GREENHOUSE GAS EMISSIONS INVENTORY

Nexa Resources

2025

Nexa Recursos Minerais S.A.

Trade name: Nexa Resources

CNPJ: 42.416651/0016-93

Economic sector: Extractive industries

Subsector: Extraction of non-ferrous metallic minerals

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1. INTRODUCTION

This Greenhouse Gas (GHG) Emissions Inventory Report aims to present the quantification and reporting of Nexa Resources' GHG emissions and removals for the year 2025, in compliance with the requirements of ABNT NBR 14064-1.

This inventory was prepared based on the principles of relevance, completeness, consistency, accuracy, and transparency, ensuring that the information presented faithfully represents the organization's emissions profile and supports the management of risks and opportunities related to climate change.

The report includes the definition of organizational and operational boundaries, the identification of emission sources and sinks, the quantification methodology adopted, the emission factors used, as well as the consolidated results by scope and by gas type. Where applicable, information related to the base year, recalculations, uncertainties, and exclusions is also presented.

2. DESCRIPTION OF THE ORGANIZATION

Nexa Resources S.A. is one of the six largest zinc producers in the world and, in addition to metallic zinc and its by-products, produces concentrates of silver, gold, copper, and lead. The company has nearly 70 years of experience in the development and operation of mining and metallurgical assets in Latin America.

The base metals in its portfolio are essential to supply sectors such as construction, transportation, energy, agriculture, healthcare, and consumer goods. Zinc, at the core of its operations, has fundamental applications for the energy transition, the development of a low-carbon economy, and a wide range of everyday solutions. Copper, in turn, plays a critical role in infrastructure and clean energy technologies, including batteries and renewable electrical systems.

Nexa Resources S.A. was established in 2017, following the integration of Votorantim Metais' Brazilian operations and Milpo's Peruvian operations. The company is part of the portfolio of investee companies of Votorantim S.A., its controlling shareholder, which holds 64.68% of the total capital.

The company has been listed on the New York Stock Exchange (NYSE) since 2017 and, additionally, Nexa Peru has shares traded on the Lima Stock Exchange (BVL). The corporate headquarters is located in Luxembourg, and the company maintains administrative offices in São Paulo (Brazil) and Lima (Peru). The group has approximately 20,000 professionals, including direct employees and third parties.

Operations include five polymetallic mines—Cerro Lindo, El Porvenir, and Atacocha in Peru, and Vazante and Aripuanã in Brazil—which, in 2025, processed 13 million tonnes of ore. Nexa also operates three zinc refineries: Cajamarquilla (Peru), one of the largest in the world and the largest in the Americas, as well as Três Marias and Juiz de Fora (Brazil). More than half of the concentrate used in its metallurgical operations comes from its own mines, reflecting an integrated value chain with high operational synergy.

The company is the only producer of metallic zinc in Latin America, except for Mexico. It also develops brownfield and greenfield mineral exploration projects in Peru, Brazil, and Namibia. In 2025, annual production reached 529.8 thousand tonnes of metallic zinc and 34.6 thousand tonnes of zinc oxide.

2.1.Persons Responsible for the Report

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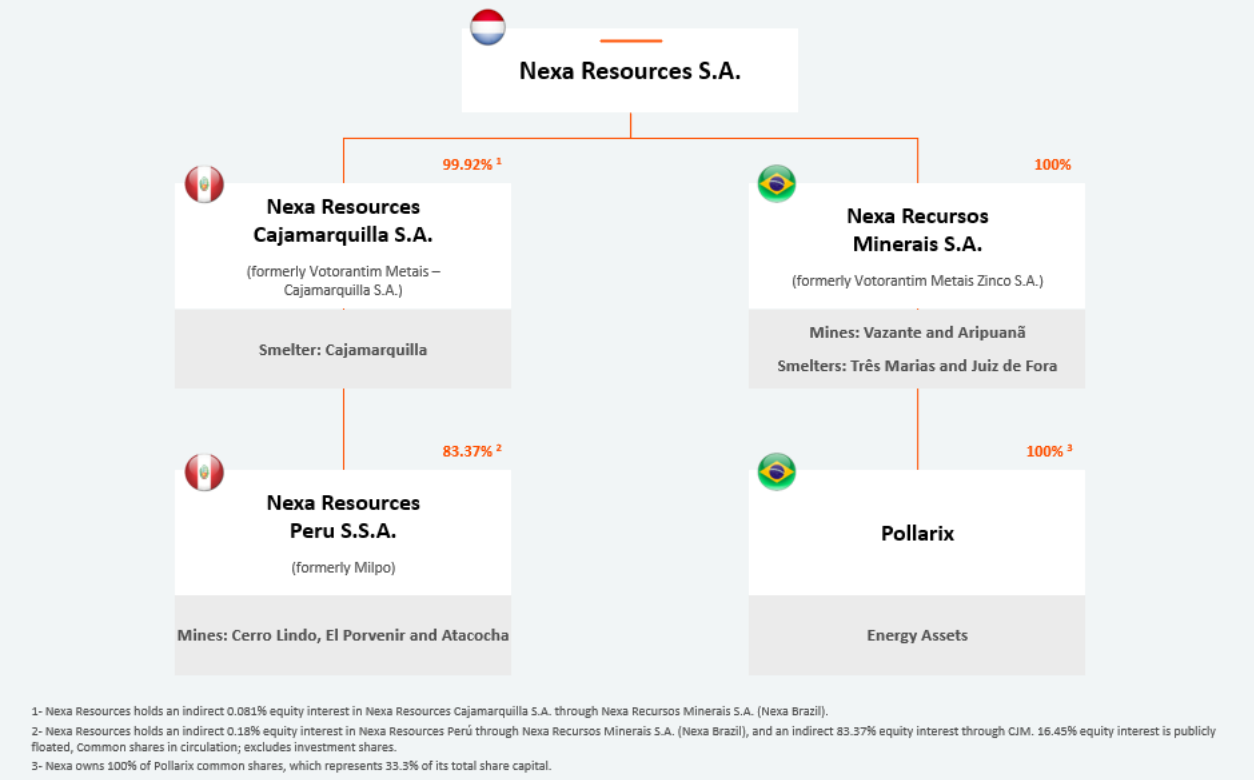
3. INVENTORY BOUNDARIES

The definition of Nexa Resources' GHG inventory boundaries was carried out in order to ensure a faithful representation of the emissions and removals associated with its operations, in compliance with the requirements of ABNT NBR 14064-1.

3.1. Organizational Boundaries

The organizational boundaries were established based on the control criterion. Accordingly, the inventory includes all units and operations over which the organization has the authority to define and implement operational and occupational health, safety, and environmental policies during the reporting period.

The companies controlled by Nexa and included in this inventory are presented below, along with a list of the organization's units.



1- Nexa Resources holds an indirect 0.081% equity interest in Nexa Resources Cajamarquilla S.A. through Nexa Recursos Minerais S.A. (Nexa Brazil).

2- Nexa Resources holds an indirect 0.18% equity interest in Nexa Resources Perú through Nexa Recursos Minerais S.A. (Nexa Brazil), and an indirect 83.37% equity interest through CJM. 16.45% equity interest is publicly floated, Common shares in circulation; excludes investment shares.

3- Nexa owns 100% of Pollarix common shares, which represents 33.3% of its total share capital.

Nexa Resources

Unit	Does the Parent Company have operational control?	Ownership interest of the Parent Company
Aripuanã – Mining – Brazil	Yes	100%
Vazante – Mining – Brazil	Yes	100%
Três Marias – Metallurgy – Brazil	Yes	100%
Juiz de Fora – Metallurgy – Brazil	Yes	100%
Cajamarquilla – Metallurgy – Peru	Yes	99.92%
Cerro Lindo – Mining – Peru	Yes	83.37%
El Porvenir – Mining – Peru	Yes	83.37%
Atacocha – Mining – Peru	Yes	83.37%

Legend

Parent Company

Unit

Any operations in which the organization holds an ownership interest without exercising operational control were not included in this inventory.

3.2. Operational Boundaries

The operational boundaries define the categories of emissions and removals considered in the inventory, classified according to the applicable scopes:

Scope	**Categories [1]**
Scope 1	Stationary Combustion
	Mobile Combustion
	Industrial Processes
	Fugitive Emissions
	Agricultural Activities
	Land Use Change
	Solid Waste
	Liquid Effluents
Scope 2	Electricity (location-based approach)
	Electricity (market-based approach)
	Purchase of Thermal Energy
Scope 3	1. Purchased goods and services
	3. Fuel- and energy-related activities not included in Scope 1 or 2
	4. Upstream transportation and distribution
	5. Waste generated in operations
	7. Employee commuting
	8. Leased assets (as the lessee)
	9. Downstream transportation and distribution
	10. Processing of sold products

[1] The methodological approach was defined according to the availability and quality of local data, adopting a hybrid method for operations in Brazil and Peru.

A potential emissions category assessment applicable to the organization's activities was conducted, considering the criteria of relevance, materiality, data availability, and the cost–benefit of quantification, in accordance with the guidelines of ABNT NBR 14064-1.

The categories below were not included in the present inventory for the following reasons:

- *Capital goods (Category 02)* – during the period, materiality assessments were carried out and it was concluded that there were no expansion projects or acquisitions of fixed assets with the potential to generate a relevant impact on the inventory emissions.
- *Business travel (Category 06)* – during the reported period, there was no consolidated database available that would allow quantification with an adequate level of reliability. The qualitative assessment indicates low representativeness relative to operational emissions, not compromising the integrity of the inventory. The category will be reassessed in future cycles as internal controls are improved.
- *Use of sold goods and services (Category 11)* – the organization sells zinc, concentrates of other metals, and by-products classified as intermediate inputs for subsequent industrial processes. These products do not generate direct emissions during the use phase, as they are transformed by third parties under their own operational control.
- *End-of-life treatment of sold products (Category 12)* – the products sold are intermediate inputs and are not under the organization's control with respect to their final destination. Given the lack of traceable data and the organization's low influence over this stage, the category was not included in the inventory.
- *Franchises (Category 14)* – the organization does not operate under a franchise model, nor does it have operations conducted by third parties under its brand in this format.
- *Investments (Category 15)* – the organization operates predominantly as an operational mining and metallurgical company and does not have a relevant portfolio of financial investments or minority interests requiring emissions quantification in this category.

Compared to inventories from previous years, in 2025 the following Scope 3 categories are being included:

- Category 2 — Fuel- and energy-related activities not included in Scope 1 or 2;
- Category 7 — Employee commuting;
- Category 8 — Leased assets (the organization as the lessee).

This expansion results from the adoption of an integrated data management system connected to the company's ERP, which enables the tracking and collection of information directly from accounting and financial records. This systematization strengthened methodological consistency, increased data coverage and level of detail, and reduced gaps in consolidation processes. As a result, it became possible to include new Scope 3 categories and expand data collection for categories already included.

4. IDENTIFICATION, CLASSIFICATION OF EMISSIONS, AND QUANTIFICATION METHODOLOGY

Nexa carried out the systematic identification of emission sources associated with its activities, products, and services, within the organizational and operational boundaries defined in this report.

The identification process considered:

- Operational activities carried out during the reporting period;
- Relevant energy and material flows;
- Applicable emission categories according to the defined Scopes;
- The materiality of the identified sources.

Emissions were classified according to their nature and the applicable Scopes. In addition, the quantification of emissions and, where applicable, removals of greenhouse gases (GHGs) by Nexa was carried out in compliance with the requirements of ABNT NBR 14064-1, adopting internationally recognized methodologies and emission factors consistent with the activities performed. Whenever possible, primary data were prioritized (fuel consumption, energy use, production data, invoices, etc.). In their absence, technically justified estimates were used.

4.1.Scope 1 – Direct Emissions

Includes emissions from sources that are owned or controlled by the organization.

Category	Source	Inputs/Agents	Activity Data
Stationary Combustion	Boilers, furnaces, generators, explosives, drilling equipment	Diesel oil, fuel oil, emulsion, natural gas, LPG, acetylene	Fuel consumption
Mobile Combustion	Light and heavy vehicle fleet, off-road equipment	Diesel oil, gasoline, ethanol, LPG	Fuel consumption
Industrial Processes	Waelz furnace, autoclaves, leaching, utilization, flotation, electrolysis, and neutralization	Reduction reactions in the Waelz furnace. Hydrometallurgical reactions in autoclaves. Roasting reactions of sulfide concentrates. Electrolytic processes	Consumption of inputs / raw material (dry basis)
Fugitive Emissions	Refrigeration and fire-fighting systems	HFCS (R-134A, R-410A), CO_2	Gas replenishment
Agricultural Activities	Use of fertilizers, fertilizers and agricultural inputs	Organic fertilizer, nitrogen fertilizers, synthetic fertilizer	Fertilizer consumption
Land Use Change	Burning, suppression, maintenance, and planting	Biomass	Burned, suppressed, and regenerated area
Solid Waste	Landfilling and composting	Organic waste	Mass by type and destination
Liquid Effluents	Anaerobic treatment, industrial wastewater treatment plant (WWTP)	Organic load	Organic load (COD/BOD)

4.2.Scope 2 – Energy Emissions

Includes emissions associated with the purchase of electricity and steam consumed by the organization during the reporting period. Quantification was carried out in accordance with the location-based and market-based approaches.

Category	Source	Type of Energy	Approach	Activity Data
Purchased Electricity	Consumption at operational units and commercial offices	Grid electricity	Location-based	Electricity consumed
Purchased Electricity	Consumption at operational units	Contracted electricity	Market-based	Electricity consumed, with proof of renewable origin
Purchase of Thermal Energy	Steam consumption in boilers	Steam purchased from third parties		Steam consumed

4.3.Scope 3 – Other Indirect Emissions

Below are the Scope 3 categories assessed for applicability to Nexa's activities, considering its value chain and the relevance criteria adopted in the present inventory.

Category	Source	Activity Data
1 Purchased goods and services	Operational inputs, raw materials, office supplies	Based on financial and accounting data and on raw material purchases (dry basis)
2 Fuel- and energy-related activities not included in Scope 1 or 2	Upstream emissions from the production of fuels and energy purchased	Based on reported consumption in Scopes 1 and 2
4 Upstream transportation and distribution	Transportation of inputs and raw materials by third parties	Based on actual transport data for the main purchased inputs and raw materials
5. Waste generated in operations	External destination of industrial waste	Landfilling, co-processing, recycling
7. Employee commuting	Home-to-work transportation	Based on estimated average distance between residence and workplace, considering employees under on-site or hybrid regimes, and the average calculation of trips by number of transported employees
8. Leased assets (the organization as the lessee)	Leasing of assets, buildings, vehicles, equipment, etc.	Considers financial and accounting data related to leased assets not included in Scopes 1 and 2
9. Downstream transportation and distribution	Transportation of sold products	Based on actual transport data of sold products
10. Processing of sold products	Subsequent industrial processing of zinc and by-products by customers	Based on the volume of products sold by product type and sectoral average processing factors

4.4. Gases Considered

The inventory includes the following greenhouse gases, as applicable to the organization's operations:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)
- Nitrogen trifluoride (NF_3).

Emissions were consolidated in tonnes of carbon dioxide equivalent (tCO_2e), using the Global Warming Potentials (GWP) for a 100-year time horizon (GWP100), as established in the IPCC Fifth Assessment Report (AR5).

4.5. Data Origin, Hierarchy, and Quality

The activity data used for quantifying GHG emissions were obtained primarily from primary sources, ensuring a higher level of accuracy and traceability. The following data hierarchy was adopted whenever applicable:

Level	Data Type	Priority Application
1	Measured primary data	Scopes 1 and 2
2	Estimated primary data	Transportation, employee commuting
3	Country-/sector-specific secondary data	Scope 3 – mass × factor
4	Financial data (spend-based)	Categories with no physical data available

Data quality and coherence were assessed considering the following criteria:

- **Temporality:** data corresponding to the inventory period.
- **Geography:** adoption of factors specific to Brazil and Peru; when unavailable, internationally recognized databases were used.
- **Completeness:** inclusion of relevant emission sources based on materiality criteria.
- **Methodological consistency:** uniform application of calculation criteria across each operational unit and category.

5. RESULTS OF THE GHG EMISSIONS INVENTORY

This chapter presents the consolidated results of Nexa's greenhouse gas (GHG) emissions inventory for 2025. Emissions are presented in tonnes of carbon dioxide equivalent (tCO_2e), considering the global warming potentials (GWPs) applicable to the reporting period.

Results are organized by emission scope, country of operation, emission categories, and operational units, as well as the presentation of intensity indicators and comparative analysis against previous years.

5.1. Consolidated Total Emissions

This section presents the organization's total GHG emissions and removals, segregated by scope in accordance with the GHG Protocol methodology.

Total emissions by scope

Scope	Emissions (tCO_2e)	Biogenic CO_2 Emissions	Biogenic CO_2 Removals
Scope 1	283,931.57	7,890.43	-
Scope 2 (Location-based)	455,820.50	87,046.96	-
Scope 2 (Market-based)	12,987.40	87,046.96	-
Scope 3	1,274,976.09	9,048.37	-
Total (market-based)	**1,571,895.06**	**103,985.76**	-

GHG Emissions by Gas and Scope (tCO_2e)

Gas	Scope 1	Scope 2 (location-based)	Scope 2 (market-based)	Scope 3
CO_2	256,856.37	452,957.70	11,472.83	722,720.58
CH_4	2,673.18	1,290.31	670.43	5,784.45
N_2O	21,661.55	1,572.49	844.14	2,041.86
HFCs	2,740.46			
PFCs				
SF_6				
NF_3				
CO2e				544,429.21
Total (tCO_2e)	**283,931.57**	**455,820.50**	**12,987.40**	**1,274,976.09**

Emissions of Gases Not Controlled by the Kyoto Protocol

Scope	HCFC-22 (R-22) (t)	tCO_2e
Scope 1	381.24	670.98
Scope 2		
Scope 3		
Total	**381.24**	**670.98**

Total company emissions in the reporting year amounted to 1,571,897.31 tCO_2e, while biogenic CO_2 emissions totaled 103,985.76 t. Scope 1 emissions represented 18.1% of the total, mainly reflecting emissions from Stationary Combustion, Industrial Processes, and Mobile Combustion.

Scope 2 emissions are associated with the consumption of purchased electricity, while Scope 3 emissions refer to other relevant indirect emissions across the value chain.

5.2.Emissions by Country

This section presents the distribution of emissions considering the countries in which the organization operates.

Emissions by country (tCO_2e)

Country	Scope 1	Scope 2 (location-based)	Scope 2 (market-based)	Scope 3	Total
Brazil	211,720.19	69,702.98	1,480.40	686,473.35	899,673.94
Peru	72,211.38	386,117.52	11,507.00	588,502.74	672,221.12
Total	**283,931.57**	**455,820.50**	**12,987.40**	**1,274,976.09**	**1,571,895.06**

5.3.Breakdown by Category

This section presents GHG emissions by source category, according to the methodological classification recommended by the GHG Protocol.

Emissions by Category

Category	Scope	Emissions (tCO_2e)	%
Stationary Combustion	**Scope 1**	66,918.07	4.26%
Mobile Combustion	**Scope 1**	87,973.19	5.60%
Industrial Processes	**Scope 1**	52,731.81	3.35%
Fugitive Emissions	**Scope 1**	2,744.88	0.17%
Solid Waste	**Scope 1**	188.64	0.01%
Effluents	**Scope 1**	162.96	0.01%
Agricultural Activities	**Scope 1**	2.75	0.00%
Land Use Change	**Scope 1**	73,209.26	4.66%
Electricity (Location-based)	**Scope 2**	454,347.35	28.90%
Thermal Energy	**Scope 2**	1,473.15	0.09%
Electricity (Market-based)	**Scope 2**	11,514.25	0.73%
Purchased goods and services	**Scope 3**	599,590.49	38.14%
Fuel- and energy-related activities (outside Scope 1 and 2)	**Scope 3**	49,413.60	3.14%
Transportation & Distribution (upstream)	**Scope 3**	70,555.12	4.49%
Waste Generated	**Scope 3**	530.47	0.03%
Home-to-Work Emissions	**Scope 3**	5,282.04	0.34%
Leased Assets	**Scope 3**	5,781.59	0.37%
Transportation & Distribution (downstream)	**Scope 3**	25,834.67	1.64%
Processing of Sold Products	**Scope 3**	517,988.12	32.95%
Total		**1,571,895.06**	100.00%

5.4.Breakdown by Unit

This section presents the distribution of GHG emissions by operational unit.

Emissions by Operational Unit or Corporate/Commercial Office

Unit	Scope 1 (tCO_2e)	Scope 2 – Location-based (tCO_2e)	Scope 2 - Market-based (tCO_2e)	Scope 3 (tCO_2e)	Total (tCO_2e)
Atacocha	10,604.60	6,659.58	0	2.038,60	12,643.20
El Porvenir	15,581.76	29,520.38	0	6.281,95	21,863.71
Cerro Lindo	30,184.44	57,215.83	0	9.972,38	40,156.82
Cajamarquilla	13,391.53	292,717.76	11,503.04	570,209.81	595,104.38
Aripuanã	16,734.875	5,427.315	0	80,927.242	97,662.118
Vazante	14,564.338	14,860.462	0	36,966.946	51,531.283
Juiz de Fora	34,379.22	16,752.394	0.637	216,183.207	250,563.064
Três Marias	144,732.454	32,656.204	1,473.154	345,719.215	491,924.823
Corporativo Lima	2,449.05	3.96	3.96	0	2,453.01
Corporativo Brasil	1,309.302	6.609	6.609	6,676.74	7,957.797
Total	**283,931.57**	**455,820.50**	**12,987.40**	**1,274,976.09**	**1,571,895.06**

5.5.Emissions Intensity (Indicators)

In addition to absolute emissions, intensity indicators are presented to relate emissions to the level of production or operational activity.

Intensity Indicators

Indicator	Unit	Year	Result	Change (%) vs. base year
Scope 1 Emissions Intensity	tCO_2e / tonne of zinc	**2020**	0.47	-
Scope 1 Emissions Intensity	tCO_2e / tonne of zinc	**2024**	0.40	-14.8
Scope 1 Emissions Intensity	tCO_2e / tonne of zinc	**2025**	0.37	-21.3

5.6.Electricity Consumption

The table below presents the company's electricity consumption and the share of renewable sources in its energy mix.

Electricity Consumption and Share of Renewable Sources

Indicator	Unit	Result
Total electricity consumption	MWh	3,421,255.84
Electricity from renewable sources	MWh	3,362,601.99
Electricity from non-renewable sources	MWh	58,653.84
Share of renewable electricity	%	98.4%

Emissions associated with electricity consumption were calculated using the two approaches recommended by the GHG Protocol for Scope 2. The location-based approach reflects the average emissions intensity of the electricity grid where consumption occurs, while the market-based approach considers specific contractual instruments for electricity procurement, such as power purchase agreements (PPAs), renewable energy certificates, or equivalent mechanisms.

The company prioritizes the use of electricity from renewable sources, contributing to a reduction in the carbon intensity of its operations. Monitoring the share of renewable energy in the electricity mix enables tracking progress on decarbonization initiatives and evaluating additional opportunities for contracting low-carbon energy.

5.7.Comparative Analysis

This section presents a comparison of GHG emissions against previous years, allowing for the assessment of trends and the impacts of reduction initiatives.

For comparative purposes of Scope 1 emissions performance, emissions from local burnings were excluded from this analysis, as they do not reflect improvements in production efficiency, emissions performance, or the implementation of the company's decarbonization initiatives. In 2024, emissions of 114,871.32 tCO_2e and 652.10 t of biogenic CO_2 associated with burnings were recorded, while in 2025 these emissions totaled 73,209.26 tCO_2e and 717.98 t of biogenic CO_2.

Emissions Trend

Year	Scope 1 (tCO_2e)	Scope 2 (Location-based) (tCO_2e)	Scope 2 (Market-based (tCO_2e)	Scope 3 (tCO_2e)	Total
2020	276,346.09	431,846.08		77,112.41	785,304.58
2024	226,964.42	451,110.25	10,012.66	771,644.53	1,008,621.61
2025	210,722.31	455,820.50	12,987.40	1,274,976.09	1,498,688.05

The comparative analysis indicates a 23.7% reduction in total emissions relative to the base year and a 7% reduction compared to 2024. In 2025, the reduction was mainly driven by lower production levels in mining and metallurgical operations throughout the period. Reduced utilization of the Waelz furnace at the Juiz de Fora unit, a carbon-intensive asset, also contributed to lower emissions. Additionally, progress was observed in stabilizing fuel substitution by natural gas, such as at the Cajamarquilla unit, an initiative that contributes to reducing the carbon intensity of operations. Biogenic emissions followed the variation of total CO_2e emissions during the period.