

# 2024

## CARBON FOOTPRINT



**CARBON FOOTPRINT**  
— ALUMINUM FOUNDRY, 2024 —

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## 1. BACKGROUND

In our facilities located in Burgos, spanning an area of 42,000 m<sup>2</sup>, which includes a production factory of 12,000 m<sup>2</sup>, we manufacture parts using green sand casting and chemical sand casting technologies. Our modern facilities, operational since 2008, have a melting capacity of nearly 10,000 tons per year and currently serve our customers in various parts of the world. Our goal is to provide highly integrated and valid technical solutions in the field of aluminum casting for diverse industries internationally.

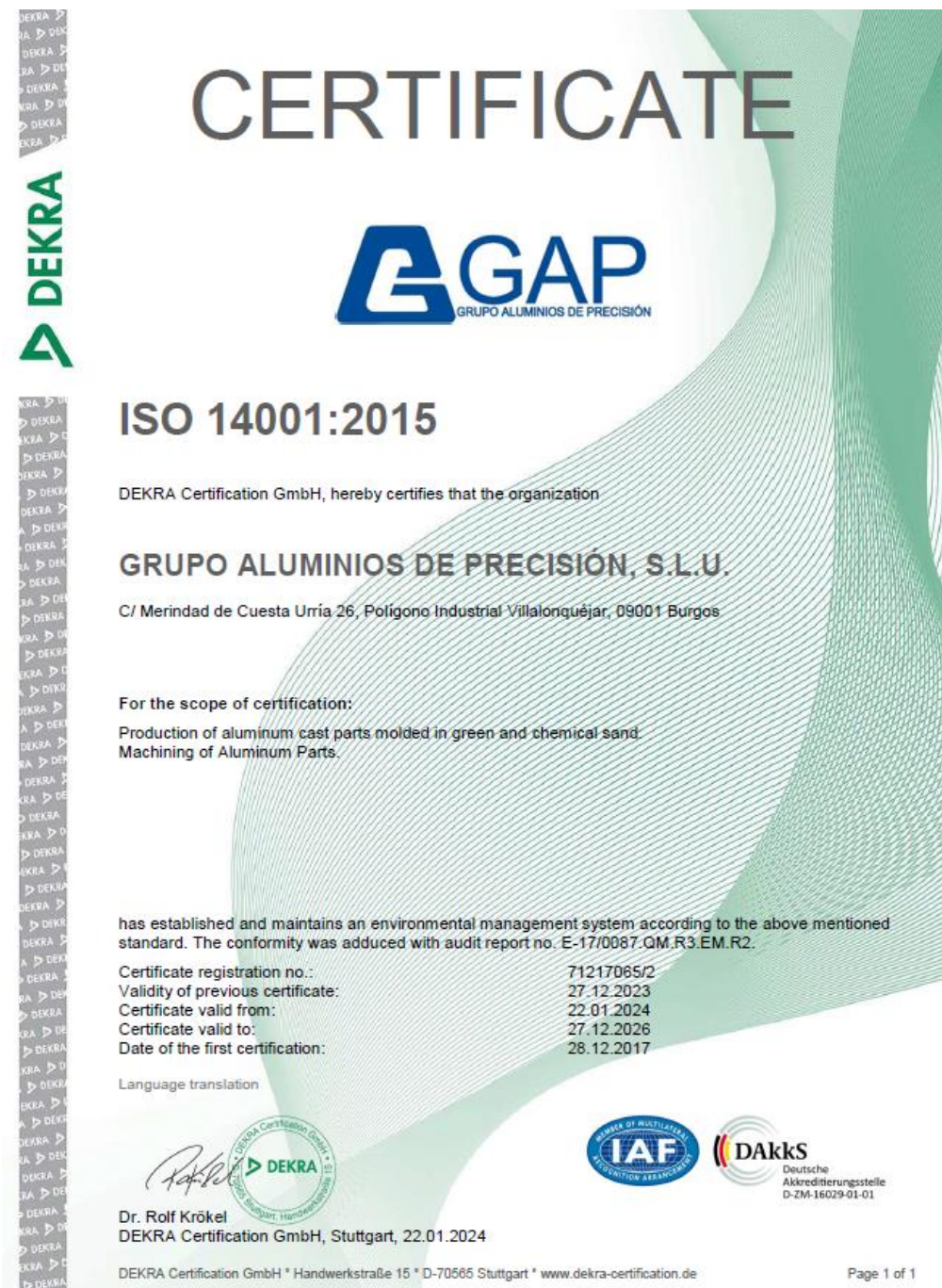
In 2024, we have consolidated the expanded activity initiated in 2023, when we added a machining line to our process. For this new activity, a new industrial building was constructed, and investments were made in new machining equipment, as well as the implementation of auxiliary processes such as quality control and waste treatment. This development has enabled some of the products supplied by GAP to offer greater added value, thanks to the execution of additional operations within our facilities. Furthermore, this initiative has led to a significant reduction in transportation to external machining suppliers, optimizing our logistics processes.





From the beginning, GAP has considered the care and preservation of the environment as fundamental, implementing efficient and sustainable measures such as advanced sand recovery systems, which achieve the reuse of nearly 100% of the green sand and 80% of the chemical sand.

That is why in 2017, GAP took the initiative to commit to the high standards of the **ISO 14001:2015 standard**, renewing its certification year after year until today, proposing continuous improvement plans, and always demanding **maximum transparency and environmental awareness** from its staff, as well as from its suppliers and customers.



The Environmental Authorization granted to GRUPO ALUMINIOS DE PRECISIÓN, S.L. for the aluminum casting and shaping plant project in the Industrial Zone of Villalonquéjar IV in Burgos, dated December 15, 2010, establishes the procedures for control, monitoring, and surveillance of the environmental conditions described therein.

## 2. GENERAL COMPANY INFORMATION

NAME	GRUPO ALUMINIOS DE PRECISIÓN, S.L.
REGISTERED OFFICE ADDRESS	C/ Merindad de Cuesta Urría, 26 09001 Burgos
VAT/TAX ID	B09471004
PLANT ADDRESS	C/ Merindad de Cuesta Urría, 26 09001 Burgos
ENVIRONMENTAL MANAGER	Miriam Conde
MAIN ACTIVITY OF THE COMPANY	Fundición y conformado de piezas de aluminio

## 3. PURPOSE

The purpose of this carbon footprint report is to assess the environmental impact of Grupo Aluminios de Precisión, S.L. in terms of greenhouse gas emissions, in order to analyze, evaluate, and address any deviations to comply with current legislation, identify areas for improvement, and align it with the

**Sustainable Development Goals (SDGs)** established by the United Nations.



By focusing this carbon footprint report on the Sustainable Development Goals, we aim not only to quantify our emissions but also to integrate sustainability across all areas of our company and contribute to the advancement of a more sustainable and resilient global economy.

Through this report, we seek to contribute to the following Sustainable Development Goals (SDGs):



#### 4. SCOPES AND LIMITS

The present carbon footprint report of GAP, S.L. establishes the limits and scopes of the assessment of greenhouse gas (GHG) emissions generated by our business activities.

##### Scopes:

In terms of scopes, we have followed recognized international guidelines, specifically the Greenhouse Gas Protocol (GHG Protocol), to ensure consistency and comparability of our results.

We have assessed our emissions in accordance with the three scopes defined by the GHG Protocol:



It includes direct GHG emissions from sources controlled by the company, such as fossil fuel combustion in company-owned facilities and vehicles.

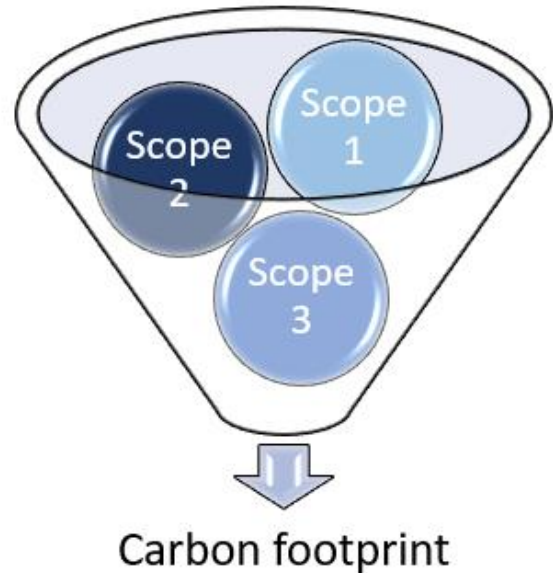


It encompasses indirect emissions associated with the generation of electricity and heat that the company consumes, primarily from external sources such as the power grid.



Other indirect emissions. Some examples of Scope 3 activities include the extraction and production of materials acquired by the organization, business travel using external means of transportation, or fuels used for commuting by staff to their homes.

According to the GHG Protocol, to calculate the Carbon Footprint emitted by the organization, it should be done by summing the data obtained from Scope 1 + Scope 2. Considering the high percentages of CO<sub>2</sub> emitted by aluminum in its production processes, we feel compelled to include the indirect emissions covered in Scope 3, which result from aluminum production by our suppliers.



We deem it necessary to reflect, assess, and address all types of emissions contributing to ecosystem deterioration. Therefore, this carbon footprint report serves as a snapshot of our environmental performance in the year 2024.

### Límites:

In our 2024 carbon footprint report, we have accounted for the direct and indirect GHG emissions associated with our core operations, which include casting, aluminum component shaping, and subsequent wholesale distribution, all carried out at our plant located in Burgos.

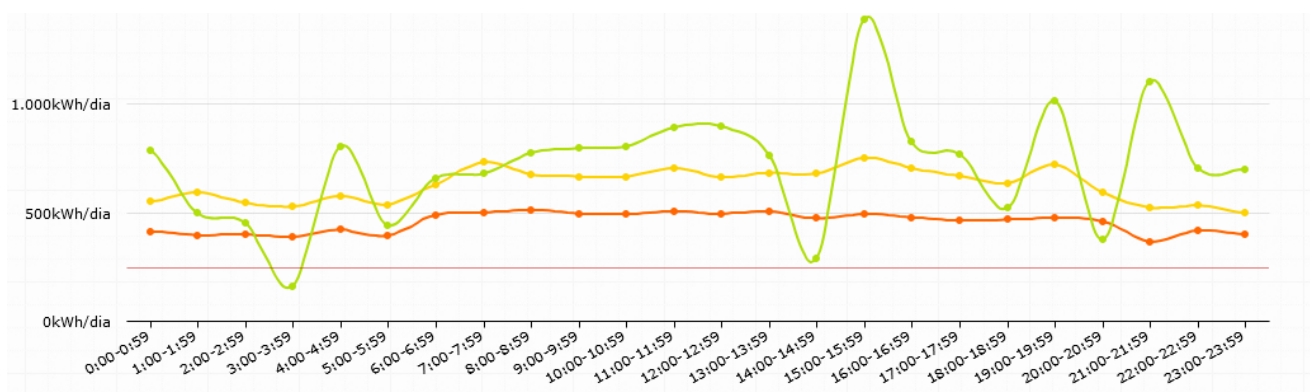
Since the start of our machining operations, now integrated into our process, we have observed significant adjustments in our emissions balance. Specifically, Scope 2 emissions have increased due to the electricity consumption associated with this new activity, while Scope 1 emissions have decreased thanks to the reduction in road transportation to external suppliers. Additionally, **in 2024, the machining capacity utilization has grown to 50%**, reflecting the rising demand for machined components and our ability to integrate more complex processes into our internal operations. Estas modificaciones reflejan nuestro compromiso con la mejora continua y la sostenibilidad en nuestras operaciones.

It is important to note that, starting in 2023, the ratio of CO<sub>2</sub> equivalent tons per ton of aluminum produced (t CO<sub>2</sub> eq/t Al) is no longer comparable to that of 2022, as part of the aluminum production now includes an additional operation performed in-house: machining.

The scope of our services has expanded, transitioning in some cases from the production of raw parts to the delivery of machined components, thereby increasing the added value of our products.

Additionally, since March 2024, **two new robotic cells** have been operational, contributing to the automation of critical tasks within our process. While these cells significantly increase compressed air consumption, they represent a leap forward in the efficiency and precision of our operations.

In our analysis, we have considered emissions stemming from energy generation, the production of goods and services, freight transportation, fossil fuel consumption, and waste management, reflecting the comprehensive impact of our updated operations.



The data and results presented are based on the information collected through invoices associated with consumptions and our own measurement system within that period. These data are subject to periodic reviews and updates as we improve our measurement systems. For this purpose, we have an integrated system that measures the energy consumption of our operations in real-time. This enables us to detect and control potential system deviations, assess risks and improvements for the future, and have thorough control over the amount of energy we use.



## 5. ESTIMATION OF CARBON FOOTPRINT

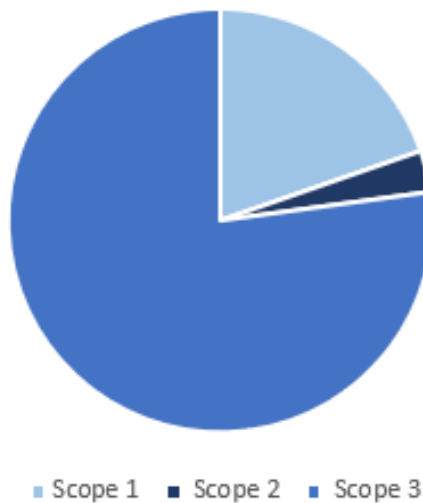
To verify and analyze the carbon footprint of the company, the formula defined by the GHG Protocol has been used.

$$\text{CARBON FOOTPRINT} = \text{Activity data} \times \text{Emission Factor}$$

The results of the three scopes have been collected and presented in a comprehensive manner, obtaining the data from our measurement systems and/or invoices, and applying a conversion factor for each of them based on their emissions.

In an initial analysis, we can see that Scope 3 significantly surpasses the emissions released into the environment compared to the other two scopes.

Next, we proceed to detail the results obtained through the different scopes:

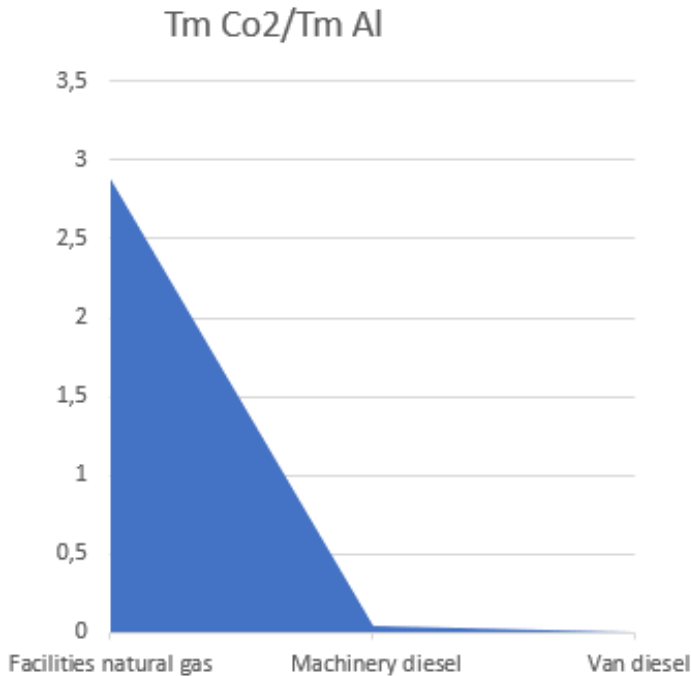


### 5.1 Scope 1

Regarding the direct emissions covered in Scope 1, at GAP we have identified three main emission factors: diesel fuel used for road transportation, diesel fuel used for machinery in the plant, and natural gas used in the facilities.

The use of natural gas accounts for almost the entirety of Scope 1 CO<sub>2</sub> emissions, as the company has office air conditioning, meeting rooms, changing rooms, and a dining area in its facilities. In the

production processes, we have four furnaces for molding parts that operate on natural gas, resulting in a significant consumption. In exceptional cases, such as supply cuts or external circumstances beyond the organization's control, the furnaces can operate using diesel fuel as an emergency measure, although this scenario did not occur in 2024.

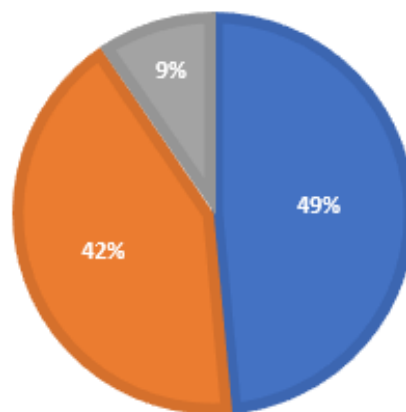


For loading, unloading of materials, and production operations, we have a total of eight forklift trucks, and for external logistics operations, we have one N1 category vehicle. Both the internal machinery and the road transport vehicle operate on diesel fuel (E5), which the company stores for subsequent use.

The aforementioned results were obtained using the Carbon Footprint Calculator provided by the Ministry of Ecological Transition of the Government of Spain.

### GAS CONSUMPTION DISTRIBUTION

■ Sand plant 5D85 ■ Melting ■ Others



In our production process, sand recovery plays a fundamental role in our sustainability strategy. **Currently, we achieve a 92% recovery rate of the sand used**, significantly minimizing the need for new resource extraction and reducing the associated environmental impact. This percentage underscores our commitment to circular economy principles and responsible material management.

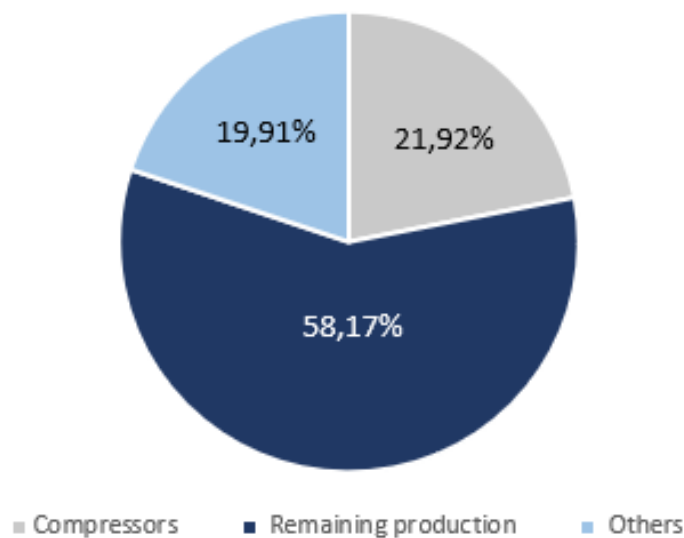
However, **this process is intensive in natural gas consumption, accounting for approximately 50% of our total gas usage.** This energy use is essential to ensure the efficiency and quality of the sand recovery process but also poses a challenge in terms of carbon emissions.

We are continuously exploring opportunities to optimize this process, reducing both energy consumption and associated emissions, without compromising our high recovery rate.

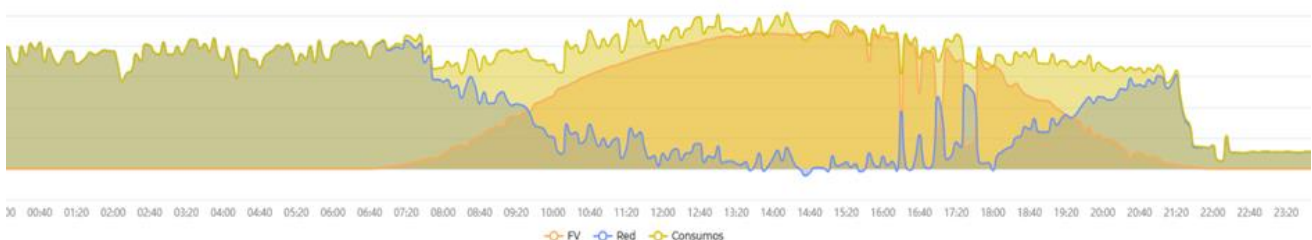
## 5.2 Scope 2

According to the GHG Protocol, Scope 2 requires us to calculate the indirect emissions that the company should consider. At GAP, our emissions in this scope are mainly related to the purchase of electricity to power our facilities. The graph below illustrates the total electricity consumption in 2024.

\*Percentages over the total amount of electricity used in the plant



In 2022, the project for a **photovoltaic solar installation with a capacity of 1.5 MW** was launched. Although by 2023 only 50% of the installed panels were operational, it managed to generate approximately 770,000 kWh. Finally, this installation reached full operational capacity in January 2024, allowing it to generate approximately 1,100,000 kWh during that year.



This progress significantly contributes to reducing emissions and reinforces our commitment to a more sustainable future.



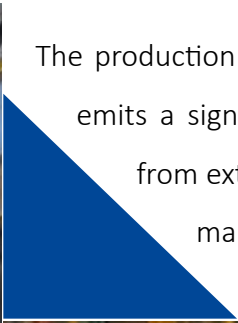
### 5.3 Scope 3

In Scope 3 of the carbon footprint, we analyze the indirect emissions that are generated due to activities not directly controlled by the company but are related to our supply chain, goods transportation, and/or consumables.

The use of aluminum in our casting and shaping processes significantly contributes to greenhouse gas emissions.

At GAP, we prioritize the excellence of raw materials to ensure that our customers receive products of superior quality. That's why we work with primary aluminum ingots, avoiding the use of secondary or recycled aluminum, which would diminish the quality of our final product.





The production of primary aluminum requires large amounts of energy and emits a significant amount of greenhouse gases throughout its process, from extraction to refining and electrolysis. The process used for ingot manufacturing only exacerbates the high percentage of emissions reflected in our report. In 2023, the average emissions of aluminum purchased by GAP were 16 tonnes of CO<sub>2</sub> emitted per tonne of aluminum produced.

### **Green Aluminum Usage: A Crucial Step Toward Reducing Our Carbon Footprint**

In our ongoing efforts to mitigate the environmental impact of our operations, 2024 marked the implementation of a key strategic shift: the integration of green aluminum into our supply chain. This advancement represents a significant stride toward sustainability and stands out as a highlight of our environmental commitment in this report.

Traditional aluminum used in industrial processes typically has an average carbon footprint of approximately 16 metric tons of CO<sub>2</sub> emitted per metric ton of aluminum produced. In 2024, we successfully introduced a type of aluminum with a significantly lower carbon footprint of just 4.9 metric tons of CO<sub>2</sub> emitted per metric ton of aluminum produced. This change has substantially reduced the emissions associated with our activities.



In concrete terms, approximately **45%** of the total aluminum purchased in 2024 corresponds to this **green aluminum**.

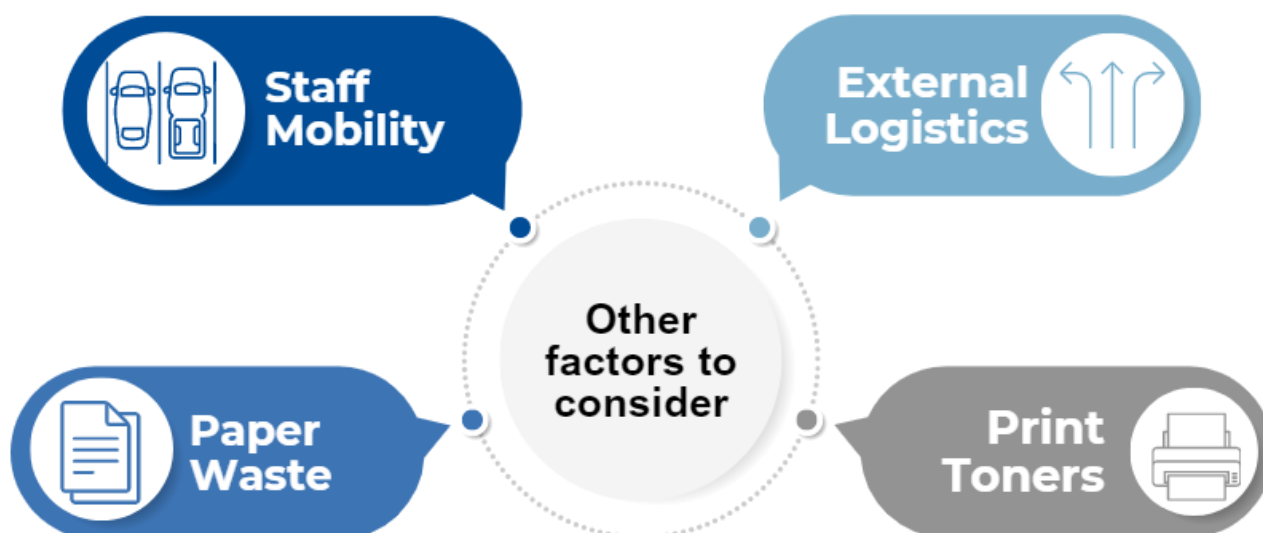
While this percentage does not yet represent the entirety of our purchases, it is a remarkable step forward in the decarbonization of our operations.

The positive impact of this transition goes beyond the immediate reduction in our emissions, as it also lays the foundation for a more sustainable future. We are actively engaging in discussions with more clients and partners with the goal of increasing the proportion of green aluminum in 2025 and beyond.

We aspire to establish agreements that will allow us to further increase the use of low-carbon materials, thereby reinforcing our commitment to sustainability and the fight against climate change.

This step not only reflects our efforts to align our operations with global emission reduction goals but also our conviction that industrial development and sustainability can and must coexist. We will continue working to lead by example, promoting responsible practices that benefit both the environment and our industry.

While aluminum is our main focus, in Scope 3 there are other factors that we have considered and set as objectives to reduce our carbon footprint. Some of these factors include:



**Staff Mobility:** We are committed to promoting more sustainable transportation options, such as the use of public transportation or carpooling, with the aim of reducing our emissions associated with staff mobility.

**Goods Transportation:** Logistics and goods transportation also have a significant impact on our carbon footprint. We work closely with our suppliers and logistics partners to optimize routes, improve efficiency in loading and unloading, and prioritize the use of more sustainable transportation methods.

**Paper Consumption:** We implement paper reduction practices in our operations, encourage the digitization of documents, and promote awareness and education among our employees to reduce

unnecessary paper usage.

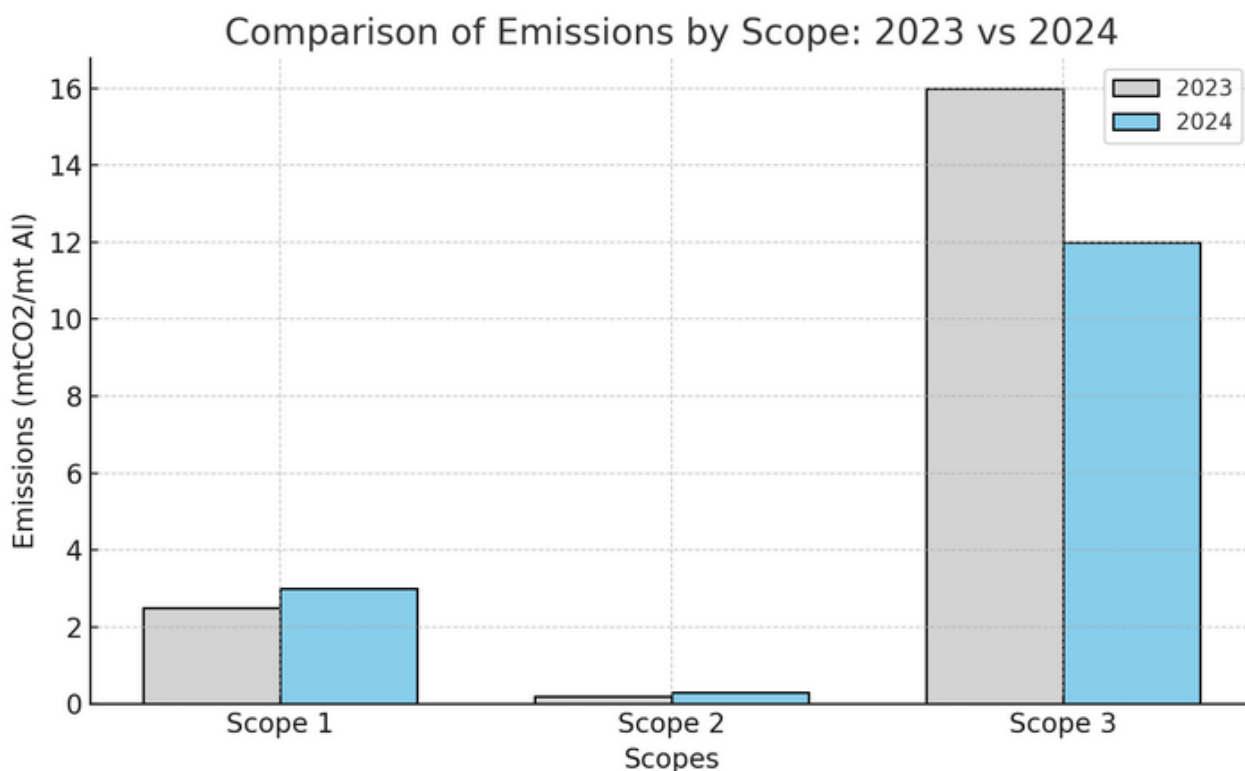
**Printer Toner Consumption:** Printer toner consumption also contributes to our carbon footprint due to associated manufacturing and disposal processes.

## 6. OVERALL RESULTS AND COMPARATIVE ANALYSIS OF PREVIOUS YEAR



			2024 tmCO <sub>2</sub> e/ Tm Al	%	2023 tmCO <sub>2</sub> e/ Tm Al	%
<b>Scope 1</b> (Direct emissions)	Facilities	Natural gas	2,8858		2,3090	
	Road transport	Diesel	0,0002		0,0002	
	Machinery operation	Diesel	0,0419		0,0388	
<b>SUBTOTAL</b>			<b>2,93</b>	<b>19,68 %</b>	<b>2,35</b>	<b>12,41%</b>
<b>Scope 2</b> (Indirect emissions)	Purchased energy	Electricity	0,4702		0,4765	
<b>SUBTOTAL</b>			<b>0,4702</b>	<b>3,16%</b>	<b>0,48</b>	<b>2,52%</b>
<b>Scope 3</b> (Other indirect emissions)	Process	Aluminium	11,37		16,00	
	Goods transportation	Gasoline	0,0559		0,0520	
	Staff Mobility	Gasoline	0,0509		0,0447	
	Consumables	Paper	0,0002		0,0002	
		Print toners	0,0004		0,0003	
<b>SUBTOTAL</b>			<b>11,48</b>	<b>77,16%</b>	<b>16,10</b>	<b>85,07%</b>
<b>TOTAL</b>			<b>14,88</b>	<b>100%</b>	<b>18,92</b>	<b>100%</b>

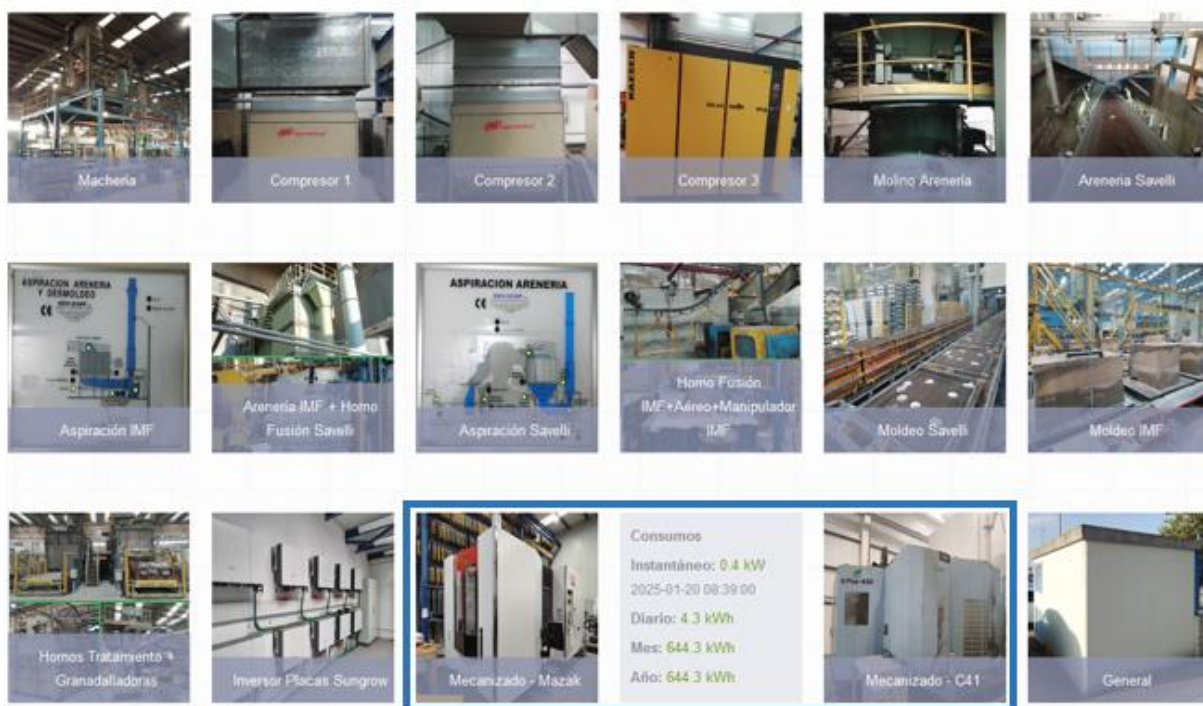




## 7. FOLLOW-UP ON IMPROVEMENTS PLANNED IN THE PREVIOUS YEAR

During the year 2024, we have made significant progress on the actions proposed in the previous report. Below, we detail the level of compliance:

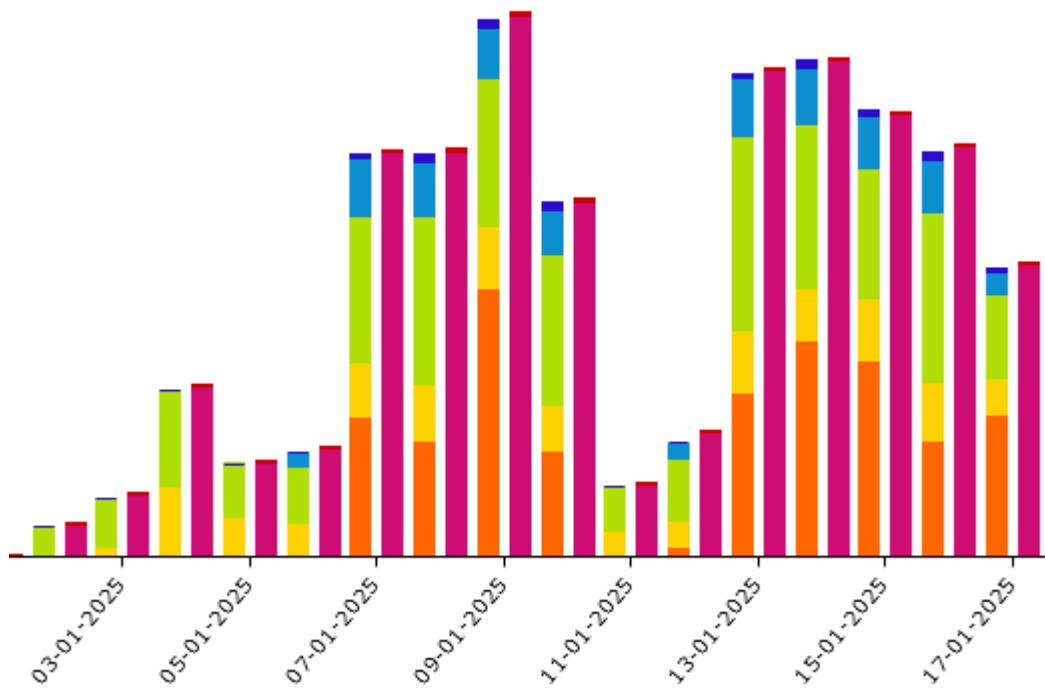
1. **Purchase of low carbon footprint aluminum:** This has been successfully implemented during 2024. Additionally, we are working on expanding agreements for 2025 and subsequent years.
2. **Strengthening the photovoltaic installation:** The installation is now fully operational.
3. **Metering machining area:** Execution completed.



4. **Sale of energy surpluses to the general grid:** This action could not be completed in 2024 as we are still awaiting approval of the project from the Junta de Castilla y León.
5. **Electric car chargers:** Project completed.



6. **Efficient gas consumption (variable solenoid valves):** Action successfully executed.
7. **Improvement of metering (volumetric meters):** Action implemented. We attach graphical evidence to support its compliance.



## 8. OBJECTIVES – REDUCTION PLAN

After thoroughly analyzing the data, we have identified key areas for improvement.

To address this challenge and move towards reducing our carbon footprint, we aim to achieve these milestones by following the following roadmap:



In line with our commitment to reducing environmental impact, we continue to prioritize the acquisition of low carbon footprint aluminum, as highlighted in last year's report. To date, we have successfully consolidated agreements with several clients, and we plan to expand this initiative to more clients during 2025 and subsequent years.

We receive monthly certificates that support the origin and characteristics of the material purchased, which strengthens the traceability and reliability of our purchases.

This year, we reaffirm our intention to continue with this course of action, expanding our efforts to involve more clients in this transition towards more sustainable aluminum.

### IMPROVEMENT OF THE THERMAL EFFICIENCY OF SAND THERMAL RECOVERY

100% operational

October-2025

The **improvement of thermal efficiency** focuses on making the sand heating process more effective by better utilizing thermal energy and reducing the amount of gas needed to produce each ton of material.

A 3% gas savings per ton produced is expected.

The **3% gas savings per ton produced** means that by improving the efficiency of this thermal process, gas consumption can be reduced by 3% for each ton of processed material. This savings may seem small, but in terms of large production volumes, it represents a significant improvement in reducing operational costs and a lower carbon footprint due to the decrease in the use of fossil energy (gas).

### SELLING SURPLUS ENERGY TO THE GENERAL GRIS

Grid injection

2025 and beyond

Once we receive approval for the project from the Board of Castile and León, we anticipate an annual grid injection of 240 MWh. Beyond the economic savings, GAP will be able to make a modest contribution to an electrical system that is increasingly less dependent on fossil fuels.

### IMPROVEMENT OF COMPRESSED AIR CONSUMPTION

Installation of Machining Accumulator

January-2025

The installation of an accumulator in the machining facility optimizes compressed air consumption by storing air during low demand periods and reducing the compressor startup cycles.

This reduces electricity consumption, improves energy efficiency, and lowers carbon emissions associated with electricity generation. Additionally, it stabilizes the air supply, prevents losses due to pressure drops, and extends the lifespan of equipment, reducing operational and maintenance costs.



## 9. IMPROVEMENT STRATEGY

As part of our ongoing commitment to process improvement and sustainability, next year we will make two key investments aimed at increasing the efficiency and quality of our operations:

1. **Installation of new extraction systems:** We will incorporate high-efficiency extraction systems that will significantly improve the plant's hygiene levels. Although these systems are designed to optimize energy consumption, their combined power will amount to 50 kW, representing a significant increase in electricity consumption.
2. **Integration of a robotic cell:** In March 2024, we will add a new robotic cell that will require high compressed air consumption, boosting our production and automation capacity.

Despite the impact these investments will have on energy consumption, we remain committed to efficiency and sustainability. Therefore, we set a key goal of **maintaining electricity consumption per ton produced (kW/Tm) at the same level as in the current year**, despite the increase in equipment. Additionally, we will continue to prioritize the optimization of our thermal processes, aiming to **reduce gas consumption per ton produced (kW/Tm) by 3%**.

With these initiatives, we reaffirm our dedication to balancing innovation, efficiency, and respect for the environment.

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