



fonderie ariotti 2024 Sustainability report

A Greener Future in every Casting

We have been making foundry castings for 114 years, increasingly dedicated to serving the European mechanical industry.

Dear stakeholders, interested and involved in our activities in various ways,

We present to you our third Sustainability Report for 2024, through which we share our company's progress and commitments regarding economic, environmental, and social sustainability. This third edition is enriched by a double materiality analysis, through which we have included your perspectives in our evaluations, bringing us even closer to the GRI (Global Reporting Initiative) guidelines, to which we are not yet obligated due to our status as an SME.

Our company has its roots in the early 1900s and has always been guided by the Ariotti family, now in its fourth generation. We are deeply embedded in our local area and in the industrial culture of both Italy and Europe.

The commitment and values that guide us are respect, sustainable growth, enhancing the local area, the dignity of work and skills.

We present, without hesitation, a difficult report, representative of an extremely complex period, where the consequences of the ongoing geopolitical crisis have deepened, impacting our management, which remains steadfast in its long-term vision, trust in the continuity of our business, and the belief that we are an essential link in European manufacturing.

Reduced production volumes have led to downsized summary figures; however, the strength of our structure is clear. Our company rests on solid foundations:

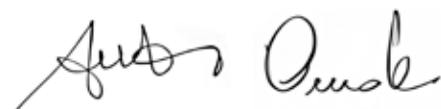
- 1. robust financial strength;*
- 2. reputation;*
- 3. high technical expertise;*
- 4. integration of foundry with mechanical processing for finished products in the shortest time possible.*

The recognized and genuine perception of these strengths has allowed us to operate this year, maximizing customer service, consolidating the entry of prestigious operators who have trusted us for their European reshoring strategy in key sectors for our continent, while maintaining full support for our long-time clients.










Our strength and the integrated management of the economic, social, and environmental dimensions of our business enable us to withstand the current adverse conditions and to confidently look forward to the recovery of markets, of which we are already seeing concrete signs during the drafting of this document.

Thank you all for the trust in our future together

Giorgio and Roberto Ariotti




2024 SUMMARY

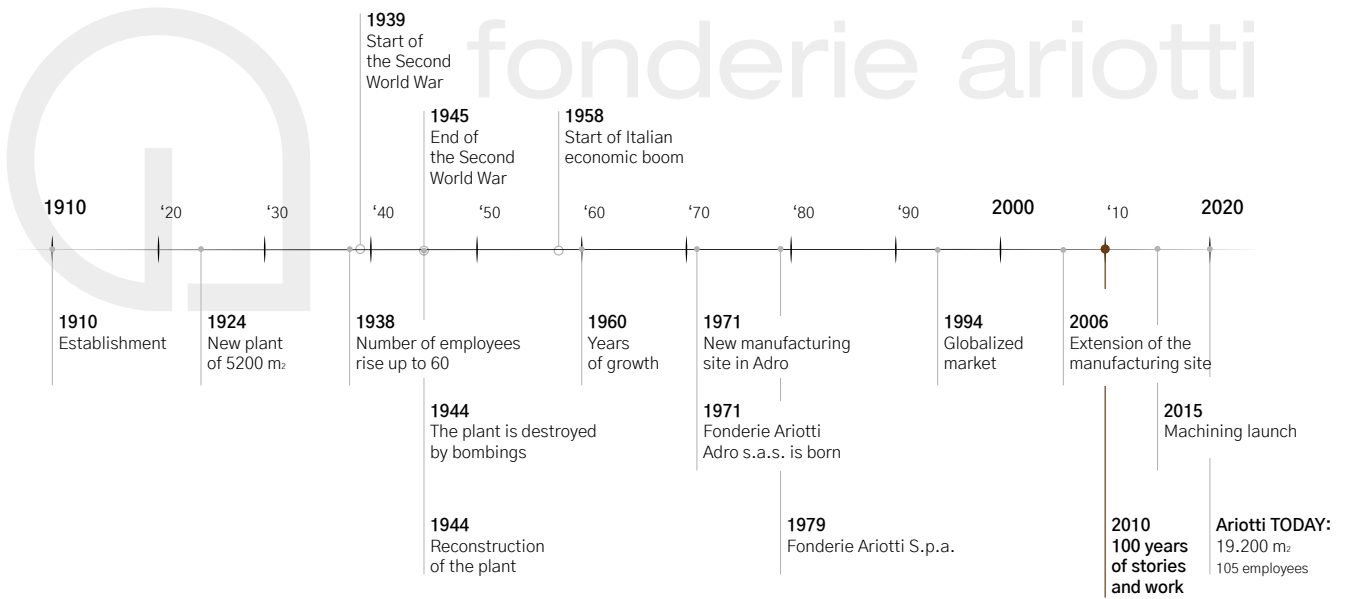
	€ 19,6 M turnover
	105 employees
	98% waste recovery
	1.114.925 kWh self-produced by photovoltaic system
	2110 kg of CO ₂ per gross ton of pig iron
	9.928 tons of gross pourings
	€ 24.000 donations to the community
	<ul style="list-style-type: none">• 36% foreign customers• 64% Italian customers
	92% Italian suppliers

114 years of history

Chapter 1: Who are we?



1.1 Our history:





1.2 Plants

Fonderie Ariotti has been working in the cast iron foundry sector for over a hundred years.

We produce grey and nodular cast iron parts **up to 70 tons** for the mechanical industry, providing also machining, and we export abroad approximately **36% of our products**.

The company currently covers a **surface area of approximately 40.500 m2, of which 19.200 are covered**.

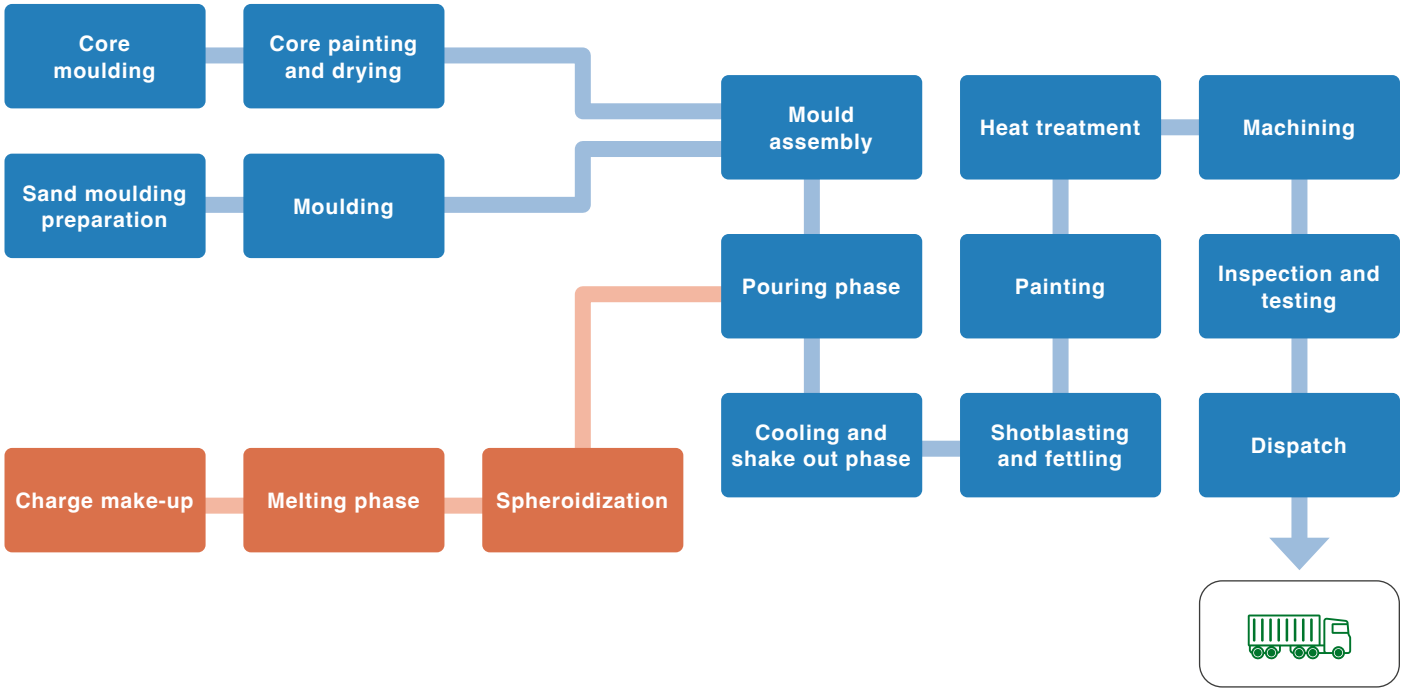
In 2015 the mechanical processing activity was started and the new canteen and changing rooms were built.

 Foundry

 Mechanical shop



1.3 Production cycle



1.4 Certifications

Ever since concerned about qualitative standards, Fonderie Ariotti is certified according to the following schemes:

QUALITY MANAGEMENT SYSTEMS: UNI EN ISO 9001→since 1996

ENVIRONMENTAL MANAGEMENT SYSTEMS: UNI EN ISO 14001→since 2004

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS: ISO 45001→since 2011

ENERGY MANAGEMENT SYSTEMS: UNI CEI EN ISO 50001→since 2023

INFORMATION SECURITY MANAGEMENT SYSTEMS: UNI CEI EN ISO/IEC 27001→since 2023

APPROVED MANUFACTURER OF IRON CASTINGS IN ACCORDANCE WITH DNV RULES FOR CLASSIFICATION – SHIPS- DNV CLASS PROGRAMME – DNV-CP-0249 IRON CASTINGS→since 2025

CERTIFICATE OF APPROVAL OF MANUFACTURERS OF MATERIALS→since 2018

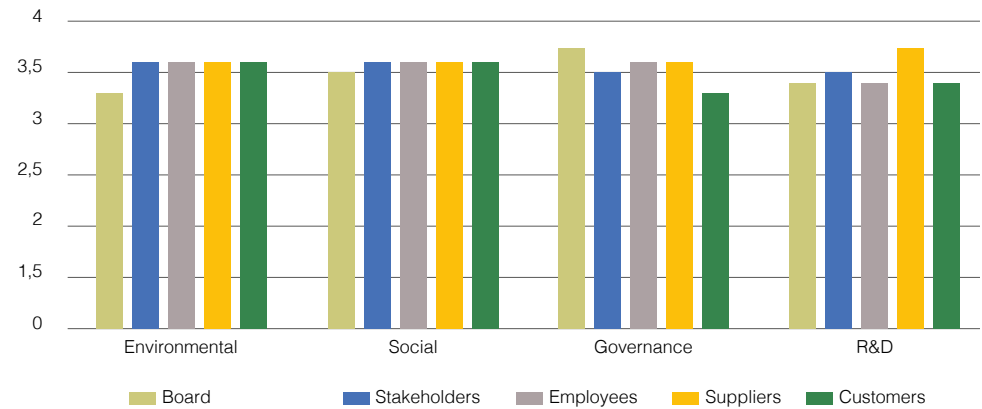


In 2016 the first environmental report was drawn up, providing an overview of the indicators relating to the main impacts.



1.5 Materiality analysis

In 2024, **ESG** topics were investigated both within the company and with its external stakeholders. On a scale from 1 (not relevant) to 4 (very relevant), the Governance aspects were considered the most relevant for the **Board of Directors** (with a score of 3.6 or higher), while for the **stakeholders**, the Environmental and Social aspects were deemed more relevant.



1.6 ESG approach

Sustainability is the process of change in which the exploitation of resources, investment plans and orientation of technological development are in synch and enhance the present and future potential in order to face human needs and ambitions.





Chapter 2: Governance



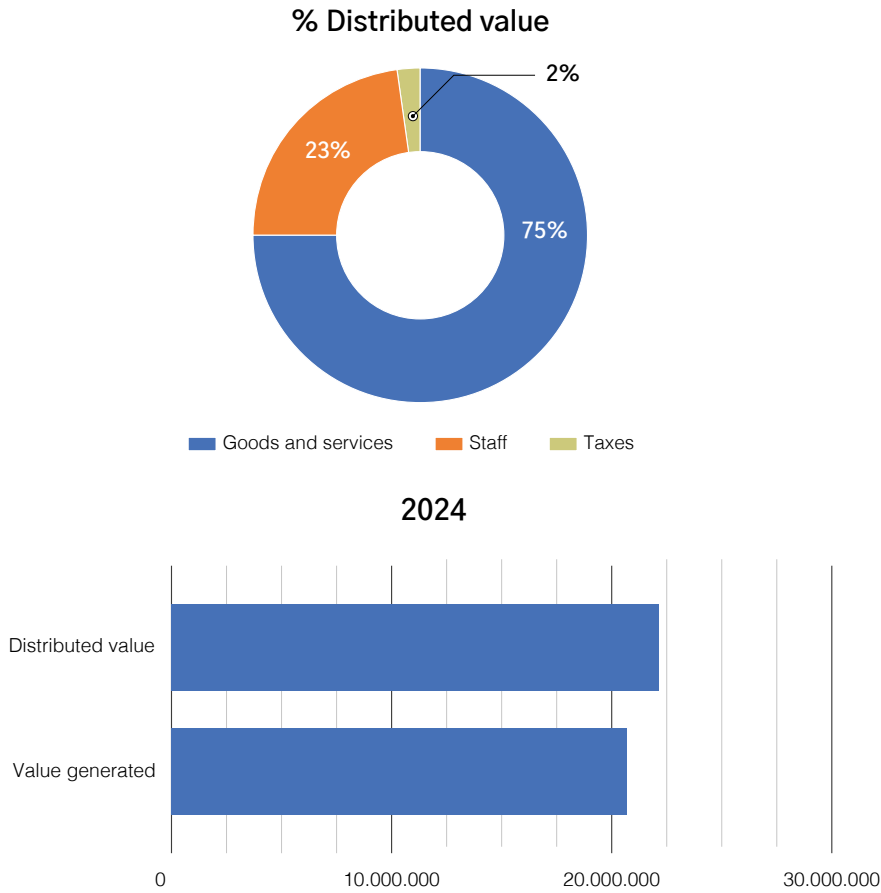
2.1 Economic indicators:

2024: 9.659 gross TON of castings

Turnover 2024: € 19.649.456 The majority of the distributed value is assigned to suppliers, followed by Staff and the Government.

	2024 (Euro)	2023 (Euro)
Generated value	20.818.300	26.865.544
Distributed value	22.171.555	26.742.076
Goods and services	16.626.507	20.725.058
Staff	6.244.556	6.465.629
Taxes	(699.508)	(448.611)
Retained economic value	(1.353.255)	123.468

Staff entry impact is linked to the choice to limit the temporary layoff, employing the workers in reorganisation activities

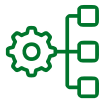




2.2 International score

The **international risk score** assigned to our company by Credit Safe, a commercial information provider, corresponds to **B**, which means **HIGH RELIABILITY!**

Risk score	International score	Credit	State	Protest	Protest sum total	Payment trend
68	B	€615.000	Attiva	-	-	



2.3 231 Organisation Model

As is well known, Legislative Decree 231/01 introduced **the regime of administrative liability for entities in the Italian legal system**, holding them responsible for the commission of specific crimes (predicate offenses) committed in their interest or advantage by individuals who, even in fact, exercise management or control, or by those subject to them.

This means that a company can be directly subject to criminal proceedings for the aforementioned crimes and is liable to significant sanctions that could even halt its ordinary operations.

The adoption of an Organizational and Management Model designed to prevent the ‘predicate offenses’ allows the company to protect itself from such liability.

Although the introduction of an Organizational Model is optional by law, **Fonderie Ariotti SpA decided to implement it more than 10 years ago** (the first version dates back to 12/06/2013) in order to:

- protect the company;
- safeguard all stakeholders involved;
- improve its internal organization;
- raise awareness among all those who operate on behalf of the company.

With the Organizational and Management Model, Fonderie Ariotti reaffirms its strong commitment to operate with **integrity and transparency, in accordance with current laws and regulations**, and to **condemn any behavior contrary to them**, doing everything possible to intervene promptly, prevent, and counteract the commission of crimes covered by Legislative Decree 231/01.



2.4 Customers

Fonderie Ariotti’s customers are **36%** foreigners and work in the following areas:

- Presses (inijection and forming)
- Grindings
- Rolling mills
- Machine tools
- Wind, solar and hydroelectric power
- Compressors
- Industrial gear units
- Aerospace

No credit losses in 2023

Our credit risk management is careful and cautious.

We evaluate our costumers’solvency in advance, analysing their financial report and using reports supplied by a business information provider. We therefore choose to supply exclusively counterparts we consider solvent, and we monitor their state of health.

In addition, we have had a credit insurance policy for several years, which provide us with important information about our customers and cover from insolvency and non-payment risks.



2.5 Suppliers

92% of our suppliers are Italian.

New equipment for incometing goods inspections have recently been introduced in Fonderie Ariotti business context, strenghtening the security and reliability of our internal processes. **Simultaneously, an awareness-raising policy towards our suppliers has been launched, focusing on safety, environment and data protection.** This proactive strategy reveals the persistent commitment of the company to guarantee high and sustainable standards in all its activities, promoting a business culture aiming at responsibility and global protection.



2.6 Investments in Fonderie Ariotti’s group

INVESTMENTS	AMOUNT in € 2024	AMOUNT in € 2023
Software and other intangible assets	13.850	69.906
Land and buildings	458.711	246.372
Plant and equipment	387.372	1.008.234
Commercial and industrial equipment	158.812	198.835
Other goods	76.008	302.948
TOTAL	1.094.753	1.826.295

Investments are completely self-financed, without any bank loan



Chapter 3: Social

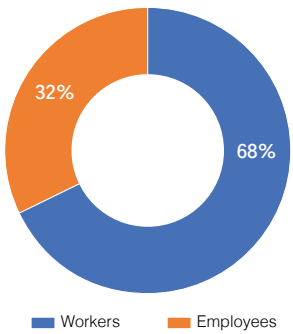


3.1 Employees

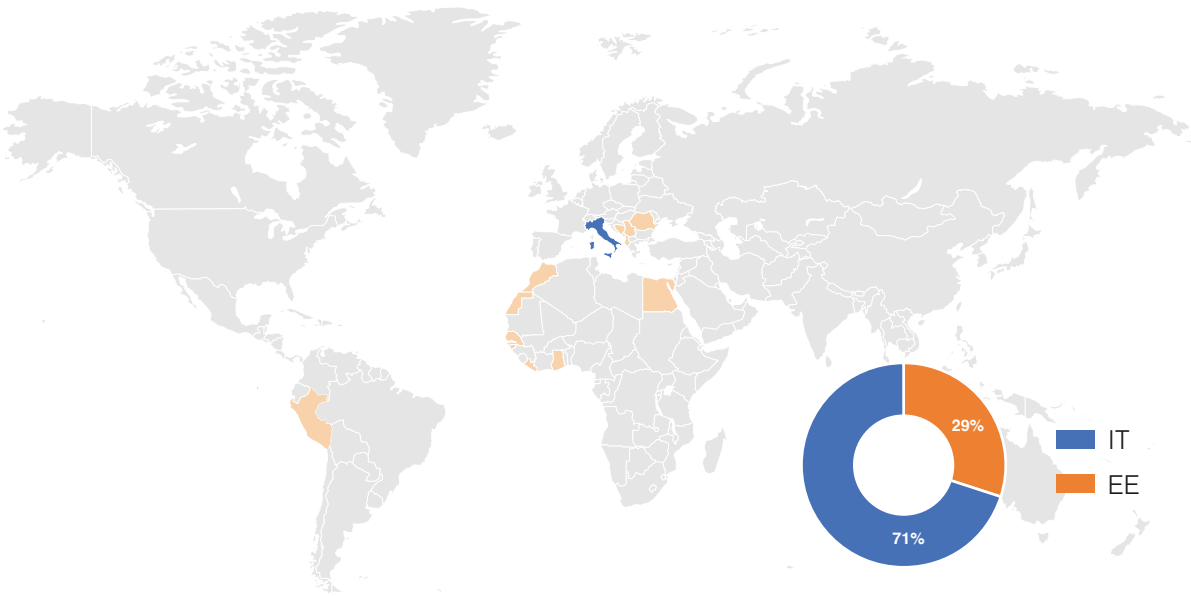
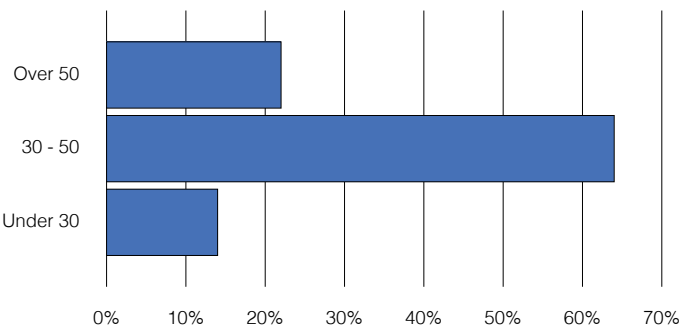
Fonderie Ariotti’s staff is composed of **105 employees**, of which **95%** are employed with a **permanent contract**, while **part-time** employees represent 5% of total employees.

29% of employees comes from foreign countries, but this diversity does not represent a hindrance at all; on the contrary, the company is characterised by **high-integration** values, having departments composed by people coming from **different cultures**. Regarding the age factor, the majority of employees (**64%**) belong to the group between 31 and 50 years of age. In the second place, we can find the **over-51** group 22%, while the third place belongs to the **under-30** group 14

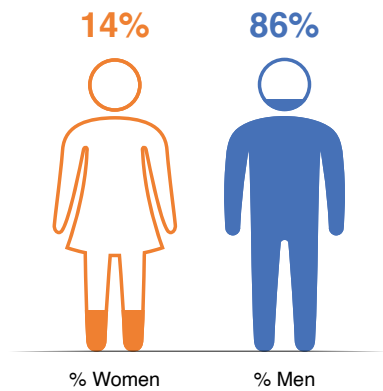
Staff composition 2024



Demographic distribution of employees

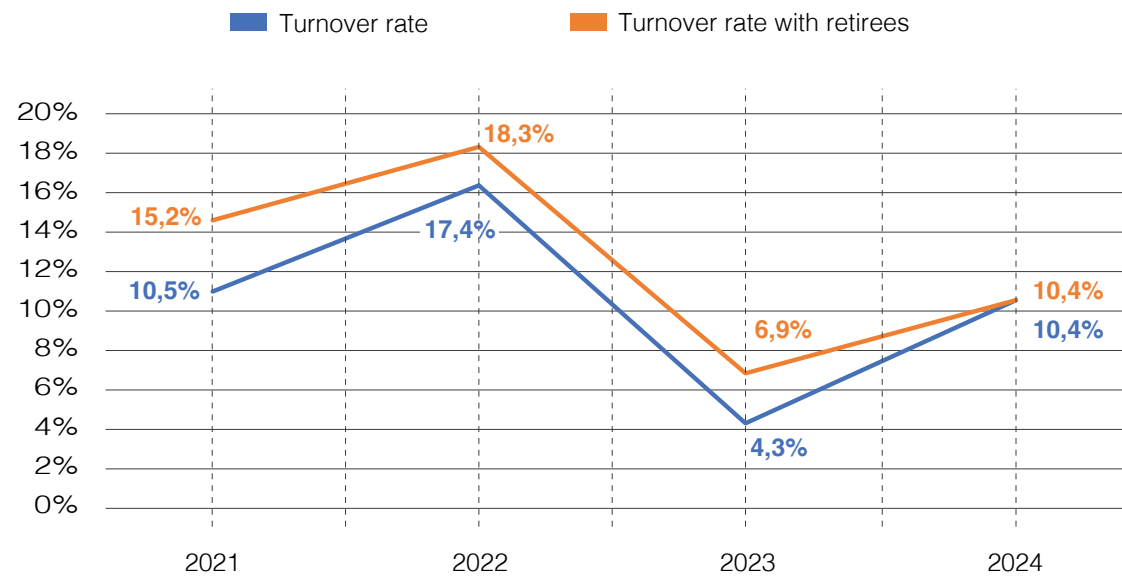


Historically and traditionally male-dominated, in recent years has seen a growing increase of female contribution; our **female employees** are 14% of the total..



3.2 Turnover

Fonderie Ariotti has always been proud of an extremely **low turnover rate**; many employees spent their entire working life working at the foundry plant.

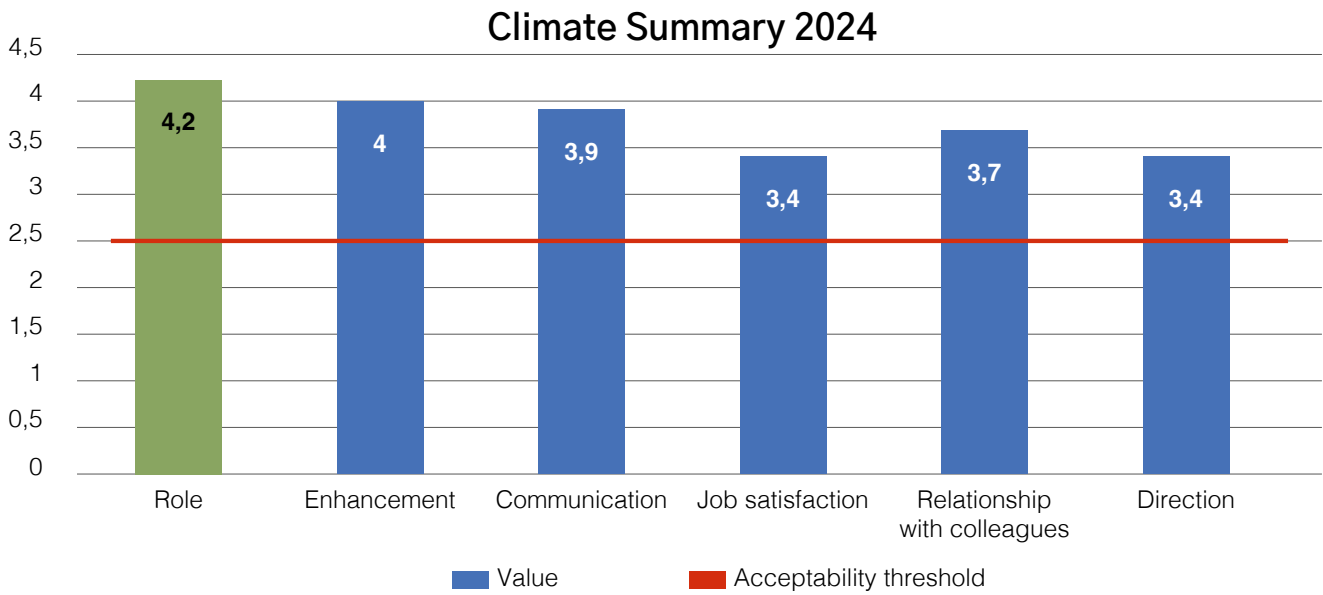


3.3 Climate survey

The climate survey conducted in collaboration with the University of Bergamo, as part of the PhD program ‘Science of the Person and New Welfare,’ administered to employees, showed overall performance levels ranging from excellent to good.

The response rate was 99%, with 57% of the responses coming from foundry staff; no significant differences were found based on job position

Key	
Excellent level of performance	$X > 4$
Good level of performance	$3 < X \leq 4$
Clear need for action	$2 < X \leq 3$
Immediate intervention	$X \leq 2$





3.4 Safety

Fonderie Ariotti invests lots of effort on safety and health of employees; over the years risk-monitoring systems and plenty of investments to bring technology and innovation have been implemented:

UNI EN ISO 45001 certification (formerly known as OHSAS-18001) accomplished in 2011, the **231 organisational model** and a constant activity of **internal auditing** and records on non-conformity, near miss and medications (besides the obvious injury-records) led the company to intercept sources of risk in order to analyze, correct and prevent them.

During **2024** we had 5 injuries total of 39 days. 0,17% of **worked hours**.

	Total injuries number	Total prognosis days	Inj. hrs/work. hrs	Severity index	Frequency index
2022	10	279	1,12	1,401	45,19
2023	3	13	0,05	0,067	15,58
2024	5	39	0,17	0,215	27,53

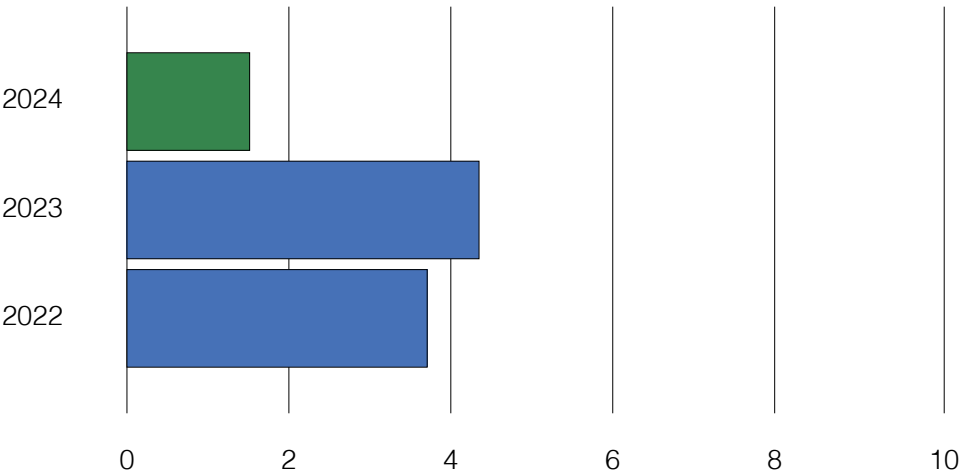


3.5 Trainig

Many corrective actions implemented are concerned with training courses and paths of improvement..

In **2024**, training represented **1,47%** of worked hours.

% of training hours out of total hours worked



3.6 Fusioni Project

In Fonderie Ariotti not only we realise iron castings, but we are also committed to the realisation of more significant “fusions”: the ones that happen in the everyday life among different people, among personalities, among cultures and experiences. In 2021 the project “Fusioni – Storie di Fonderia” (literally “Fusions – Foundry Stories) was launched, aiming at enhancing human capital found in the company. This project intends to share the experiences of some employees, narrating stories of men and women that chose to join Fonderie Ariotti after leaving their country of origin. Moreover, we also illustrate stories of people that, within the company, welcomed new generations, passing down their know-how and overcoming cultural and language barriers.

In 2023, the project “Fusioni - Storie di Fonderia” was selected among numerous candidates for the Confindustria Brescia competition “Fabbrica del Futuro”, as part of Brescia & Bergamo, Italian Capital of Culture 2023, and was one of the seven winners in the “Synergy Business-Territory” category. To celebrate this recognition, a theatrical performance was created in collaboration with the “Teatro Piroscabo” and singer-songwriter Lorenzo Monguzzi. The performance, with great satisfaction from the employees who participated in the arts, was repeated in 2024 in Palazzolo at the Teatro Sociale and in Bergamo at the Teatro Sant’Andrea during the Work Psychology Conference organized by the Italian Association of Psychologists.





3.7 Collaborations with schools and universities

Fonderie Ariotti shows strong commitment in investing in young people and actively collaborates with educational institutions, both for assuring sustainable future to the company through the input of **young talents** and for proving the engagement and **social commitment** towards community.

In 2024, the company welcomed **3 university curricular internships**, **3 pathways for cross-disciplinary skills and orientation (PCTO)** in collaboration with various High School Institutes, and introduced **2 first-level apprenticeships** in collaboration with the AIB Training Center:

- **Università degli Studi di Bergamo**: PhD in “Human sciences and Welfare Innovation”;
- **Università degli Studi di Trento** and **CNR** (Italian National Research Council): “Designing against failures resulting from static and time-varying loading in thick-walled components made of ductile cast iron”.

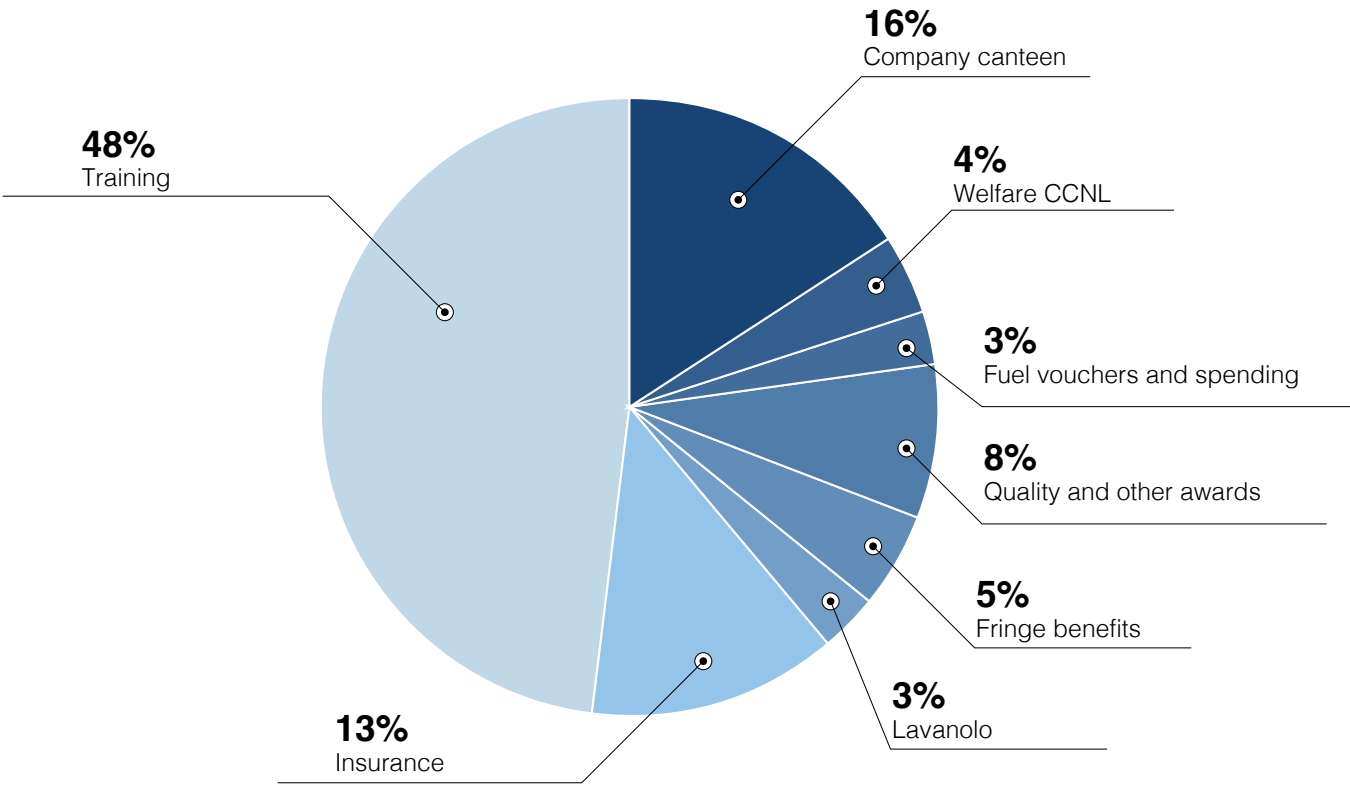
The PhD program in collaboration with the University of Trento and the CNR has concluded with the integration of a new technical-commercial role into the company. This achievement reflects the ongoing focus on industrializing the latest technical developments, thus providing the customer with an increasingly structured co-design service that can adapt to various needs

It is necessary to mention also collaborations with **UNSIDER**, the Italian organisation of iron and **steel unification**, and with the Munich’s **Fraunhofer Institute** which deals with the development of **applied research**.



3.8 Welfare & benefit

Every company’s success is essentially tied to the **contribution of the people** who work there. This is the reason why Fonderie Ariotti has faith in and acknowledges its employees’ worth. Every year by means of the welfare policy several benefits are introduced, in order to reward the constant **commitment of employees**. During 2024 **€ 513.577** were invested in the employees welfare :





3.9 Solidarity

During 2024 the company since always sensitive to social issues has reserved € 24'000 to several social and cultural ventures. Among the most significant donations, we highlight the ones earmarked to **Fondazione Brescia Musei**, to FAI National Trust for Italy, to **Pallacanestro Brescia**, to the **Missionary Association Zikomo Malawi** and scholarships in favour of IIS Marzoli high school students for volunteering experiences in Malawi. the donation of a specially equipped vehicle to the “**Cooperativa il Battello**,” a valuable organization that provides services for people with disabilities and those in disadvantaged situations in the Basso Sebino area. This vehicle enables the organization to arrange outings, trips, and social transport for wheelchair users.



3.10 Shared ethical values: ethical code, organisational model 231/2001

RULES COMPLIANCE

Fonderie Ariotti works in full compliance with laws and regulations in force in any Country it operates in and rejects any behaviour that directly or indirectly clashes with them, with the internal rules or with the following values.

INDIVIDUAL INTEGRITY

Human Resources are Fonderie Ariotti's essential development factor. The Company works in best regard to physical and ethical integrity and to personal dignity.

EQUITY AND EQUALITY

Fonderie Ariotti rejects any discrimination form that could be founded on race, sex, religion or any other factor. Any internal hierarchical relationship is based on equity and fair authority and refuses any abuse of power.

HONESTY AND CORRECTNESS

Fonderie Ariotti works with correctness and honesty with all internal and external parties and rejects any opportunistic and dishonest behaviour or conflict of interest.

EDUCATION

The relationship between workers and collaborators, at all levels of responsibility in the company organization, must be based on reciprocal rectitude and good manners. Fonderie Ariotti does not tolerate any form of physical and psychological violence.

HEALTH AND SAFETY

Fonderie Ariotti is sensitive to its Staff wellbeing, so it guarantees human dignity respectful work conditions and a safe and healthy work environment. The Company is also proactive in the diffusion of the safety education.

ENVIRONMENTAL CONSERVATION

Fonderie Ariotti has a great feeling for environmental problems. It works in maximum respect for environmental conservation and adopts procedures aiming to reduce any negative impact to the surrounding flora, fauna and to the local community wellbeing. Fonderie Ariotti makes all this even better than the current law prescription.

TRANSPARENCY, CLARITY AND INFORMATION TRUTHFULNESS

Fonderie Ariotti acts with full transparency and good faith towards every stakeholder, complying with Italian and European laws and regulations. The Company circulates clear, complete, understandable and truthful flows of information.

DISCRETION

Fonderie Ariotti pays a great attention to privacy and copyrights and guarantees strict discretion in relationships and data handling.

MOTIVATION

Fonderie Ariotti aims to share its goals with its Staff, takes in great consideration opinions and suggestions and offers opportunities for training and professional skills development.

PROFESSIONAL ABILITY

Fonderie Ariotti acts with expertise and professional care. The Company confers roles and responsibilities according to people knowledge and technical ability and offers appropriate training and updating opportunities.

FAIR COMPETITION

Fonderie Ariotti acts in the market with free and fair competition and rejects any collusion behaviour and abuse of leading position.

Fonderie Ariotti rejects any behaviour that diverges from the above mentioned.



Chapter 4: Environmental

Awareness on environmental issues has always been a top priority for Fonderie Ariotti, who in **2004** attested itself to the **UNI EN ISO 14001** in order to choose an organizational system aimed at the **continuous improvement of environmental performances**.

The implementation of the system allowed to control and guarantee through time the constant compliance with the provisions subsequently transposed in **AIA Decree 7206 of 2008** and to prevent potential risks and opportunities.

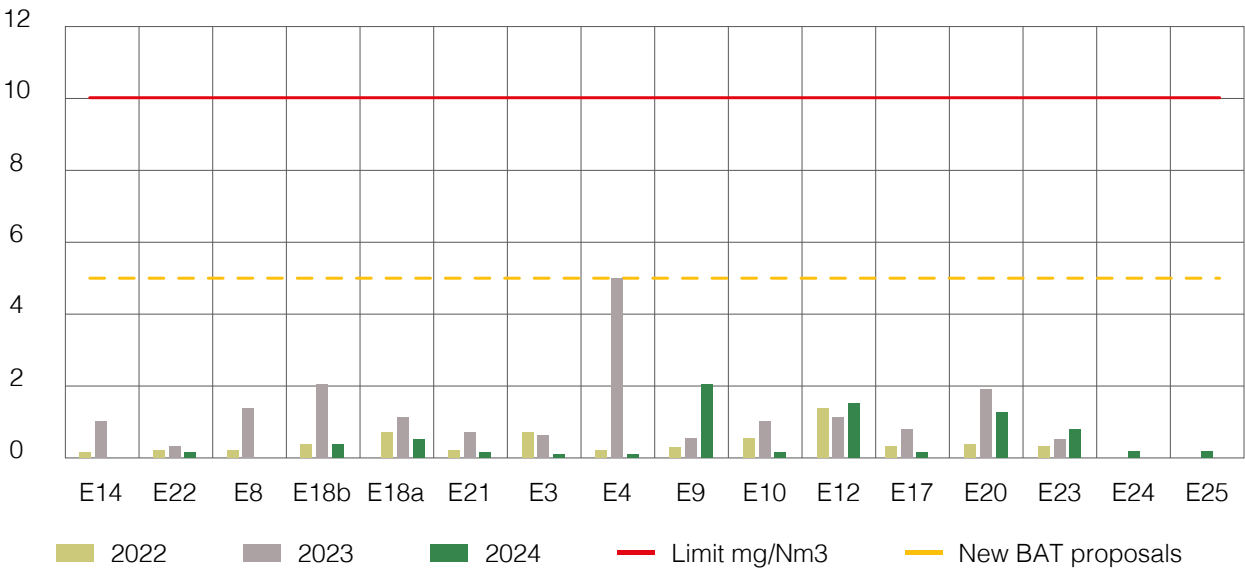
4.1 Air

Fonderie Ariotti assures controlled aspiration of the environment through 14 vacuum and dust suppression systems in the foundry plant and through **4 plants covering machine tools**.

Monitoring on chimneys are carried out yearly to measure pollutants.

Monitored parameters are dust, silica, phenol, PAH, dioxins, metals, VOC, of which **compliance with limits** is guaranteed. The most significant parameter, which is also common to all plants, is undoubtedly dust, following the 2024 trend chart:

Dust emission trend



Monitoring of dust also allows for the verification of individual filter performance, enabling targeted maintenance interventions. This helps us already comply with the limit set by the new industry BATs (Best Available Techniques) that will be applied in the future.”.



4.2 Resources depletion:

The raw materials used are those for the forming and melting phases.



4.2.1 Raw Materials:

Moulding: for each gross casted ton, **70 kg** of sand for the production of moulds and **4 kg** for the production of cores are introduced, **95%** of the used sand is internally recycled.

New sand:	U.M.	2023	2024
New sand moulding	ton	1232	686
New sand moulding/gross ton	ton/ton lorde colate	0,09	0,07
New sand cores	ton	60	36
New sand cores/gorss ton	Ton/ton lorde colate	0,005	0,004

Melting: 51% of the raw materials used in the charging of furnaces comes from End of Waste scrap or directly from slags residual from the production process

Consume:	U.M.	2022	%	2023	%	2024	%
Pig iron	ton	6687	43	6209	49	4427	45
Steel scraps	ton	4929	31	3167	25	2719	28
Cast iron scraps	ton	4140	26	3271	26	2705	27
Total	ton	15756	100	12648	100	9851	100



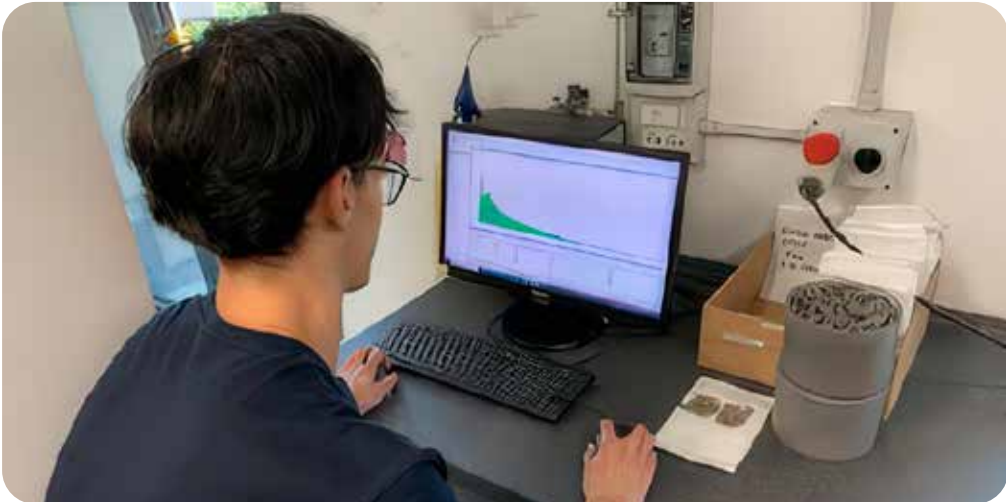
Our product is recyclable forever and ever!



4.2.2 Radiometric controls:

Fonderia Ariotti transposing D.L. 17/2002 performs radiometric controls on:

- **Material addressed to melting**, through a radiometric gate placed at the threshold of the plant
- **Melted material**, through spectrometer
- **Melting by-products** such as dross and dust from fume cleaning system placed at control of furnace department, through Gamma Spectrometry System





4.2.3 Electric use:

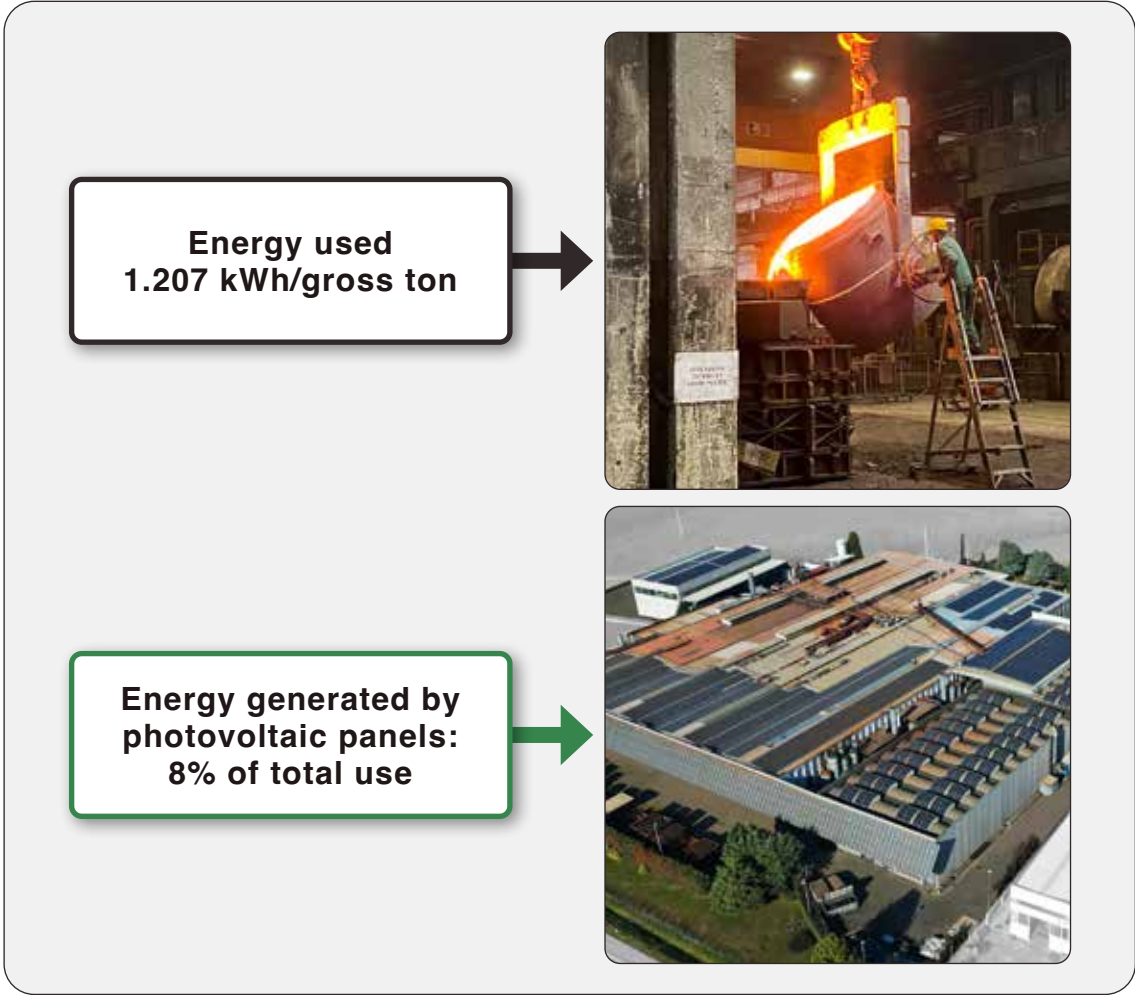
For each **gross casted ton 1.207 kWh** are necessary.

The most relevant energy consumption is the one related to melting phase and pouring phase, which represent **67%** of the total.

The slight decrease in efficiency in 2024 compared to 2023 is due to the decision to keep both furnaces in operation despite the drop in volumes, in order to ensure the best possible service for our customers;

Consume:	U.M.	2022	2023	2024
Electric	kWh	17.221.783	14.253.828	11.982.567
Electric total/ gross ton	kWh/ton lorde colate	1.086	1.141	1.207

ELECTRIC POWER:



4.2.4 Self-produced energy:

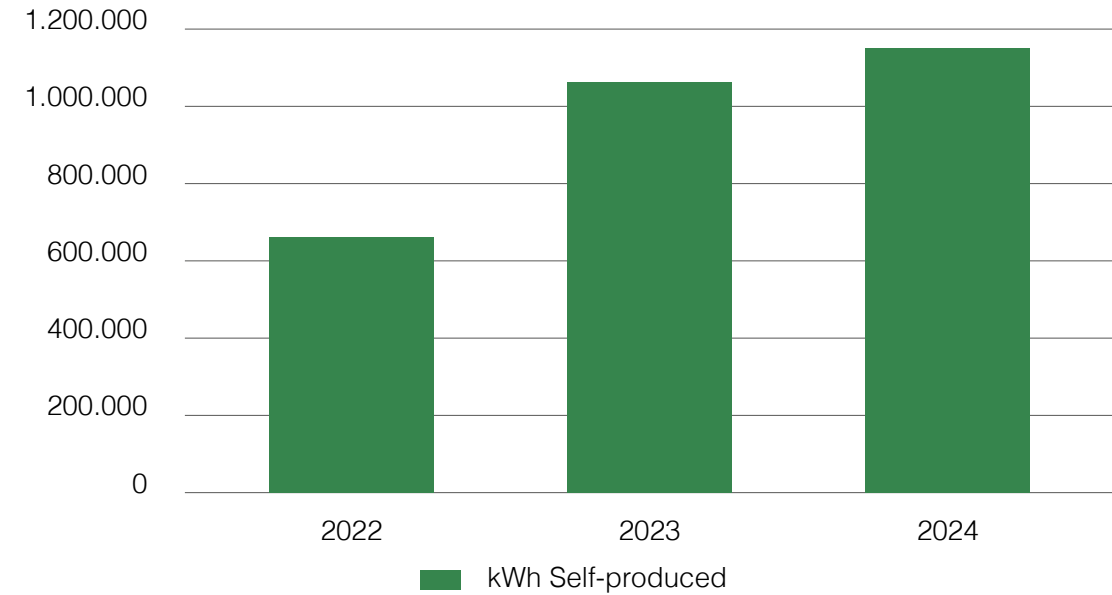
In the company four photovoltaic systems are installed, for a total of **1.178 kW**, equal to **23% of the power installed**; the fourth was completed in 2023.

In 2024 the **4 photovoltaic systems** in use produced **1.114.925 kWh**, avoiding the emission of **592,025 kg of eq. CO₂**.

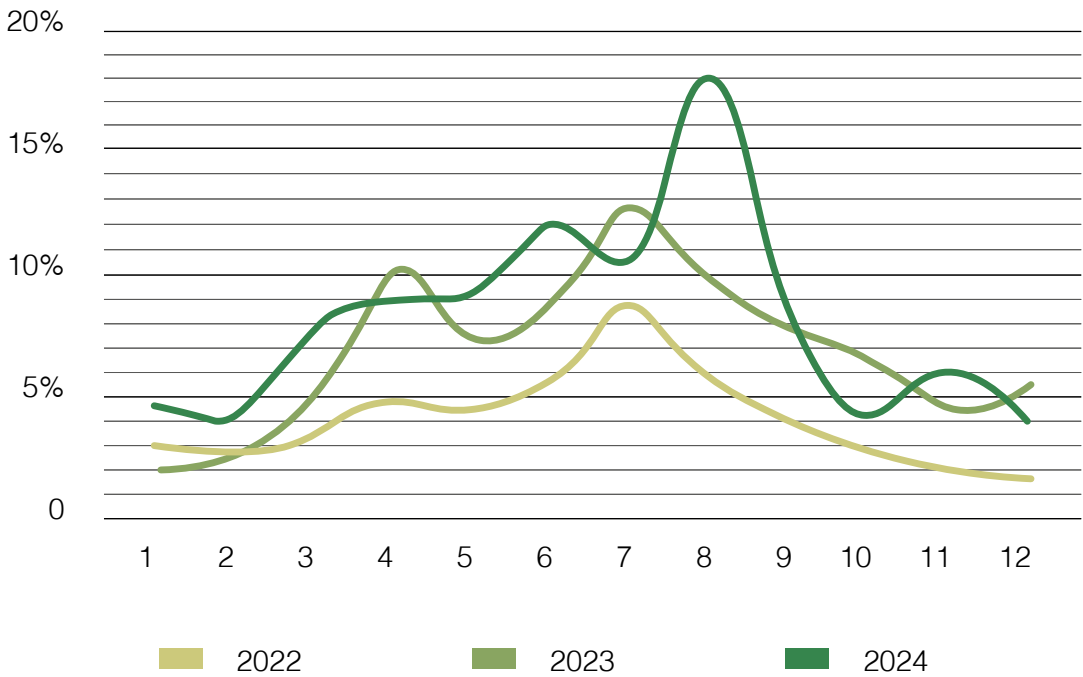
Photovoltaic production	U.M.	2022	2023	2024
Self-produced energy	kWh	667.000	1.060.715	1.114.925

The percentage of self-produced solar energy consumed peaks in August, due to both favorable conditions and the production shutdown.

kWh Self-generated energy



% PV self-consumption / Total energy demand



4.2.5 Methan gas use

Use	U.M.	2022	2023	2024
Methan Gas	Sm3	46.686	43.181	38.783
Ratio on casted ton	Sm3/ gross casted ton	3	3	4

Methan Gas is mainly used for heating of spaces and ladles.



4.2.6 Diesel oil use

Diesel oil is used for the forklift refueling

Use	U.M.	2022	2023	2024
Diesel oil	Lt	40.166	39.001	33.064
Ratio on casted ton	Lt/ gross casted ton	2,53	3,12	3,42



4.3 Waste management

Since 2020 the waste management system is organised on a cloud platform.



245
FORMS



98
RECOVERY (%)



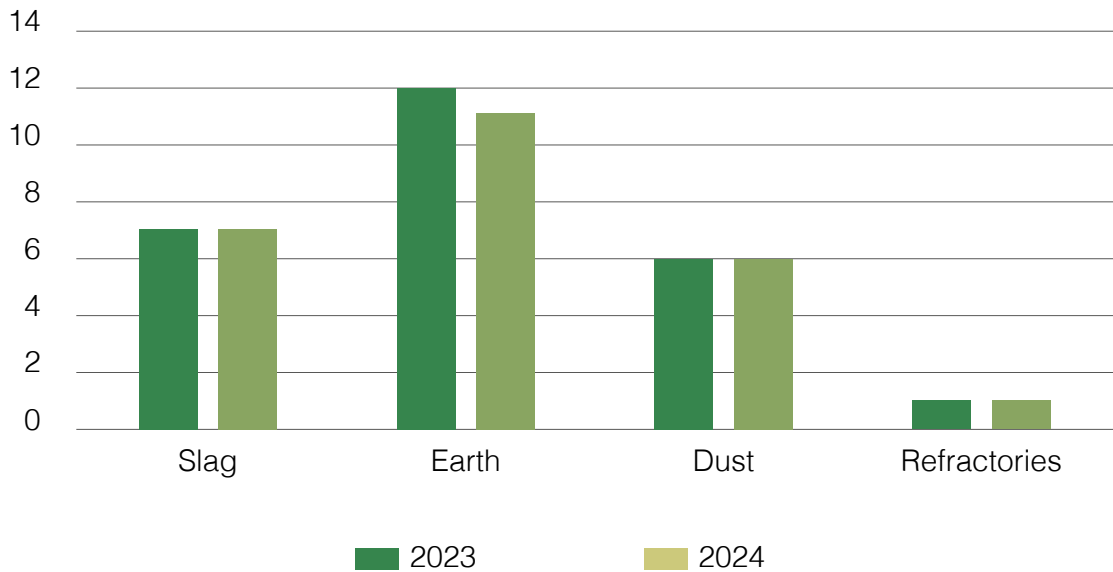
2.778.895 kg
LOADS



2.771.011 kg
DISCHARGES

For each gross melted ton **0,29 tons** of waste are emitte. The **98%** of produced waste is sent for recover to find a new life.

% tons waste produced/gross tons poured



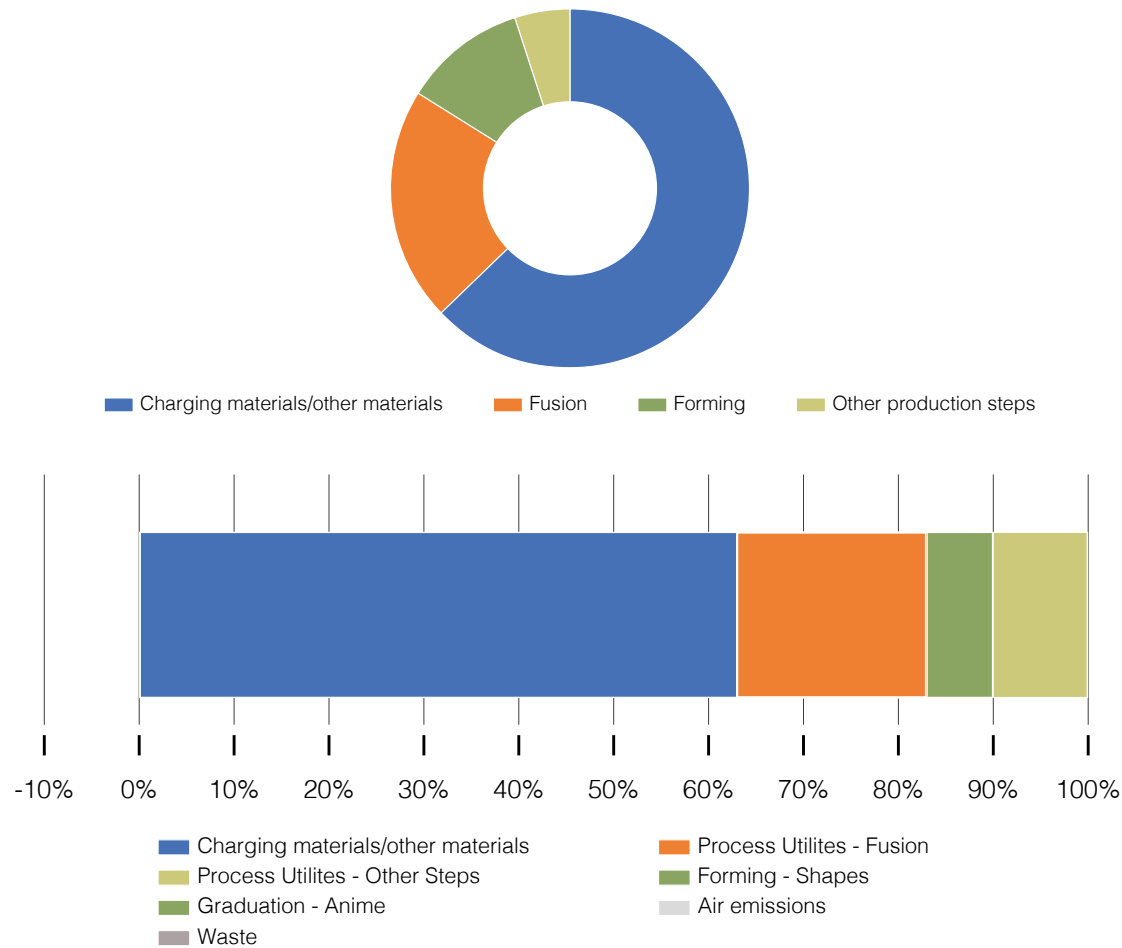


4.4 Carbon Footprint

2110 kg of CO₂ eq for gross cast iron ton.

In the subject matter of the PEF investigation it has been conducted an analysis on Fonderie Ariotti's **Carbon Footprint**. The impact on the climate change category measured was in line with the benchmark set by Assofond of 2300kg CO₂ eq.

Total carbon footprint – by process step



The main contribution comes from the raw material, which accounts for **63%**, followed by the melting phase, which impacts **21%**.

Using the Assofond tool, it is possible to estimate the kg of CO₂ eq per ton of specific casting. This allows for a customized assessment of the impact for each individual component.

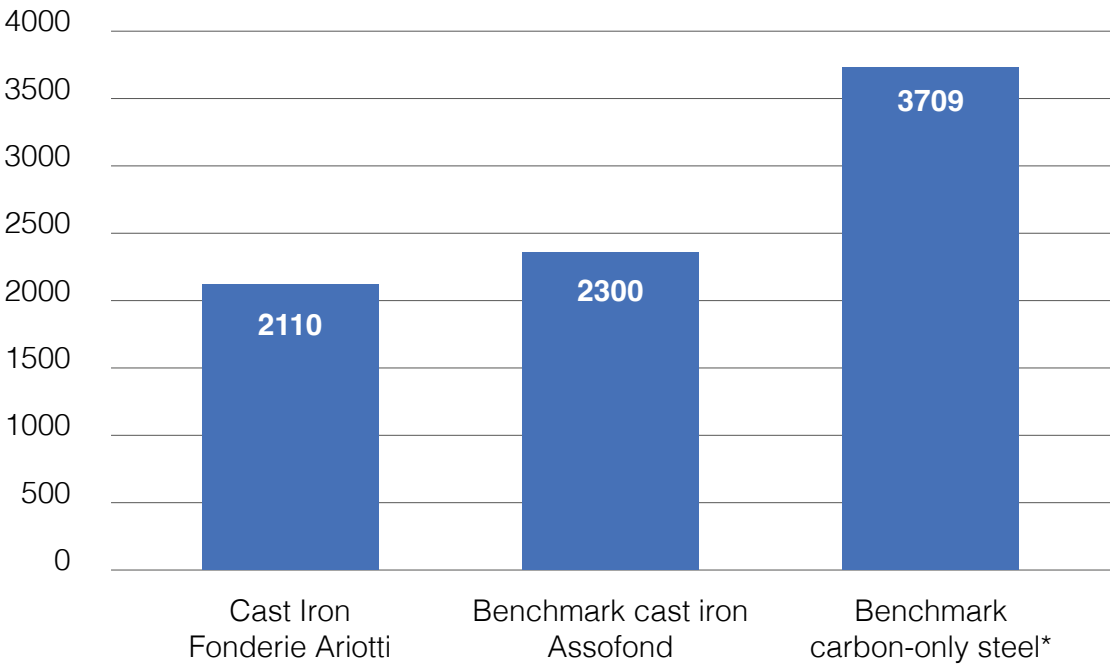


4.5 Carbon Footprint steel vs cast-iron

Cast iron is increasingly proving to be a technically adequate alternative, and less environmentally impactful than steel

*Fonte Made Green in Italy RCP steel

Emissions kg CO₂/tons produced



THANK YOU AND SEE YOU NEXT YEAR



 fonderie ariotti

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