard, enabling the reduction of our carbon footprint and operating costs.

RESULTS:

During 2025, workshops continued to support the implementation of the Energy Management System (EnMS). In October, we participated in the closing event of the Learning Network, where we presented the progress achieved in implementing the EnMS and our readiness for the ISO 50001 certification audit.

Ministerio del Ambiente/ Dirección
General de Cambio Climático y
Desertificación (DGCCD)

PROGRAM:

> INFOCARBONO

DESCRIPTION:

INFOCARBONO constitutes Peru’s national institutional arrangement for the planning, preparation, and management of national greenhouse gas (GHG) inventories through a collaborative framework involving public sector institutions. It is also one of the Measurement, Reporting and Verification (MRV) tools for mitigation under the System for Monitoring Adaptation and Mitigation Measures, as established in Articles 32 and 51 of the Regulations of Peru’s Framework Law on Climate Change. Additionally, INFOCARBONO assigns responsibilities to different government institutions to prepare the Annual Greenhouse Gas Reports (RAGEI) within their respective areas of competence.

OBJECTIVE OF PARTICIPATION:

To report information related to the principal sources of greenhouse gas emissions for the corresponding year, contributing to the preparation of Peru’s Annual Greenhouse Gas Reports..

RESULTS:

- > Information on fuel consumption, ferrous materials, and other GHG emission sources is provided periodically.
- > In 2024, we participated in the Peruvian National Greenhouse Gas Inventory (INGEI) Quality Assurance Workshop, organized by the Ministry of the Environment (MINAM) with technical assistance from experts of the United Nations Framework Convention on Climate Change (UNFCCC), who reviewed Peru’s 2020–2021 National Greenhouse Gas Inventory (INGEI).



ANNEX 20: TCFD CONTENT INDEX

Disclosure Element	Required Detail	Report Location	Page
TCFD Pillar: GOVERNANCE			
A. Describe the Board’s oversight of climate-related risks and opportunities.	Description of the Board’s oversight of climate-related risks and opportunities	Chapter 4, Section 4.1 – Governance Structure	71 - 73
	Frequency of the Board’s review of climate-related risks		
	Board oversight and approval of the Decarbonization Roadmap		
B. Describe management’s role in assessing and managing climate-related risks and opportunities.	Role of Management (CEO and Sustainability Committee) in climate assessment and management	> Chapter 4, Section 4.1 – Governance Structure > Annex 7, CAASA Climate Management Process > Annex 18, Incentives for Climate Action	71 - 73
	Mechanisms for monitoring and periodic reporting of climate-related progress		89 - 90
			138 - 140
	Climate management incentives linked to variable compensation		
TCFD Pillar: STRATEGY			
A. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Identification of transition risks	Chapter 3, Risk and Opportunity Management and related annexes	45 - 69



Disclosure Element	Required Detail	Report Location	Page
A. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Identification of physical risks	Chapter 3, Risk and Opportunity Management; and related annexes	45 - 69
	Identification of climate-related opportunities		
B. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Impact of climate-related risks on operations and the value chain	Chapter 3, Risk and Opportunity Management; and related annexes	45 - 69
	Quantified financial impact of transition risks		
	Quantified financial impact of physical risks		
	Quantified financial impact of climate-related opportunities		
	Integration of climate-related risks into financial planning	Chapter 2: Section 2.5 – Integration with Financial Planning	41-42



Disclosure Element	Required Detail	Report Location	Page
C. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Resilience analysis under 2°C or lower scenarios	Chapter 3, Risk and Opportunity Management; and related annexes	45 – 69
	Resilience analysis under scenarios above 2°C		
	Explicit conclusion regarding the viability of the business model under each scenario		
TCFD Pillar: RISK MANAGEMENT			
A. Describe the organization's processes for identifying and assessing climate-related risks.	Description of the climate risk identification process	Chapter 3, Risk and Opportunity Management; and related annexes	45 – 69
	Description of the risk assessment and prioritization process		
	Time horizons used (short, medium, and long term)		
B. Describe the organization's processes for managing climate-related risks.	Processes for managing and responding to identified physical risks	Chapter 3, Risk and Opportunity Management; and related annexes	45 – 69
	Processes for managing and responding to identified transition risks		
	Corporate climate change adaptation plan		



Disclosure Element	Required Detail	Report Location	Page
C. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management framework.	Integration of the climate risk management process into the corporate ERM framework	Chapter 3, Risk and Opportunity Management; and related annexes	45 - 69
	Reference to the corporate risk management system that includes climate-related risks	Chapter 4, Governance	70 - 75
TCFD Pillar: 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..	Emissions intensity metrics (tCO ₂ e/t of liquid steel) with historical trend	Chapter 1, Introduction	3 - 19 20-44 45 - 69
	Water consumption metrics	Chapter 2, Strategy Toward Net Zero	
	Renewable energy consumption metrics	Chapter 3, Risk and Opportunity Management; and related annexes	
	Adaptation Plan monitoring KPIs		



Disclosure Element	Required Detail	Report Location	Page
B. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	Absolute Scope 1 emissions with historical trend	Chapter 1, Introduction	3 - 19
	Absolute Scope 2 emissions with historical trend		
	Absolute Scope 3 emissions with historical trend		
	GHG inventory calculation methodology		
	External verification of the GHG inventory		
C. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against those targets.	Emissions intensity reduction targets for 2030, 2035, and 2050	Chapter 1, Introduction	3 - 19 20 - 44 45 - 69
	Formal commitment to the Science Based Targets initiative (SBTi)	Chapter 2: Strategy Towards Net Zero	
	Performance against emissions reduction targets	Chapter 3, Risk and Opportunity Management; and related annexes	



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ANNEX 21: CLIMATE CHANGE ADAPTATION PLAN

OBJECTIVE

To establish the corporate framework for the identification, assessment, prioritization, and treatment of physical risks associated with climate change, with the aim of strengthening the climate resilience of CAASA’s operations, in line with the principles and requirements of ISO 14090..

SCOPE

This Adaptation Plan has a corporate-wide scope and applies to:

- > All CAASA industrial operations, facilities, processes, and services.
- > Strategic, operational, and investment decisions related to infrastructure, critical resources, energy, and water.
- > Short-, medium-, and long-term planning horizons, considering future climate scenarios.

REGULATORY AND REFERENCE FRAMEWORK

This Plan has been developed considering:

- > ISO 14090: Adaptation to Climate Change – Principles, Requirements and Guidelines.
- > IPCC AR6 climate scenarios (SSPs).
- > IPCC methodological approaches for climate risk assessment.

> Corporate Environmental Policy and the Integrated Risk and Opportunity Management Methodology (GIRO).

ADAPTATION PRINCIPLES

Adaptation planning and implementation are guided by the following principles::

- > Risk-based approach.
- > Use of the best available scientific information.
- > Flexibility and progressive adaptation.
- > Integration into corporate management processes.
- > Continuous improvement.



OUR FACILITIES BY REGION



CORPORATE CLIMATE CHANGE ADAPTATION PROCESS

> **Climate Context Identification**

We consider the geographic location of our operations, review bibliographic sources on historical and projected climate conditions, analyze dependencies on critical resources (water, energy, and raw materials), and assess the relevant socio-environmental and regulatory context.

> **Climate Hazard Identification**

We identify climate hazards relevant to our operations, considering SSP scenarios, including water scarcity and variability, increasing extreme temperatures, more frequent and intense climate events, and changes in precipitation patterns.

> **Climate Risk and Vulnerability Assessment**

The risk assessment considers: exposure (the degree to which assets and processes are subject to climate hazards), sensitivity (the level of impact resulting from those hazards), and adaptive capacity (the organization's ability to anticipate, respond to, and recover from climate-related impacts).

Our risks are prioritized through the analysis of the Global Risk Signal, impact severity, and probability under different climate scenarios, and are subsequently integrated into the organization's GIRO methodology.

For a more detailed assessment of physical risks, we have divided our sites into three geographic regions according to their location within Peru, analyzing each physical risk by region ([Annex 15](#) ).

> **Prioritization of Material Physical Risks**

At the corporate level, priority is given to those risks that may affect operational continuity, generate significant economic, environmental, or social impacts, and present high severity under future climate scenarios.

CORPORATE ADAPTATION STRATEGY

> **Adaptation Strategic Objective**

To reduce the vulnerability of CAASA's operations to the physical risks of climate change, ensuring business continuity and the sustainable use of natural resources.

> **Adaptation Measures**

CAASA's adaptation measures are structured across four levels:

- **Operational Measures** Optimization of water resource use, improvement of production process efficiency, and reduction of operational losses associated with climate-related events.
- **Technological Measures** Progressive incorporation of technologies that are more resilient to climate change and strengthening of monitoring and control systems.

- **Management Measures** Integration of climate risk into strategic and operational planning, coordination with stakeholders and authorities, and internal training on climate management.
- **Contingency Measures** Response plans for extreme climate events, identification of alternative water supply sources, and prioritization of critical processes under adverse scenarios.

> **Monitoring and Evaluation**

The monitoring of the Adaptation Plan is assessed through corporate indicators, such as:

- Critical resource consumption intensity.
- Effectiveness level of operational controls.
- Frequency and impact of climate events on operations.

> **Review and Continuous Improvement**

The Adaptation Plan is reviewed periodically to:

- Incorporate new scientific and climate-related information.
- Adjust measures in response to changes in the climate and operational environment.
- Ensure the continuous improvement of the organization's climate resilience performance.

> **Responsibilities**

- **Board of Directors:** Approve the Corporate Environmental Policy..
- **Corporate Management:** Ensure the integration of climate change into management processes..
- **Operational and Support Areas:** Implement and monitor adaptation measures.



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MAIN RESPONSE ACTIONS FOR IDENTIFIED PHYSICAL RISKS

Risk		Response Actions
Code	Criticality	
RF1	High	Short-Term > Calculate the organization's Water Footprint on a periodic basis. As of the 2025 reporting period, four assessments have already been completed. (Implemented ✓) > Upgrade the water treatment system to increase water recirculation within the Steel Complex. (Implemented ✓) > Optimize the use of wastewater within the plant, either in other operations or at Cerro Vio. (Implemented ✓) > Supply desalinated seawater. We currently have a desalinated water supply contract for approximately 3,000 m³ per day. By the end of 2025, this water source represented 64.43% of the total water consumed in the process. (Implemented ✓)
		Medium-Term Continue evaluating alternative water supply sources.
		Long-Term Continue acquiring technologies that can replace water-based cooling systems with forced-air cooling solutions.
RF2	Considerable	Short-Term > Annually carry out preventive works on the Pisco River and update the site's Emergency Response Plan. (Implemented ✓) > Implement the Infrastructure Maintenance Program for the Independencia transmission line, particularly Towers 7 and 8, due to their proximity to the Murga Bridge. (Implemented ✓) > Prior to each shift change, review and communicate weather forecasts issued by the National Meteorology and Hydrology Service of Peru (SENAMHI), focusing on conditions within the Pisco River basin and its tributaries. (Implemented ✓)
		Medium-Term > Coordinate joint activities with the Municipality of Pisco aimed at cleaning the banks of the Pisco River before the onset of the rainy season in the Andes. > Connect company monitoring processes with the government's Early Warning System to improve forecasting of events that could affect company operations.
		Long-Term Whenever a new company facility is identified or developed, consideration must be given to the area's vulnerability to climate change impacts, including flash floods, landslides, road blockages, and related hazards.



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Risk			Response Actions
Code	Criticality		
RF3	Considerable	Short-Term > Verify the latest news and other information sources to ensure that no road blockages exist along delivery routes (if a blockage occurs, shipments are rescheduled until the route is reopened; if a blockage occurs during transit, the driver must move to a safe location until the route becomes accessible). (Implemented ✓) > When interruptions to road transportation are anticipated due to El Niño events or scheduled strikes, increase inventory levels at distribution centers to support temporary supply disruptions. (Implemented ✓)	
		Medium-Term > Connect organizational monitoring processes with the government’s Early Warning System to improve forecasting of events that could affect company operations. > Prior to each shift change, review and communicate weather forecasts issued by the National Meteorology and Hydrology Service of Peru (SENAMHI), focusing on the organization’s main transportation routes.	
		Long-Term Evaluate the need to establish new distribution centers in the interior of the country in order to avoid disruptions in customer supply.	
RF4	Considerable	Short-Term > Implement the Flood Emergency Response Plan at all CAASA locations, evaluating vulnerability according to geographic zoning and identifying the most critical material assets. (Implemented ✓) > Implement the Infrastructure Maintenance Program at each company site. (Implemented ✓) > Prior to each shift change, review and communicate weather forecasts issued by the National Meteorology and Hydrology Service of Peru (SENAMHI), focusing on the areas where company facilities are located. (Implemented ✓) > Install a second weather station at the Steel Complex to obtain real-time weather conditions and forecasts (Implemented ✓) > Access the insurance company’s Monitoring and Prevention Platform to obtain weather forecasts for company facilities (Implemented ✓)	
		Medium-Term Connect company monitoring processes with the government’s Early Warning System to improve forecasting of events that could affect company operations.	
		Long-Term Whenever a new company facility is identified or developed, consideration must be given to the area’s vulnerability to climate change impacts (flash floods, landslides, road blockages, and related hazards).	



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ANNEX 22: OPPORTUNITY QUANTIFICATION

OP2 DETAIL: ENTRY INTO NEW MARKETS THROUGH A COMPETITIVE ADVANTAGE FROM LOWER-EMISSION PRODUCTS

The Carbon Border Adjustment Mechanism (CBAM) is a progressive tax that the European Union will apply from 2026 to imports of carbon-intensive products, such as steel, aluminum, cement, and fertilizers, with the objective of preventing carbon leakage and aligning carbon pricing between domestic producers and importers. Its implementation will be gradual, requiring the acquisition of CBAM certificates according to the emissions embedded in products. The emissions coverage percentage will progressively increase until reaching 100% by 2034, in line with the phase-out of free allowances under the EU ETS.

Unlike the assumptions considered in the previous version of this report, the CBAM calculation methodology has now been defined with greater precision. The cost payable will depend on the difference between the producer’s emissions intensity and the applicable benchmark, multiplied by the carbon price (EU ETS). This benchmark is based on the performance of the top 10% most efficient producers in the European Union and will differ according to the production technology used (e.g., EAF and BOF).

Likewise, the coverage percentage will be progressively applied to this benchmark.

In simplified terms, the CBAM cost is determined as follows:

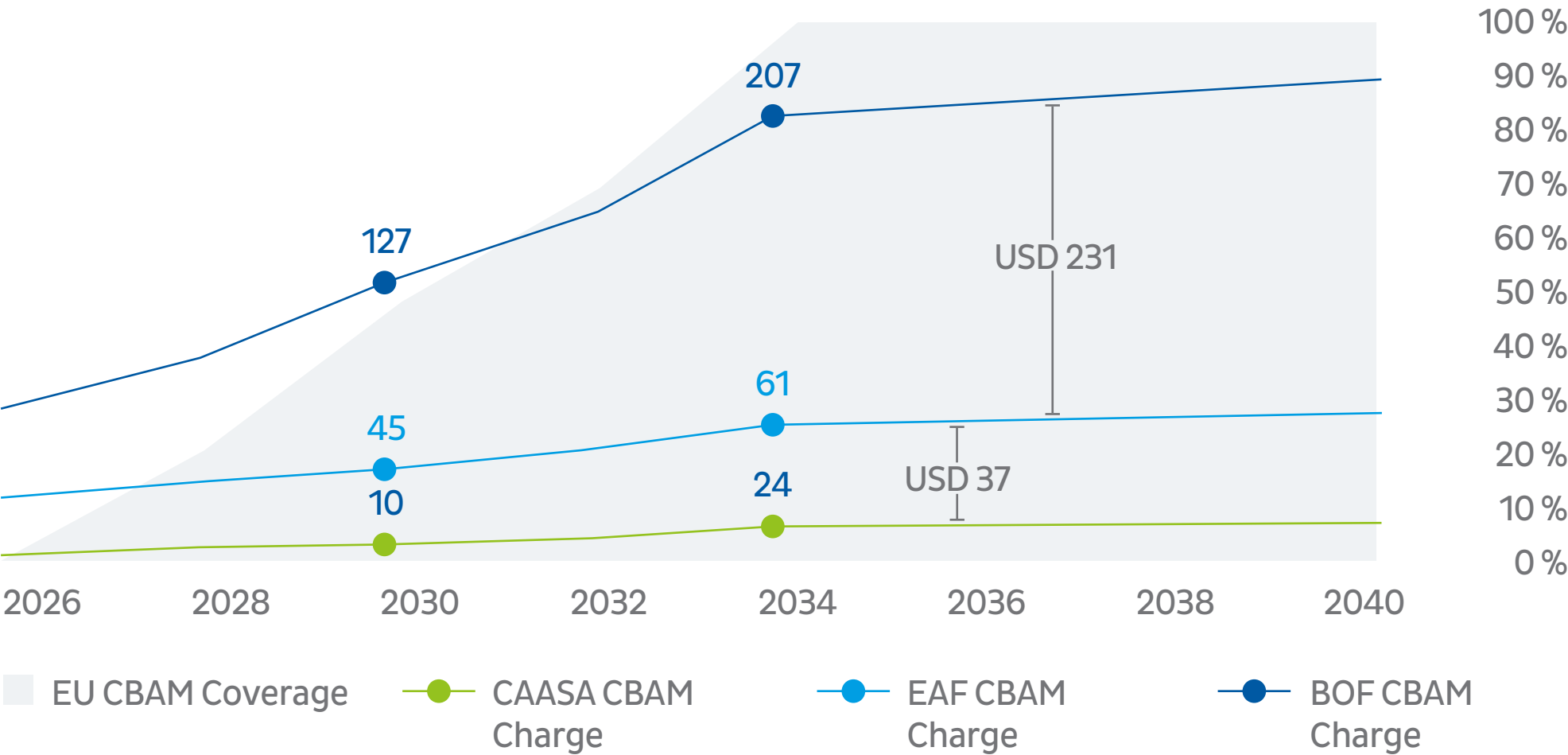
(PRODUCER EMISSIONS - (% COVERAGE × EMISSIONS BENCHMARK)) × CO₂ PRICE

In this context, producers with lower relative emissions will face lower adjustment costs.

Since Aceros Arequipa operates with a recycled steel-based technology using Electric Arc Furnaces (EAFs) and has an emissions intensity below the global average, it maintains a structural competitive advantage relative to producers with higher carbon intensities. Under the assumptions regarding carbon price evolution and the gradual implementation of CBAM, this advantage could translate into lower costs per exported tonne compared to producers operating with more emissions-intensive technologies. Consequently, CBAM represents an opportunity to strengthen the competitiveness of lower-carbon products in markets such as the European Union.

Note: The formula does not consider deductions for carbon prices paid in the country of origin, as Peru currently does not have an operational carbon pricing system.

Estimated Carbon Prices Payable Based on the CO₂ Emissions Ratio per Ton of Steel



Note: For this preliminary estimate, the following assumptions were considered: an average carbon price of €80 per tonne of CO₂, with an annual growth rate of 2.5%; a benchmark (top 10% of the cleanest EU producers) of 1.6 tCO₂/t steel for BOF technology and 0.288 tCO₂/t steel for EAF technology in the European Union. The BOF/EAF emissions ratios used are based on information reported by the World Steel Association in 2025



**OP3 DETAIL: PARTICIPATING IN GOVERNMENT
PROJECTS FOCUSED ON CLIMATE CHANGE
MITIGATION AND ADAPTATION THROUGH THE
PROVISION OF PRODUCTS AND/OR SERVICES.**

At CAASA, we have identified market opportunities related to climate change. These opportunities are grouped into three categories: Adaptation to New Regulations, Access to Product Markets, and Climate Change Adaptation.

Adaptation to New Regulations:

Since 2020, we have identified opportunities to participate in various projects promoted by the Peruvian Government as part of the implementation of the country's

Nationally Determined Contributions (NDCs). These projects include:

- > Trans-Andean Tunnel Construction Project.
- > Improvement of railway transportation services on the Tacna-Arica section.
- > Implementation of Lima and Callao Metro Lines 1 and 2.
- > Comprehensive rehabilitation of the Huancayo-Huancavelica railway.

Access to Product Markets:

As part of the Peruvian Government's efforts to promote Sustainable Construction, we provide our customers with Environmental Declarations regarding the origin

and percentage of recycled steel used in the manufacture of purchased products.

This information enables our customers to pursue LEED certification, allowing them to access benefits and incentives associated with sustainable building projects.

Climate Change Adaptation:

Each year, we participate in various government-led infrastructure reconstruction and maintenance projects that have been affected, or may be affected, by climate change. These projects represent opportunities to provide products and services that contribute to the resilience and adaptation of critical infrastructure.





OP3 DETAIL: PARTICIPATING IN GOVERNMENT PROJECTS FOCUSED ON CLIMATE CHANGE MITIGATION AND ADAPTATION THROUGH THE PROVISION OF PRODUCTS AND/OR SERVICES.

→ Opportunity

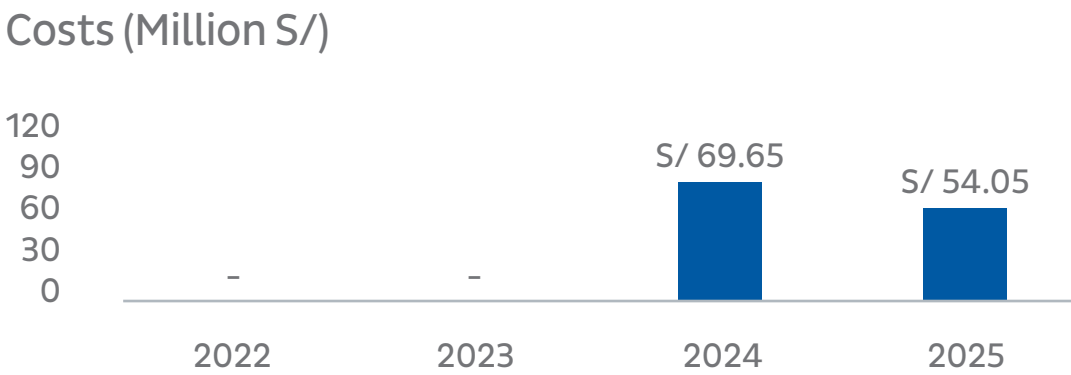
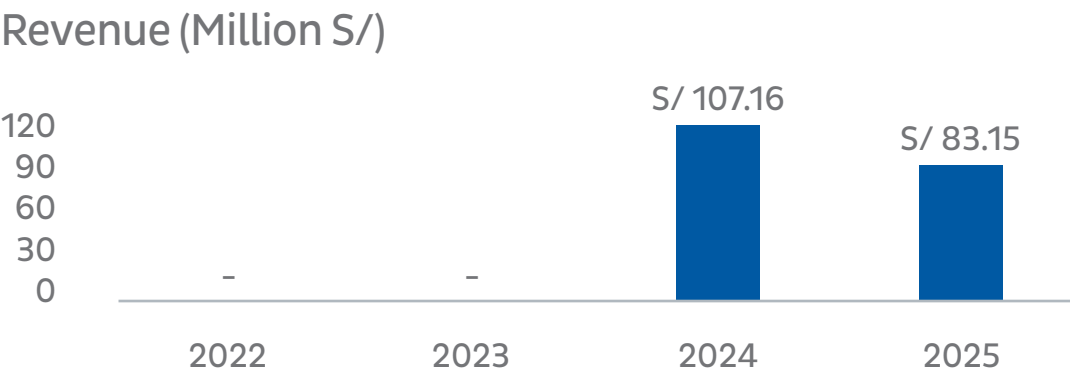
→ Financial Implications

ESTIMATED
TIMELINE

→ Annual Costs

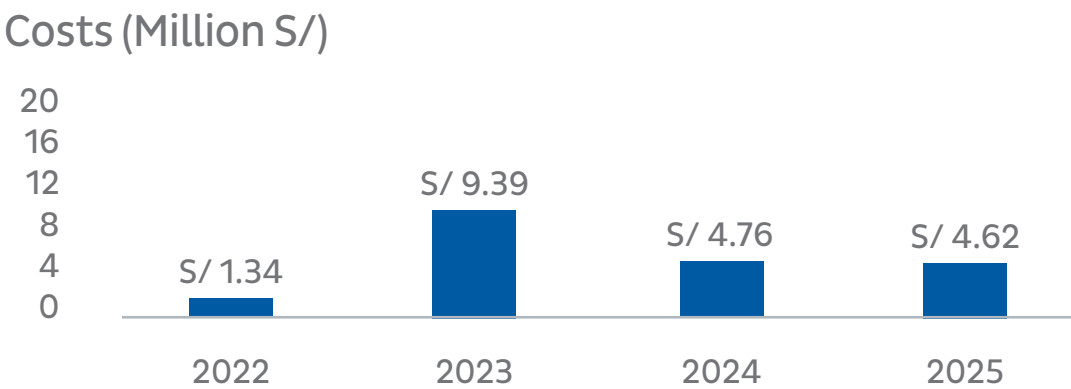
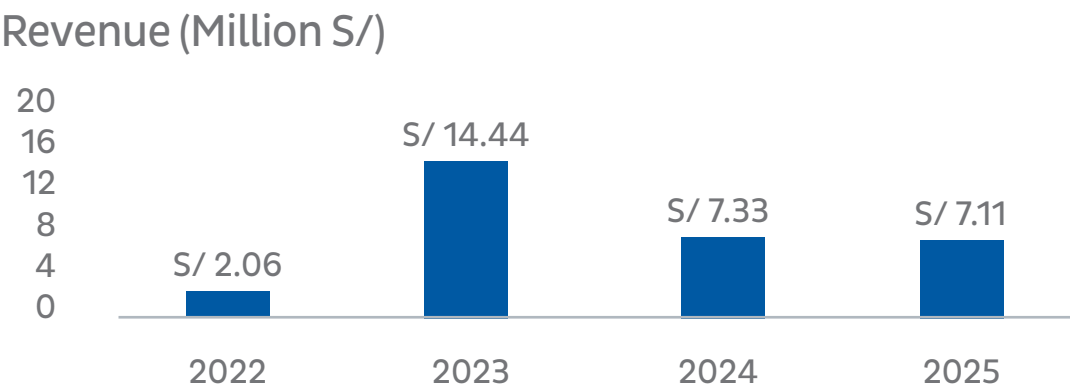
ADAPTATION TO NEW REGULATIONS

Participating in government infrastructure projects as part of compliance with Peru’s Nationally Determined Contributions (NDCs).



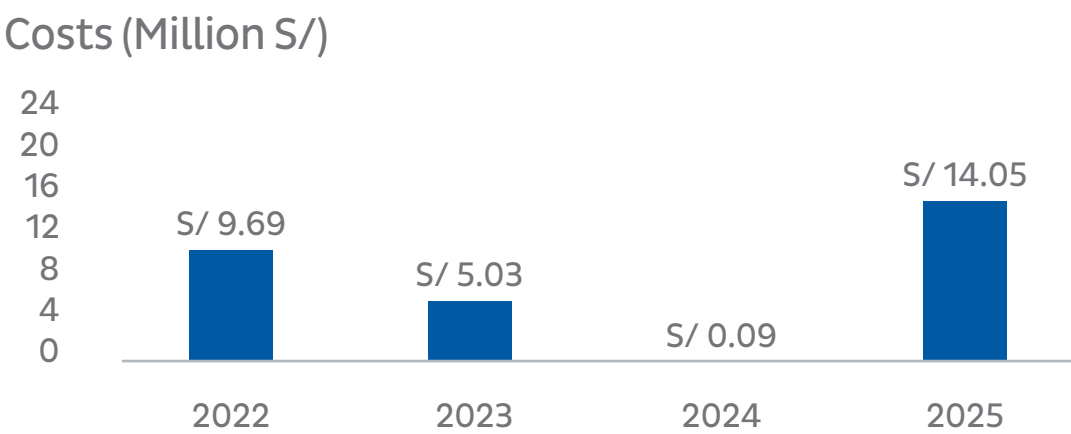
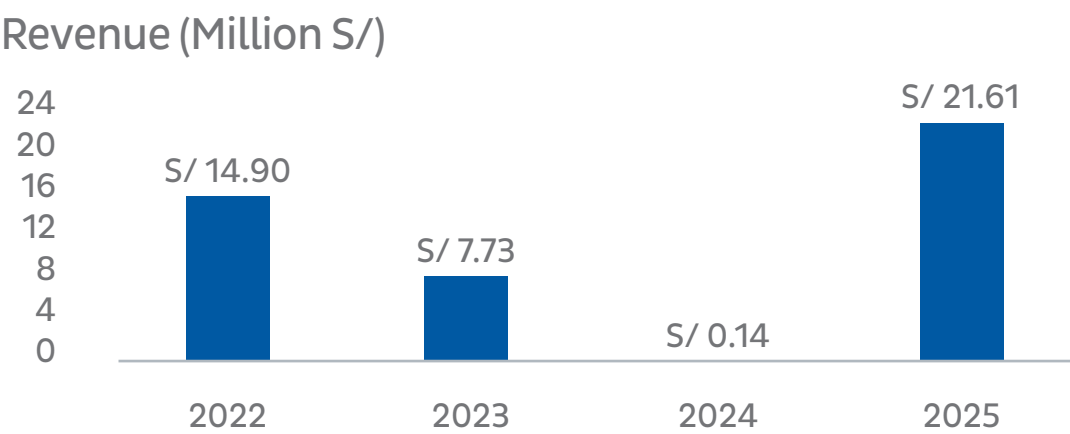
ACCESS TO PRODUCT MARKETS

Participating in projects classified as “Sustainable” to support LEED certification.



CLIMATE CHANGE ADAPTATION

Participating in the reconstruction and/or maintenance of public infrastructure projects.



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