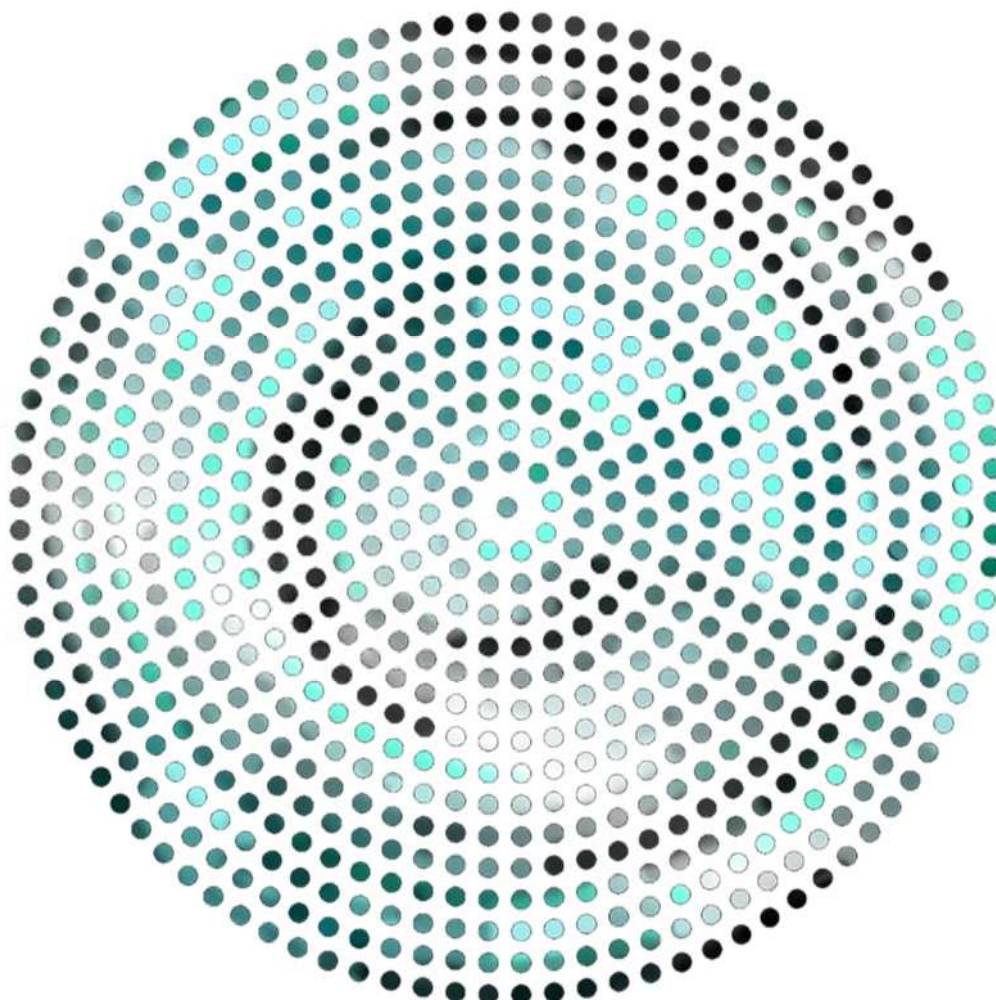


Deloitte.



REPORT

on the independent audit of the non-financial
reporting of

RHI Magnesita N.V.

Vienna

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(Consolidated) Non-Financial Report 2023 of RHI Magnesita N.V.

General Conditions of Contract for the Public Accounting Professions

To the board of
RHI Magnesita N.V.
Vienna

Audit Report of the Independent Assurance on Non-Financial Reporting

Introduction

We have performed procedures to obtain limited assurance as to whether any matters have come to our attention that cause us to believe that the (consolidated) non-financial report as of December 31, 2023 has not been prepared, in all material respects, in accordance with the reporting criteria. The reporting criteria consist of the GRI Standards issued by the Global Sustainability Standards Board (GSSB).

Furthermore, we have performed procedures to obtain limited assurance as to whether any matters have come to our attention that cause us to believe that the EU taxonomy information disclosed is not prepared, in all material respects, in accordance with article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

Responsibility of the management

The legal representatives of RHI Magnesita N.V. are responsible for the preparation of the report content in accordance with the reporting criteria and for the selection of the disclosures to be verified. The reporting criteria consist of the GRI Standards issued by the Global Sustainability Standards Board (GSSB). Furthermore, they are responsible for reporting the disclosed information on the EU taxonomy in accordance with article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

This responsibility includes the selection and application of appropriate methods for preparing the report, making assumptions and estimates of individual non-financial disclosures that are plausible under the given circumstances. The responsibility further includes the internal controls, which have been determined as necessary by the management to enable the preparation of a (consolidated) non-financial report that is free from misstatement, whether due to fraud or error.

Responsibility of the auditor

Our responsibility is to express a limited assurance opinion as to whether any matters have come to our attention that cause us to believe that the (consolidated) non-financial report as of December 31, 2023 has not been prepared, in all material respects, in accordance with the reporting criteria. The reporting criteria consist of the GRI Standards issued by the Global Sustainability Standards Board (GSSB).

Furthermore, it is our responsibility to express a limited assurance opinion as to whether any matters have come to our attention that cause us to believe that the EU taxonomy information disclosed is not prepared, in all material respects, in accordance with article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

We conducted our engagement in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised), "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" issued by the International Auditing and Assurance Standards Board (IAASB) in order to obtain limited assurance on the subject matters.

ISAE 3000 (Revised) requires us to plan and perform the engagement in a way that enables us to obtain limited assurance that nothing has come to our attention that causes us to believe that the (consolidated) non-financial report has not, in any material aspect, been prepared in accordance with the GRI Standards and that the disclosed information on the EU taxonomy has not been prepared in accordance with article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

In a limited assurance engagement, the evidence-gathering procedures are more limited than in a reasonable assurance engagement and therefore, less assurance can be obtained. The choice of audit procedures lies in the due discretion of the auditor.

As part of our audit, we have performed, inter alia, the following audit procedures and other activities as far as they are relevant to the limited assurance engagement:

- Interview of the employees named by RHI Magnesita N.V. regarding the sustainability strategy, the sustainability principles and the sustainability management
- Interviews of employees of RHI Magnesita N.V. to assess the methods of data collection, data processing and internal controls
- Matching the non-financial disclosures shown in the (consolidated) non-financial report with the documents provided
- Conducting a media analysis
- Review of the disclosed information according to GRI standards
- Review of the disclosed information on the EU taxonomy for compliance with article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

We believe that the audit evidence we have obtained is sufficient and appropriate to serve as a basis for our assessment.

The objective of our engagement is neither an audit of financial statements nor an auditor's review of financial statements. Likewise, neither the detection and clarification of criminal offences, such as embezzlement or other acts of breach of trust and administrative offenses, nor the assessment of the effectiveness and efficiency of the management is the object of our engagement.

Summarized Conclusion

Based on our work and the evidence we have obtained, nothing has come to our attention that causes us to believe that the (consolidated) non-financial report of RHI Magnesita N.V. as of December 31, 2023 has not, in any material aspects, been prepared in accordance with GRI Standards.

Additionally, based on our audit procedures and the evidence we have obtained, nothing has come to our attention that causes us to believe that the disclosed information on the EU taxonomy has not been prepared in all material respects in accordance with Regulation (EU) 2020/852 (Taxonomy Regulation) and complementary Delegated Regulations (EU) 2021/2178, (EU) 2021/2139 and (EU) 2023/2486.

Engagement approach

The basis for this engagement are the “General Conditions of Contract for the Public Accounting Professions”, as issued by the Chamber of Tax Advisers and Auditors in Austria (according to appendix). In accordance with chapter 7 of these terms and conditions, our liability shall be limited to intent and gross negligence. In cases of gross negligence, the maximum liability is limited to a maximum of five times the fee. This amount constitutes a total maximum liability cap, which may only be utilized once up to this maximum amount, even if there is more than one claimant or more than one claim has been asserted.

Vienna

February, 27th, 2024

Deloitte Audit Wirtschaftsprüfungs GmbH

Mag. Alfred Ripka

Austrian Certified Public Accountant

Qualified electronically signed:		DocuSigned by: Alfred Ripka 07AE6E59DA6B4C8...
Date:	27.02.2024	

Appendix



Driving change

Delivering transition

Shaping tomorrow

RHI Magnesita is committed to sustainability leadership in the refractory industry. Facing multiple challenges including disruption to supply chains, cost inflation, energy market and geopolitical instability and climate uncertainty, we respond with innovation and adaptability to deliver value for all stakeholders.

Recycling rate

12.6%

2018: 3.5%

RHI Magnesita has developed proprietary technology for increasing the use of secondary raw materials with no loss in refractory performance. This reduces customer waste and eliminates CO₂ emissions which would otherwise be released in the mining and processing of new raw materials. Since 2018, the Group has accumulated over 1Mt of CO₂ savings.

CO₂ intensity reduced by

12%

2022: 8%

RHI Magnesita has made strong progress against its goal to reduce CO₂ intensity by 15% by 2025, through improving recycling rates, switching to alternative fuels and increasing its use of electricity generated from renewable sources. Our 12% intensity reduction compares to a 2018 baseline adjusted for 2023 M&A, or 16% excluding M&A adjustment.

Female representation in senior leadership

28%

2018: 12%

RHI Magnesita seeks to improve diversity to create a more inclusive workplace and benefit from a broader range of experience and perspectives. Female representation at Board level was 29% (2022: 33%) and at EMT plus direct reports level gender diversity increased to 28% (2022: 21%), against a target of 33% by 2025. Board diversity will be restored to 33% if shareholders approve the nomination of Katarina Lindström to the Board at the 2024 AGM.

Introduction



Our sustainability objectives are based on our core values. We believe that long-term financial success is only possible if we also deliver our sustainability goals.”

Herbert Cordt
Chairman

Highlights

RHI Magnesita was pleased to receive the “Sustainability Disclosure of the Year” award for its 2022 reporting from the Chartered Governance Institute UK & Ireland, which was independently judged against sustainability reporting published by all FTSE 250 and FTSE 100 index constituents. We are proud to maintain high standards and we have sought to further enhance our disclosure this year in line with market practice and developing regulations.

Key highlights include a further reduction in CO₂ emissions intensity driven by recycling, investment into innovative technology solutions for carbon capture and utilisation, SO_x and NO_x emissions abatement and a growing share of procurement expenditures now managed through the EcoVadis ESG platform, to incentivise better sustainability practices amongst our suppliers.

The Group is undergoing a period of significant change with nine acquisitions completed in the period since December 2021. M&A presents us with new challenges as we extend our sustainable business practices into acquired entities, seeking to deliver “Sustainable Growth” for all stakeholders.

Our purpose

RHI Magnesita’s purpose is to master heat, enabling global industries to build sustainable modern life. Our advanced products are

essential for our customers in the steel, cement, metals, glass, energy and chemicals industries. Through the reliable supply of innovative refractory products and services, we enable our customers to sustainably deliver the basic materials that are essential for modern life. We aim to be our customers’ partner of choice on their own decarbonisation journeys.

Our sustainability strategy

Our sustainability strategy is based on the ten Principles of the UN Global Compact (UNGC). RHI Magnesita’s sustainability strategy is focused on:

- Excellent workplace Health & Safety.
- Climate change and environmental impact mitigation.
- Increased use of secondary raw materials to reduce CO₂ emissions.
- R&D investment to develop emissions avoidance, alternative fuels, and carbon capture, storage and utilisation technologies.
- Partnering with our customers to reduce their emissions through innovative refractory products or solutions contract, including enabling technologies such as EAF refractories.
- Sustainable procurement practices.
- Upholding diversity in the workplace.

- Building strong relationships with all stakeholders including communities, employees and governments
- Linking debt facilities and management compensation to sustainability performance.

Our 2025 targets

Our 2025 sustainability targets are based on engagement with internal and external stakeholders and encompass CO₂, energy, recycling, diversity, Health & Safety and NO_x and SO_x emissions.

Materiality

The Group conducts a formal materiality assessment every other year to define the focus of its sustainability management efforts and the content to be reported. The assessment identifies issues judged to have the greatest impact on our business, people, communities and the environment, and issues that matter most to our stakeholders.

The most recent materiality assessment was carried out in 2022 and reaffirmed the material topics identified in 2019. The assessment included an extensive online survey completed by internal stakeholders including executive Board members and employees and external stakeholders including suppliers, investors, customers, NGOs and business associations.

Contribution to the SDGs

We support the UN Sustainable Development Goals (“SDGs”) and have identified these as the goals our business is best placed to actively support.

SDG	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	15 LIFE ON LAND
Ensuring safe working environments in its operations	Sponsoring Education and Youth Development CSR projects	Committed to supporting gender equity in our workplace on all levels	Committed to continually improve the energy efficiency of its operations and the use of cleaner energy sources	Offering apprenticeship opportunities, investment on skill development programs	Developing R&D projects, setting key partnerships to enhance Recycling and Decarbonisation (e.g. ReSOURCE and CCUS — MCI Carbon)	Investing directly and indirectly to Education & Youth Development, Health & Medical care and Environment	Committed to increase the usage of recycled materials and promote the circular economy wherever possible	Committed to minimize direct and indirect CO ₂ and other greenhouse gas emissions	Committed to minimize any other emissions, pollution, during operation or at our customers sites which could adversely affect humans, or the environment	



The assessment also considered RHI Magnesita's risk management approach, to assess potential impacts of the material topics. The impact of each material topic was rated as low, medium or high based on the highest rating of the risk assessment, which considers four risk areas (compliance, strategy, financial, and operations) and the likelihood of occurrence. The potential impact on the Group is represented by different bubble sizes in the materiality matrix.

Standards, frameworks and scope of report

RHI Magnesita is committed to transparency and reports its sustainability performance according to leading standards and frameworks. In the year to December 2023 the main basis of our sustainability reporting is GRI Standards.

As a supporter of the Taskforce on Climate-Related Financial Disclosures (TCFD), we have reviewed, identified, and quantified the climate-related risks and opportunities relevant to our business, with full details available in our separate TCFD report for 2023. A summary of our TCFD disclosures can be found on pages 99 to 105 of this Annual Report.

The Group submits annual climate reports to CDP and in 2023 the Group has maintained an A- rating, which underscores the Group's leadership on climate action.

In accordance with EU taxonomy regulations, we report the proportion of our revenue, operating expenditure and capital expenditure that are taxonomy-non eligible, eligible and aligned according to Taxonomy delegated acts. EU taxonomy disclosure can be found on pages 93 to 98 of this Annual Report.

RHI Magnesita's integrated management system is compliant with ISO standards 14001 (environmental), 50001 (energy), 45001 (occupational health and safety) and 9001 (quality).

We report gender diversity statistics to the FTSE Women Leaders Review annually.

As a signatory of the UNGC since 2018, we report annually on our progress, engagement, and contribution to the UN Sustainable Development Goals that are most relevant to our business and operations. This report acts as our Communication on Progress.

This non-financial report for 2023 reporting year (1 January 2023 to 31 December 2023) covers all activities, sites and industrial assets operated or contractually managed by RHI Magnesita N.V. or one of its subsidiaries, except otherwise specified.

Assurance

RHI Magnesita commissioned Deloitte Audit Wirtschaftsprüfungs GmbH to carry out an independent third-party limited assurance engagement on the Taxonomy Regulation (EU) 2020/852) and GRI Standards.











Further details on the assurance process and its conclusions are available in the Sustainability section of the RHI Magnesita website.



Our 2025 targets

Material issue	Targets by 2025 vs 2018 baseline year	Progress in 2023	Units
1. CO₂ emissions	Reduce by 15% per tonne of product — Scope 1, 2, 3 (raw materials)	CO ₂ intensity has been reduced by 12% versus the revised 2018 baseline year as the Group increases the use of recycled raw materials, shifts to more CO ₂ efficient energy sources and increases renewable electricity usage.	Absolute (kt CO ₂) ¹ Relative (t CO ₂ /t) ²
2. Energy	Reduce by 5% per tonne of product	64% of purchased electricity was from low-carbon or renewable sources in 2023. Scope 2 emissions increased to 119kt due to M&A. In 2023, operational energy intensity was 8% lower than 2018, exceeding the target to reduce energy intensity by 5% by 2025. Energy intensity is influenced by M&A, changes to the extent of vertical integration and product mix changes as well as the impact of energy efficiency initiatives.	Absolute energy consumption (GWh) Relative (MWh/t) ²
3. Recycling	Increase use of secondary raw materials to 15%	Recycling rate increased to 12.6% in 2023, with incremental avoidance of 393kt CO ₂ . Progress was diluted by M&A during the year.	Use of secondary raw materials %
4. Diversity	Increase women on our Board and in senior leadership to 33%	Gender diversity at Board level decreased to 29% and increased to 28% at EMT + direct reports level, from 12% in the 2018 baseline year and 21% in 2022. ⁵ Board diversity will be restored to 33% if shareholders approve the nomination of Katarina Lindström to the Board at the 2024 AGM.	Board % EMT and EMT direct reports %
5. Safety	Maintain LTIF at <0.5 (goal: Zero Harm No Injuries)	LTIF reduced further to 0.16 (2022:0.20). Improvement in frequency rates overshadowed by one fatality (2022: 1) and two serious injury incidents.	per 200,000 hours worked
6. NO_x and SO_x emissions	Reduce by 30% by 2027 (vs 2018)	NO _x and SO _x reductions proceeding on track. China target achieved in 2021 and US target in 2023 through installation of NO _x and SO _x abatement technologies.	

- CO₂ emission data are calculated based on GHG Protocol methodology. Historical data have been adjusted to reflect new acquisitions in the baseline and methodology changes following an external verification process that took place in July 2022. All assets acquired in 2023 are considered in the performance data except three minor production sites at Huron, Bussalla and Bochum which are still undergoing integration.
- Adjustments in line with the Greenhouse Gas protocol and refinement in reporting resulted in energy efficiency figures for 2018–2023.
- Safety KPIs incorporate 7 new manufacturing plants: Jinan (New Email)/China, Jamshedpur, Bhilai, Rajgangpur, Dalmiapuram, Khambalia/India.
- Recycling KPI does not include newly acquired sites, which are foreseen to be fully integrated over 2024.
- With the inclusion of the Board Nominated NED, who will be proposed to the 2024 AGM, the gender diversity of the Board is 33%.

2018	2019	2020	2021	2022	2023	SDG	
6,169	5,381	4,972	5,691	4,887	4,583		
1.84	1.82	1.86	1.76	1.71	1.62		
6,484	5,635	5,165	5,912	5,423	5,055		
1.94	1.91	1.93	1.83	1.89	1.79		
3.8%	4.6%	5.0%	6.8%	10.5%	12.6%		
7%	23%	25%	38%	33%	29%		
12%	17%	25%	22%	21%	28%		
0.43	0.28	0.13	0.19	0.20	0.16	 	
					NAM achieved in 2023 (Europe and SAM 2027)		 



Governance structure

At Board level, a dedicated Corporate Sustainability Committee supports the Board, acting as an advisory body to ensure the long-term sustainability of the business. The CSC monitors performance against relevant KPIs and assesses risks and opportunities associated with climate change, environmental, Health & Safety, stakeholder relations and other ESG risks.

At EMT level, the Chief Technology Officer is accountable for driving sustainable practices within the organisation and delivering the Group's sustainability targets. The CTO actively engages in overseeing and integrating technologies and methodologies across various aspects of our operations. Strategic decisions and technological initiatives contribute significantly to the achievement of the Group's sustainability targets, ensuring that innovation and R&D is aligned with our commitment to sustainability.

Reporting to the CTO, the Global Sustainability Team collaborates closely with the CTO and CSC to monitor progress against targets, advise on regulatory developments, compile reporting materials and engage with external ratings agencies. A collaborative approach ensures co-ordination with key functional areas such as Health & Safety, environment, sustainable technology and decarbonisation, recycling, finance, risk management and compliance, and procurement. This governance framework facilitates a comprehensive and integrated approach to sustainability.

At the operational level, plant managers and regional presidents are accountable for the day-to-day performance of the Group's assets, including delivering progress towards sustainability goals. Regional presidents report to the Chief Customer Officer who in turn reports to the Chief Executive Officer.

This governance structure combines transparency and accountability with functional expertise.

Ethics and compliance

In 2023 we continued to embed and evolve our compliance policies and procedures. We take a zero-tolerance approach to incidents of fraud, bribery or corruption in our business. This approach is set out in our Code of Conduct, which was updated and re-launched in 2023, and in our Supplier Code of Conduct. Code

of Conduct has been streamlined with a heightened emphasis on key areas, including business ethics, integrity, health and safety, anti-corruption, legal compliance, data privacy, sustainability, and conflict of interest avoidance. This revision aims to ensure stakeholders align with our values, incorporating feedback gathered from across the Group. All 114 governance body members and employees have been informed about AC policies and procedures and received e-learning to be completed as mandatory training. Region-wise breakdown indicates the following completion rates: Europe/CIS/TR at 87%, China & East Asia at 99%, Americas (North and South America) at 93%, and India & West Asia at 93%. All business partners have acknowledged and agreed to the Company's standard contract terms, which include adherence to both RHI Magnesita's code of conduct and the supplier code of conduct. These documents are easily accessible through its website, ensuring a thorough communication reach to all business partners.

Comprehensive mandatory online training is used for topics such as business ethics, data privacy, and sanctions and export controls, and regular monitoring of completion rates ensures that all office-based employees, including new hires, are adequately trained. In 2023 a Human Rights module was added to the training syllabus and updated Business Ethics training was implemented to accompany the Code of Conduct re-launch.

We regularly conduct compliance risk assessments, such as fraud risk assessments, with results presented to management and the Audit & Compliance Committee each year. The regular risk assessments conducted at Group, regional and plant level cover Compliance risks (including corruption risks). The plant risk assessment carried out in 2023 included 47 plants and mines (100% coverage). We use digital registers, workflows and employee guidelines to address, document and monitor conflicts of interest declarations, gifts and invitations, and community investment approvals.

Business partners (e.g. customers, sales intermediaries and suppliers) and transactions such as mergers or acquisitions are subject to a separate due diligence process. All sales agents are certified by Ethixbase360 (formerly TRACE International), a leading international organisation specialised in third-party due diligence solutions.

Our focus on human rights and labour rights is being expanded to include suppliers via a programme of supplier audits. In 2024, we will continue to strengthen our human rights due diligence processes within the Group and in the supply chain. Following recent M&A activity, certain German legal entities within the Group are now subject to the requirements of the German Supply Chain Due Diligence Act. In compliance with this legislation, a Human Rights Officer has been appointed. The Board approves an annual statement in accordance with the UK Modern Slavery Act 2015 and the California Transparency in Supply Chains Act.

In 2023 particular attention was given to the integration of acquired entities in respect of ethics and compliance standards. Extensive work was conducted during M&A integration plans to understand the compliance culture of each new entity and work to harmonise their approach with Group practices. Emphasis was placed on face-to-face interaction and discussion to jointly evolve Business Ethics approaches.

We encourage anyone with ethics or compliance concerns to report them to an independently operated hotline, which is confidential and can be used anonymously. We are firmly committed to whistleblower protection, including to the principle of non-retaliation. Reports are independently investigated and appropriate follow-up actions taken. The Audit & Compliance Committee receives regular data on cases submitted via the hotline and other channels.

In 2023, the hotline and additional reporting channels generated 166 reports (versus 64 in 2022). Out of these, eight cases are classified under the category 'Bribery & Corruption'. All cases are investigated internally by IA, R&C department with external legal support if deemed necessary. In case a complaint substantiates, RHIM takes appropriate action to address the immediate risk and implement preventive actions with immediate effect. The significant rise in cases results primarily from the whistleblowing hotline being used in Brazil as a primary channel to escalate human resource related concerns. Additional cases were reported through recently acquired entities and as staff returned to working patterns in office locations after COVID-19 restrictions ended.

Sustainability

Our business



Related SDGs

Our customers



Our customers

Product carbon footprint

To increase transparency for our customers and to enable them to accurately calculate their own Scope 3 supplier emissions, the CO₂ footprint of each of our c.200,000 refractory products is made available in our Customer Portal. The calculations adhere to the ISO 14067 standard, encompassing "cradle-to-gate" greenhouse gas emissions, including raw material extraction and processing, refractory production and packaging.

The carbon footprint includes all Scope 1 and Scope 2 emissions and part of the Scope 3 emissions associated with the manufacturing of the product. The largest share of Scope 3 emissions arises from the purchase of refractory raw materials that are not sourced from within the Group. Limited data is available from suppliers for the carbon footprint of externally purchased raw material, although the Group has extensive knowledge of its own raw material production process. We are continuing to work with suppliers to refine our estimates of emissions from purchased raw materials.

CO₂ footprint data enables us to (i) better address customer needs by providing the most suitable technical and sustainable products and solutions; (ii) gain a competitive edge via sustainability criteria in tender processes, and (iii) incorporate sustainability and environmental indicators into our product design and production cycles.

Low-carbon products

The progressive reduction of CO₂ emissions has become a fundamental target for our customers and RHI Magnesita aims to be the preferred refractory partner as this transition is realised. We are also committed to developing a circular economy in the refractory industry, aiming at a zero-waste product life cycle to preserve natural resources.

RHI Magnesita has developed low-carbon footprint products to address both customer priorities: to reduce CO₂ emissions whilst maintaining refractory performance. In 2023, the Group launched a new basic gunning mix with high recycled material content. Branded ANKERJET X, this low-carbon gunning mix achieves an 85% reduction in carbon footprint from refractory consumption with no loss of performance compared to conventional products.

Increased use of recycled materials improves raw material availability, reduces the cost and resource-intensive process of raw material extraction and processing and significantly reduces CO₂ emissions, with each tonne of recycled material used saving approximately two tonnes of CO₂ emissions. Further examples of CO₂ savings from recycling can be found in the case studies on pages 66 and 67.

Digital solutions

RHI Magnesita offers digital solutions and associated physical equipment which achieve CO₂ emission reductions through process efficiencies, such as wear monitoring and gunning repairs to extend the safe working life of refractory linings. Safely extending the working life of refractory linings can achieve significant energy savings for steel producers by reducing the number of heating and cooling cycles required per unit of steel output.

RHI Magnesita has taken several steps in digital customer solutions in 2023 to reduce carbon emissions and promote sustainability. These include:

- Launching a Minimum Viable Product concept on its Customer Portal, which provides customers with access to the product carbon footprint and a yearly report on sustainable refractory materials. This creates initial awareness of the CO₂ footprint of refractories.
- Consolidating the Lining Evaluation Scan product for cement rotary kilns, which improves material selection and lifetime, reduces waste, and lowers overall carbon footprint.
- Supporting customers in reducing energy and specific refractory consumption in steel ladles through the Ladle Slag Model, which optimises the slag conditioning process.
- Applying digital solutions for the operation of rotary kilns in our own production plants, delivering production optimisation and efficiency gains.
- Collaborating with customers on research projects to minimise energy losses and reduce emissions.

Other solutions and products which directly contribute to CO₂ emissions reductions at customer sites include cold setting mixes, EAF direct purging plugs and converter gas purging products.



🔍 CASE STUDY – LOW CARBON PRODUCTS

ANKRAL LC Series

Containing up to 50% recycled materials, RHI Magnesita's Ankral LC Series has been designed to help cement producers reduce emissions in their supply chain, without compromising technical requirements and specifications.

The Group offers a circular economy service to transform used refractory bricks into valuable secondary raw materials. The removal process, pre-separation and transportation to recycling hubs are usually performed by the customer team, supported by RHI Magnesita recycling experts or partners from the Group's MIRECO joint venture. At recycling hubs, chemical analysis, sorting and a patented cleaning process transform waste into usable secondary raw materials.

In 2023, the Ankral LC Series was confirmed to have equivalent performance to non-recycled products under challenging conditions:

Case Study A, Central Europe: Ankral LC installed in January 2022, exhibited uniform wear after a one year campaign.

The product was installed in the upper part of the central burning zone, where high thermal load in combination with occasional clinker melt infiltration and coating loss are the typical wear mechanisms. The lining's residual thickness after a one year campaign surpassed expectations, confirming its equivalent performance to other iron-rich central burning zone bricks on the market.

Case Study B, European Kiln: Ankral LC in the lower transition zone showed a comparable performance to the standard Ankral product after a one year campaign.

The Ankral LC Series showcases a successful synergy of sustainability and performance, addressing modern clinker production challenges. By recycling used bricks into new refractory products, this series contributes to a circular economy, reduces waste, and minimises the carbon footprint in refractory production.

🔍 CASE STUDY — LOW-CARBON PRODUCTS

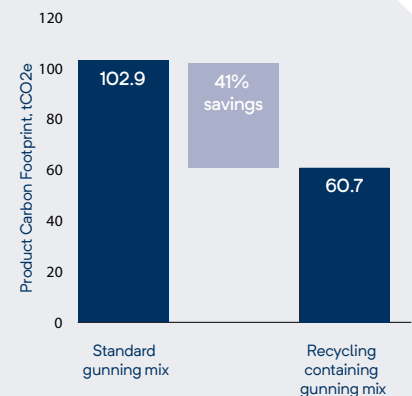
Sustainable Gunning Mixes

The use of RHI Magnesita's sustainable gunning mixes offers potential to reduce customer Scope 3 emissions from refractory usage in steel plants.

The customer transitioned from a standard basic gunning mix with a product carbon footprint of 1.66 tCO₂e/tprod to a recycling gunning mix with a significantly lower footprint of 0.979 tCO₂e/tprod. This resulted in a 42 tonne decrease in CO₂e emissions associated with the 62 tonnes of product consumed by the customer. This quantity of avoided emissions is comparable

to those produced by a diesel truck circumnavigating the globe.

This case study illustrates the tangible environmental benefits that can be obtained through the use of sustainable gunning mixes and the wider potential for our customers to make significant CO₂ emissions savings by focusing on the footprint of high CO₂-intensive items in their supply chains. As Scope 3 emissions become more closely analysed the attractiveness of low-carbon footprint products increases.



Read more [here](#)

🔍 CASE STUDY — DIGITAL SOLUTIONS

Lining Evaluation Scan

RHI Magnesita offers innovative digital solutions designed to reduce CO₂ emissions through enhanced process efficiencies. Our solutions, such as wear monitoring and gunning repairs, extend the safe working life of refractory linings, contributing to a lower carbon footprint. A key component of our approach in the cement industry is the Lining Evaluation Scan for rotary kilns, which improves material selection and lifetime, reduces waste, and lowers the overall carbon footprint of the operation.

The Lining Evaluation Scan addresses the shortcomings of current scanning methods for lining evaluation. Traditional methods, involving drilling and manual measurement, pose safety risks and are time-consuming. RHI Magnesita's LEICA RTC 360 scanner revolutionises this

process. Mounted on a specialised tripod, and featuring portable lighting, it ensures efficient and safe scanning. Equipped with lidar technology, the scanner swiftly captures detailed information, creating a 3D-point cloud and high-definition pictures simultaneously, covering a wide range.

The scanning process requires minimal preparation time and takes around 45 minutes to map the entire kiln. A Rapid Evaluation Report is delivered within two hours, facilitating quick decision-making. Additionally, through the customer portal, the scanning system provides a visual representation of remaining lining thickness, customisable acceptable thickness criteria, and a comprehensive exploration of the lining history. This empowers users to make informed



decisions about kiln maintenance, with graphical trends and detailed insights into each zone.

With a customer-focused and innovative approach, RHI Magnesita underscores its commitment to providing solutions that enhance sustainability, efficiency, and customer satisfaction.

Our business continued



Our suppliers

RHI Magnesita's top 20 suppliers account for approximately 20% of our expenditure and the top 200 around 55%. Procurement extends to suppliers producing refractory raw materials, energy suppliers facilitating the conversion of raw materials to finished products, transport suppliers, and manufacturing suppliers. While contractual commitments generally do not exceed one year, the Group may enter into longer contracts on an exception bases for critical raw materials and energy. Our operational focus is on capital and energy intensive processes, especially in equipment for raw material and finished product production. Most specific raw materials are sourced from China, resulting in a lengthy supply chain. Procurement spending in our industry equates to about two-thirds of revenue, on average.

Despite a high reliance on Chinese raw materials in the broader refractory industry, RHI Magnesita's suppliers are predominantly situated in the regions where its production facilities operate. Europe leads in supplier concentration, followed by China, Brazil, the USA, and India. In our commitment to sustainable procurement, RHI Magnesita aims to integrate sustainability priorities into our procurement processes.

Supply chain due diligence

Since 2022, RHI Magnesita has established a framework for supply chain due diligence, to ensure ethical and compliant practices across the Group's supplier network. A comprehensive Supplier Code of Conduct outlines the standards and expectations the Group holds for all partners in the supply chain. Supplier desktop evaluations and on-site inspections are also used to proactively identify and address any potential risks, fostering a sustainable and resilient supply chain.

Supplier Code of Conduct

The Supplier Code of Conduct requires suppliers to follow the same principles as set out in RHI Magnesita's own Code of Conduct. It is distributed to all suppliers who are required to confirm compliance.

Supplier assessments through EcoVadis

An assessment system developed with EcoVadis is used to rate potential suppliers for sustainability impacts such as energy use, CO₂ emissions and waste. The ratings resulting from this assessment form an important part of the Group's procurement decision-making process.

The initial phase of supplier assessments was started in 2021 based on contract size and risk mapping. The process has continued in 2023, now covering 41% of spend. Our target is to cover two-thirds of the supplier base by spend by 2025, including all suppliers delivering raw materials with a high CO₂ intensity.

Related SDGs

Our suppliers



Supplier on-site assessments

The Group conducts on-site assessments to evaluate suppliers based on product quality, Health & Safety and ESG aspects.¹ In 2023, RHI Magnesita has significantly increased the number of on-site assessments to 42, compared to nine in 2022. The assessments were conducted worldwide, including 16 in India and ten in China.

Supplier product carbon footprint

Since the contribution of raw material extraction and processing is the largest single source of CO₂ emissions in the refractory value chain, the Group is seeking to increase the accuracy of its supplier CO₂ emissions data. In 2023 our specific focus with selected raw material suppliers included raising their awareness of our data requirements and providing support on the required calculation methodology. Accurate information enables the Group to prioritise suppliers with lower emissions in order to minimise Scope 3 emissions. Engagement on the subject of emissions also demonstrates to potential suppliers that CO₂ reduction is a key priority for the Group, which is expected to drive long-term changes in supplier behaviour and energy use.

Supplier collaboration

RHI Magnesita is committed to shaping a more resilient and sustainable supply chain. Therefore, the Group seeks collaborations with strategic suppliers to create more sustainable goods and services, with lower environmental impact. Several collaborations in 2023 resulted in projects with positive impacts such as emission reduction in our packaging materials and optimisation of transport routes to reduce emissions.

1. RHI Magnesita's supplier assessment comprise of 6 modules covering business ethics, social and environment aspects, climate change, responsible sourcing, legal compliance, Health & Safety.

🔍 CASE STUDY — SUPPLIER ENGAGEMENT

Recycled Packaging Solutions

Suitable packaging materials are essential to ensuring the safe transportation of our products whilst protecting them from damage. We are committed to continuously improving the efficiency of the materials and products which we use in our packaging process.

With this aim in mind RHI Magnesita launched a project to increase the use of recycled plastic ("PCR" or Post-Consumer-Recycled) in its packaging materials, resulting in multiple benefits from a sustainability perspective.

Firstly, increasing the share of recycled content leads to lower greenhouse gas emissions and energy consumption associated with the packaging life cycle.

Secondly, the introduction of recycled materials results in a reduction of the

amount of waste that ends up in landfills or incinerators, which reduces the negative impact on the environment.

The project included two different types of packaging materials: stretchfoils and big bags. A stretchfoil is a thin plastic film stretched around our finished shaped refractory products to ensure safe transport. Big bags are used in the transportation of unshaped products. The goal of the project was to convert the entire stretchfoil and big bag demand in Europe to 30% PCR content while preventing any potential negative impacts on the packaging process or transport safety. Following collaboration between the Group and its suppliers, new packaging materials were successfully developed and tested to fulfil our high-quality standards.

Since Q4 2023 for stretch foil and from the beginning of 2024 for big bags (up to 1.5t), packaging for products manufactured in Europe must now contain a minimum 30% of recycled plastic. The CO₂ savings from this change are calculated to be 480 tonnes per year (an equivalent of 54 homes energy use for one year) and total emissions from these materials has reduced by 23%.

The project to increase the use of recycled content in product packaging has been a successful initiative that has improved our environmental performance and strengthened our relationships with our suppliers.

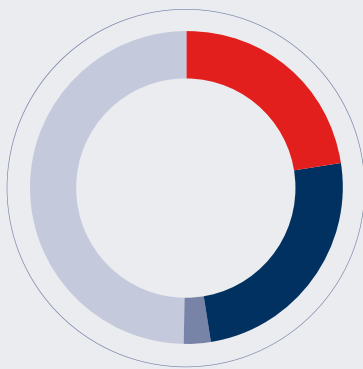




Related SDGs

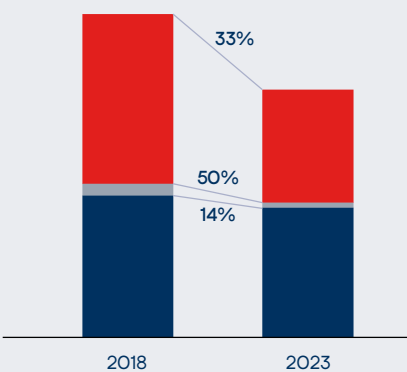


Carbon Emissions per Scope¹



- Scope 1 of which geogenic emissions
- Scope 1 of which fuel-based emissions
- Scope 2 electricity
- Scope 3 emissions only Raw Material

Carbon Emissions Reduction 2018 vs. 2023



- Scope 3 (only raw material)
- Scope 2
- Scope 1

Tackling Climate Change

Driving down carbon emissions is a key priority for RHI Magnesita. In addition to charting our own transition, we want to be a trusted partner to our customers on their journey to a low-carbon economy.

The Group's emission reduction plans target a 15% reduction in CO₂ emissions intensity for Scope 1, 2 and 3 (raw materials) emissions by 2025, compared to 2018. Our climate strategy is based on:

- 1) reducing the carbon footprint of our raw materials, including through the increased use of circular raw materials;
- 2) increasing energy efficiency in our operations;
- 3) reducing the carbon intensity of our energy sources; and
- 4) providing innovative solutions to reduce customer emissions.

In 2023, total CO₂ emissions (Scope 1, 2 and 3 - raw materials) were 4.6 million tonnes and our emissions intensity has reduced by 12%. Since the baseline year of 2018, the Group has exceeded its initial targets in recycling, offset by delayed progress in switching to alternative fuels. Biofuel switches have progressed but the original strategy to convert from solid fuels to natural gas is now being reassessed due to capital expenditure constraints, infrastructure availability, changes in the market outlook for natural gas and new possibilities for cost-effective carbon capture and sequestration which offer much higher CO₂ savings. Achieving our short term objectives is therefore reliant on the continued success of our recycling initiatives.

The Group is currently pursuing a substantial M&A programme, in line with its growth objectives. In the short term, acquisitions can present a potential downside for sustainability targets such as recycling rates or CO₂ emissions intensity until they are integrated. Harmonising diverse standards, supply chains, and operational processes poses challenges and can affect overall environmental KPIs in the short term. To mitigate this impact, the Group seeks to align sustainability practices and implement efficient transition strategies as soon as possible following acquisition.

A comprehensive disclosure of our climate governance, strategy, and risk assessment can be found in the Task Force on Climate-related Financial Disclosures (TCFD) on pages 99-105 of this report.

Decarbonisation of refractory production

Refractory production is a 'hard to abate' industry. Raw material processing generally uses fossil fuels for ignition and burning of carbonate rock, which results in significant geogenic CO₂ emissions. These geogenic emissions are classified as Scope 1 when resulting from the Group's own production or Scope 3 in the case of externally purchased raw materials.

Significant energy is also required for firing of products in the refractory manufacturing stage. Further emissions are generated in the shipping and distribution of refractory products to customers worldwide.

Through its investment in research and development of emissions avoidance or reduction technologies, the Group has developed a theoretical pathway to decrease its Scope 1, Scope 2 and Scope 3 (raw materials) carbon emissions from refractory production to close to zero. The required measures have been prioritised in order of deliverability, with those items that are fully within the control of the Group to be expedited.

The first stage of CO₂ emissions reduction is to be delivered through measures which can be implemented by the Group without significant external support, including increased use of recycled raw materials, fuel switches and energy efficiency measures. It is estimated that these measures could deliver an absolute reduction of around one and half million tonnes of CO₂ emissions, or 24% of the baseline total by 2035. Beyond this initial reduction, decarbonisation measures become progressively harder to deliver. Recycling has a natural ceiling since refractories are consumed during use and only residual materials can be reclaimed, whilst fuel switches to natural gas only offer a partial reduction. The pathway for stages 2 to 4 is reliant on the provision of (i) new infrastructure or renewable energy sources such as hydrogen by outside parties; (ii) the use of technologies which do not yet exist or are not proven at pilot or production scale; and

1. In accordance with GHG Protocol, biogenic emissions are reported independently from the scopes. In 2023, our biogenic emissions were 17 thousand tonnes.



(iii) significant capital expenditure, which may not be possible for the Group to generate from its existing operations, obtain from its finance providers or receive via government funding.

The costs of emitting carbon, which could provide an incentive to accept higher capital expenditure and operating costs for the purposes of reducing CO₂ emissions, apply in certain jurisdictions and may provide a business case for reducing emissions in those geographies. Estimates of future potential CO₂ costs are built into the Group's financial forecasts and planning decisions. However, the Group has a global production and customer network and competes with other refractory producers who are not subject to additional CO₂ costs.

Our decarbonisation commitment

Working within these limitations, the Group is committed to:

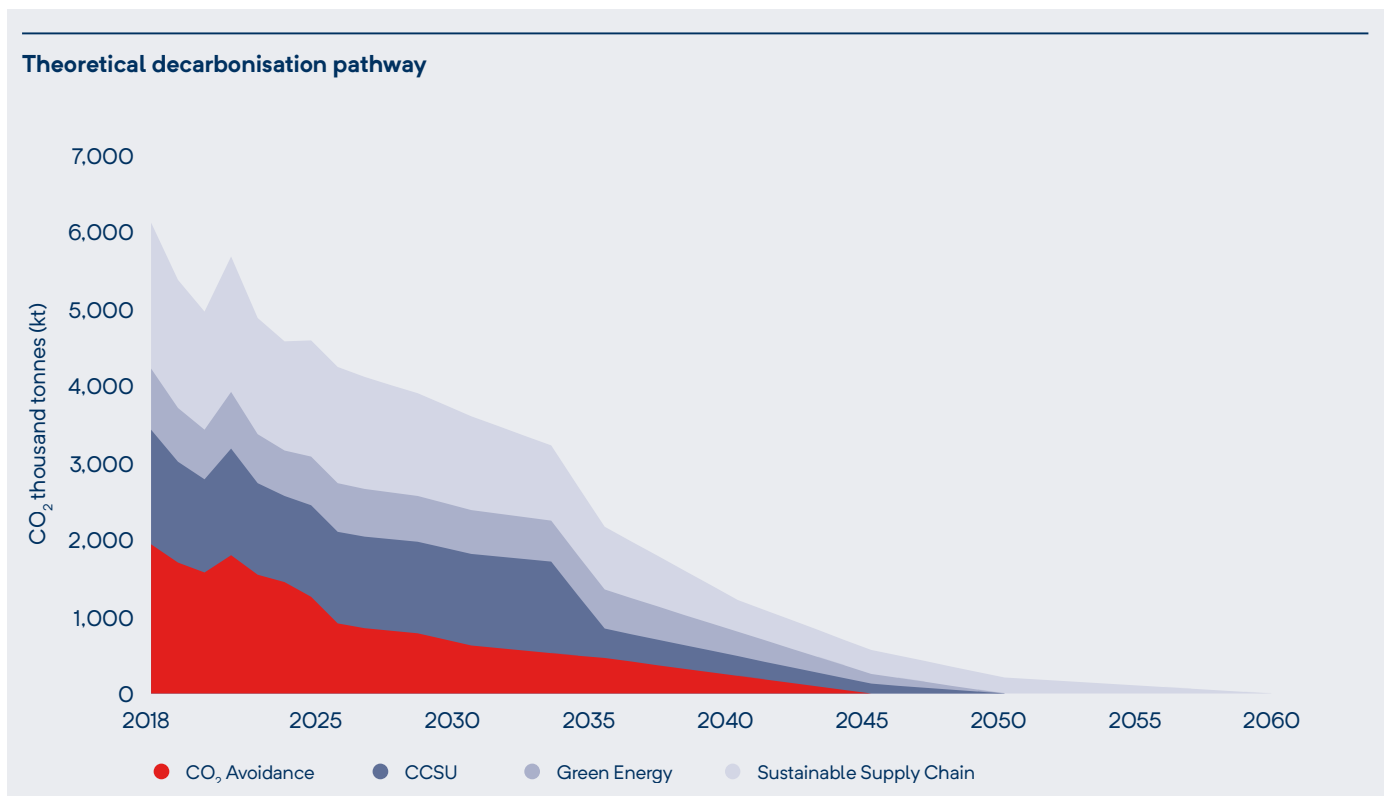
1. Leading the refractory industry by decarbonising its operations as fast as sustainably possible.
2. Annually updating its decarbonisation pathway based on the latest developments in technology, infrastructure and estimated capital expenditure.
3. Continuing to invest in the development of new technologies to avoid CO₂ emissions, proving our technical readiness to use alternative low-carbon energy sources and to capture CO₂ emissions for storage or utilisation.
4. Offering our customers enabling technologies for their own low-carbon production technologies together with low-carbon products and solutions contracts (with full transparency on carbon footprint) to enable them to reduce their Scope 3 CO₂ emissions from the purchase of refractories.
5. Lobbying governments to invest in the necessary infrastructure to decarbonise the refractory industry and other energy intensive industries, including additional renewable energy generation, hydrogen supply networks, CO₂ transportation and

storage and carbon capture and utilisation technologies.

6. Working with partners in the private sector to develop new renewable energy solutions, hydrogen energy networks and carbon capture and utilisation technologies.

Offsetting carbon emissions

The Group has significant CO₂ emissions within its own value chain and there are large emissions savings that can be delivered for its customers through improved solutions contracts or other solutions. The Board therefore considers that the priority should be to allocate capital and other resources to reducing the Group's own CO₂ footprint and the emissions of its customers rather than investing in carbon offset projects. The Board believes that taking this approach will deliver a faster, greater and more sustainable decrease in net CO₂ emissions than could be delivered by allocating capital to offsets.



Our planet continued

Recycling and the circular economy

RHI Magnesita maintains its industry leadership in utilising recycled minerals and recycling has been the major contributor to the Group's CO₂ emissions reductions to date. For every tonne of recycled refractory material that is re-used, approximately two tonnes of CO₂ emissions are avoided compared to the processing of virgin raw material. Recycling is the most effective route to reduce CO₂ emissions in the short term towards our 2025 emissions intensity target.

Recycling also has significant waste management and circular economy benefits for our customers.

Historically, recycling rates for refractories were low due to reduced performance levels for finished products containing reclaimed materials. RHI Magnesita has now demonstrated using its innovative processes to improve purity and real-world operational examples that recycled materials can now be incorporated without compromising refractory performance.

In 2023, the Company achieved a recycling rate of 12.6%, representing a 20% increase from 2022. This significant progress has been driven by continuous efforts and substantial investments in recycling infrastructure and translates to a CO₂ saving of 393 ktpa.

Over €4 million has been invested in capital expenditure projects related to recycling to date, focused on adopting new technologies and upgrading collection, sorting and storage facilities.

Having achieved the initial recycling rate target of 10% three years early, the Group has now adopted a new target of 15% by 2025. Recycling has a natural ceiling since refractories are largely consumed during use and only residual materials can be reclaimed. In the short term recycling rates will also be reduced following the addition of multiple new acquisitions to the Group, with lower levels of recycling usage compared to the Group average.

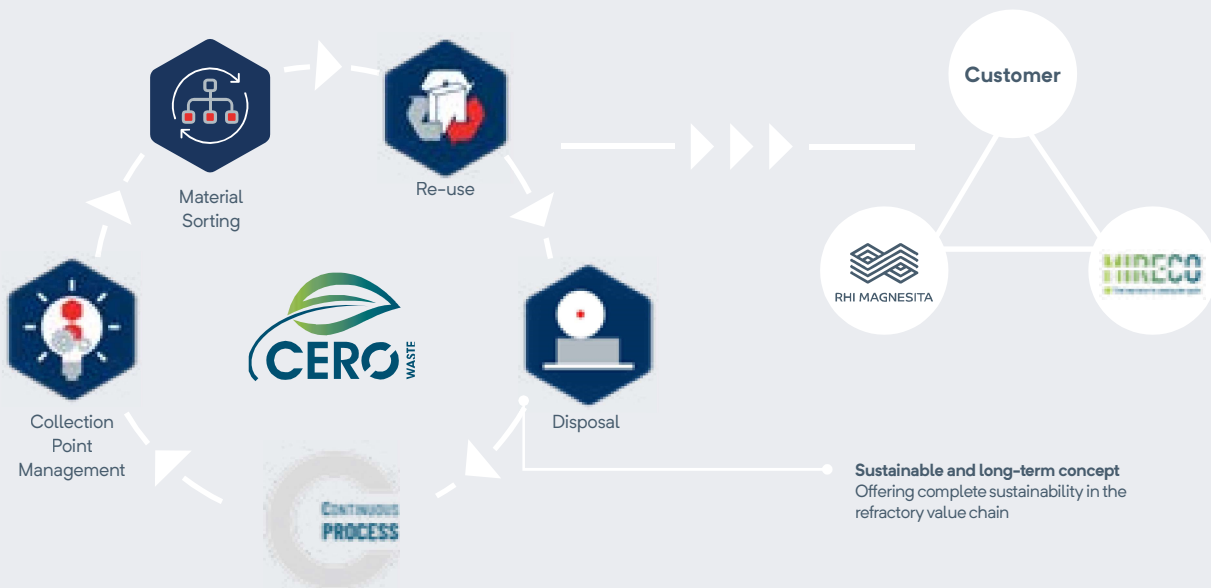
CERO-Waste concept and regional initiatives

In the SAM region, RHI Magnesita achieved a 10% increase in recycling utilisation in 2023 through collaborative efforts between technical, operational and sales teams to develop and market products with high recycled content. A recognition campaign was also launched to acknowledge customers in the region who are most active in the collection of spent refractories.

In Europe, recycled material consumption also increased by 10%, incorporating 70kt through MIRECO-supported initiatives such as the 'CERO-Waste' concept and new R&D developments.

In North America, dedicated efforts to strengthen partnerships with customers and suppliers and the promotion of high-recycling content products delivered a 50% increase in secondary raw material usage. The NAM product portfolio now contains brands with between 20%-100% recycled materials, reducing the CO₂ footprint by up to 85%.

CERO Waste Concept - green steel, circular economy and carbon footprint





In China RHI Magnesita increased recycled material consumption by over 15%, with new products marketed to both steel and industrial customers.

India also increased secondary raw material usage by 15%, driven by the sales team focus on prioritising products with recycled content. Following M&A completed in 2023, the region's production capacity has increased significantly and new acquisitions will now be integrated into the Group's recycling activities.

Technical teams continue to innovate with over 100 recycling-related product developments, tailoring products for optimal performance and maximising circular mineral usage.

The Ankral LC series, initially created in Europe, has expanded into SAM, addressing both cement and lime markets with brands that deliver a CO₂ footprint up to 25% lower than original brands, decreasing scope 3 emissions for our customers. For further details on Ankral LC see case study on page 66 of this report.

On the processing side, the Group had 15 active R&D projects in 2023 focused on enhancing circular material quality and availability. Notable achievements include the processing of Magnesia-Carbon recycled brick material in the Breitenau raw material kiln in Austria, obtaining a new high-quality MgO recycled raw material.

In Brazil, two innovative technologies were implemented to address material treatment from the steel industry and the removal of infiltrations in circular materials from the cement industry, increasing quality and stability of the end product.

ReSoURCE – Innovative solution in refractory recycling

In 2022, the Group initiated the ReSoURCE project, a 42 month initiative under the Horizon Europe framework. As project coordinator, RHI Magnesita leads technical framing and coordination, focusing on automated multi-sensor-based sorting for the refractory industry.

The project aims to develop reliable, robust automated sorting solutions with high accuracy for spent refractories, validated sustainability benefits, and facilitation of material usage for alternative products. The initiative accelerates RHI Magnesita's own technology development, whilst contributing to improved sustainability for the wider refractory industry.

Achieving the ReSoURCE project goals would deliver the following benefits:

- 800 ktpa reduction in CO₂ emissions.
- 760 GWh energy saving per year.
- Conservation of 800 ktpa of landfill waste capacity.
- Digital and robotic transformation of manual processes.
- Workforce upskilling.
- Reinforcement of the EU's raw material supply chain resilience.

Progress in 2023 included detailed examination of raw material feedstocks, adapting sensor setups for spent refractory sorting and establishing classification criteria. In 2024 the first demonstrator will be commissioned, intended to sort up to 10 tons of waste material per hour at the Group's facility in Mitterdorf, Austria, marking a pivotal step towards automation of the sorting process chain. Learn more about the ReSoURCE project [here](#).

Sustainable Technology

Partnership and industry co-operation

The Group continues to build partnerships with start-ups, universities, and industrial companies outside the refractory sector to expand its network and learnings in the field of decarbonisation. These include the K1-MET consortium with the Austrian steel industry and the Industrial Advisory Board of the EU-funded MOF4AIR project, a development of new materials for capturing CO₂ using membranes.

RHI Magnesita also has a collaborative program with the University of Leoben focused on carbon capture, utilisation and storage (CCUS) technologies, which is carrying out research to explore the viability and potential applications of different CCUS technologies.

RHI Magnesita is proactively positioning itself for the potential use of hydrogen as an alternative fuel to deliver the future decarbonisation of high-temperature industrial processes which currently use fossil fuels. As a participant in the Hydrogen Import Alliance Austria, the Group's primary focus to ensure reliable access to hydrogen in the coming years.

Aligning with key customers in the cement, steel, and chemical industries who share similar challenges, we collectively strive to develop and implement innovative technologies. Discussions around the future development of industrial hubs capable of leveraging CO₂ utilisation and pipeline access for hydrogen and CO₂ transport are ongoing, with the aim of delivering broad benefits across diverse industries.

The potential to produce Green Hydrogen on site is being examined. However, large-scale production with regional distribution, and importation via pipelines is likely to be a more efficient solution in the long run. If national and regional plans unfold as expected, RHI Magnesita anticipates having access to hydrogen and CO₂ pipelines in the early 2030s.

Carbon capture and utilisation

In 2023, further progress has been made in the evaluation of technologies for CO₂ capture at the Group's raw material production sites. Research of potential technology solutions includes cryogenic, chemical separation, and membrane-based techniques. The Group has acquired equipment for CO₂ capture through membrane separation intended for installation at its Breitenau plant in Austria in 2024.

Addressing climate change

RHI Magnesita Decarbonisation Plan

Key dates regulations

- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none"> • Bonn Climate Change Conference | <ul style="list-style-type: none"> • UN Climate Change Conference in Madrid | <ul style="list-style-type: none"> • COVID 19 Pandemic | <ul style="list-style-type: none"> • EU Taxonomy |
| <ul style="list-style-type: none"> • Year of climate extremes | <ul style="list-style-type: none"> • Bonn Climate Conference | <ul style="list-style-type: none"> • UN Climate Change Dialogues (Virtuals) | <ul style="list-style-type: none"> • TCFD — Aligned Disclosures mandatory in UK |
| <ul style="list-style-type: none"> • US National Climate Assessment | <ul style="list-style-type: none"> • EU Sustainable Finance Disclosure Regulation (SFDR) | <ul style="list-style-type: none"> • Adoption EU Hydrogen Strategy | <ul style="list-style-type: none"> • Establishment of International Sustainability Standards Board (ISSB) |
| <ul style="list-style-type: none"> • UN Emissions Gap Report | | | <ul style="list-style-type: none"> • Chinese Emissions Trading Scheme (ETS) — power sector only |
| <ul style="list-style-type: none"> • IPCC Special Report on 1.5°C | | | |



Key milestones¹

- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none"> • Set up 2018 as baseline • Set up 10% reduction target of our CO₂ emissions by 2025 • Set up 10% recycling rate of SRM | <ul style="list-style-type: none"> • Committed to invest €50 million in new and emerging technologies • Austrian sites operate with 100% green electricity • Upgraded CO₂ emission target to -15% by 2025 | <ul style="list-style-type: none"> • Launched Ankrall low carbon bricks • Project Railway in Hochfilzen, Austria • Rated B at CDP Climate report — first submission | <ul style="list-style-type: none"> • Performed climate risk assessment for all sites • Launched net-zero brick project • Achieved 48% of purchased electricity from low-carbon or renewable sources (German sites operate 100% with green electricity) • Performed oxyfuel trials in Breitenau |
|--|---|--|--|

1. Future milestones may vary depending on technology development and external support, provided for illustrative purposes only.



- COP 28
- EU CBAM
- CDP Methodology changes
- EU CSRD
- Aluminium and Cement included in Chinese ETS
- CSRD applies from 2024 financial year
- Paper and chemicals to be included in Chinese ETS from 2024
- 55% GHG emission reduction against 1990 levels in EU
- 50–52% GHG Emissions reduction against 2005 levels in US
- Net-zero targets for US, EU and UK

2023

2025

2030

2050

- MIRECO growth continues
- New 2025 recycling target of 15% set
- Implemented fuel switch project in Ponte Alta, Brazil. (charcoal use)
- 105 products containing up to 80% recycled material are part of RHI Magnesita's portfolio
- CCU Partnership with MCI Carbon for CO₂ mineralisation
- Rated A- by CDP Climate report
- Implement fuel switch at Hochfilzen
- Examine CCUS at York
- Achieve 15% recycling rate
- Increase the use of green electricity
- Implement the use of SRM in rotary kilns
- Implement fuel switch projects in Brumado and Chizhou
- Increase recycling rate
- Further use of SRM in rotary kilns
- Achieve 100% green electricity
- Increase the rate of hydrogen firing in tunnel kilns
- Achieve oxyfuel firing in all rotary kilns
- Implement green energy (H₂ and electrification) for tunnel kilns
- Implement CCUS technologies
- Address sustainable supply chain (Scope 3)

Our planet continued

In the area of Carbon Capture and Utilization (CCU), the Group has agreed a partnership with MCI Carbon to develop technologies focused on the direct mineralisation of CO₂ from flue gases, through a process which can efficiently transform gaseous waste CO₂ into a solid mineral. The MCI process offers opportunities for utilisation in other industries, such as the cement sector, which faces similar challenges with process emissions of CO₂ not originating from the use of fossil fuels. 2023 activity was concentrated on locating and assessing potential raw materials to use in the mineralisation process. Testing and development programmes with MCI Carbon are set to continue until mid-2025.

Alternative fuels including hydrogen and biofuels

Hydrogen produced using renewable energy is a promising alternative fuel for use in high temperature industrial processes such as those undertaken by RHI Magnesita. The Group is actively addressing the technical challenges associated with the use of hydrogen in its plants and new concepts are being developed for measurement, transportation, storage and firing to prepare for a future shift to hydrogen use. The first pilot project to evaluate the use of hydrogen in a refractory plant is planned to commence at Marktredwitz in the fourth quarter of 2024.

A comprehensive evaluation is also underway to assess the feasibility of generating hydrogen on-site at the Group's own facilities. Initial conclusions are that on-site production would be highly capital intensive and therefore unlikely to be economic unless supported by public subsidies.

If hydrogen is not generated on-site, securing a reliable and economic supply of green hydrogen would be an essential pre-cursor to large scale adoption of hydrogen use in quantities that would make a material difference to the Group's Scope 1 emissions.

RHI Magnesita is also exploring other non-fossil fuel options including biofuels. In Q4 2023, the Breitenau raw material plant in Austria conducted successful trials using sunflower husks as a supplementary non-fossil fuel. Further trials with this fuel source will be undertaken in 2024 to assess the practical operation of the kiln and any impacts on raw material quality.

Environment

Energy mix

Currently, natural gas provides approximately 40% of the Group's total energy usage, with coal and heavy oil the next largest sources, followed by diesel, gasoline, LPG, light fuel and propane. The Group is assessing all possibilities to strategically increase the share of renewables (currently at 8%, considering green electricity and charcoal) in its energy mix, to create a more sustainable and diversified energy portfolio.

Reducing the carbon intensity of energy

RHI Magnesita is seeking to reduce the carbon intensity of its energy sources through switching to lower intensity alternatives where possible. In Europe, plans to transition from CO₂ intensive petroleum coke to more CO₂ efficient natural

gas in our plants have been postponed due to delays in natural gas pipeline construction. Exploring biofuels as an alternative is dependent upon local availability and cost competitiveness. We continue to monitor energy markets and alternative fuel sources to reduce emissions.

At the Ponte Alta raw material production site in Brazil we have successfully switched away from petroleum coke to sustainably sourced charcoal. In 2023 this delivered 11kt of CO₂ emissions compared to petroleum coke use (2022: 18kt).

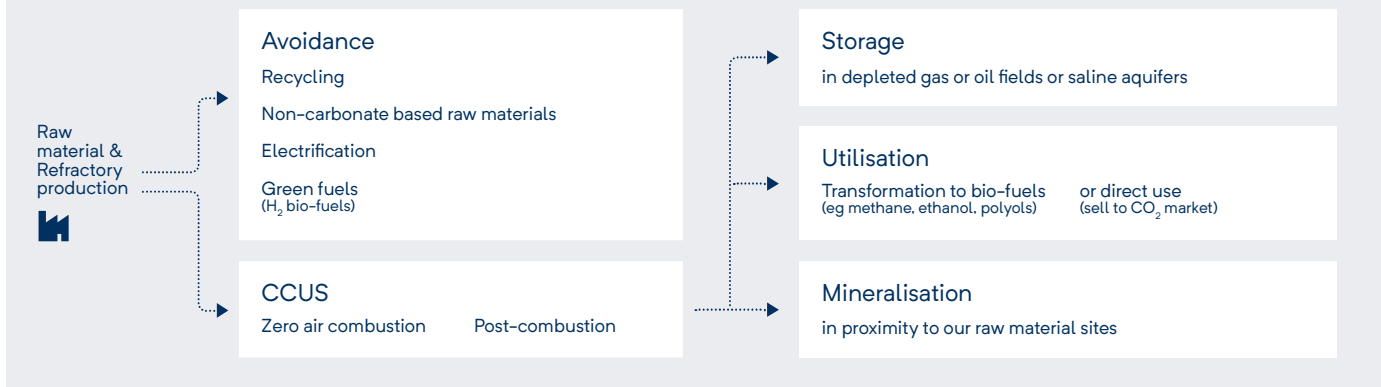
We continue to reduce the CO₂ intensity of purchased electricity. In 2023, we established a fully green electricity supply for our German recycling plants and at the Sögüt plant in Türkiye. At Visakhapatnam, India, 0.5 MW of photovoltaic capacity was installed, resulting in a CO₂ reduction of around 500t CO₂ per year. The Group is investigating the potential for solar generation at several other sites. By the end of 2023, 64% of purchased electricity was from low-carbon or renewable sources.

Energy use

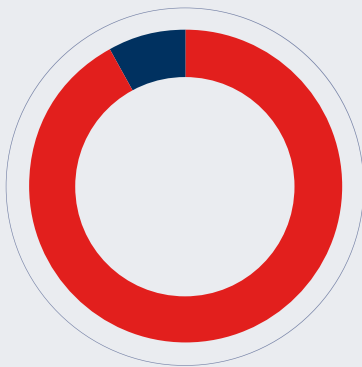
In 2023, RHI Magnesita consumed 5,055 GWh of energy, an absolute decrease of approximately 7% compared to the prior year. (2022: 5,423GWh). The main reason for lower energy consumption was a lower production volume in 2023 compared to 2022.

The Group has a target to reduce its energy intensity by 5% by 2025 compared to 2018.

Understanding our reduction measures

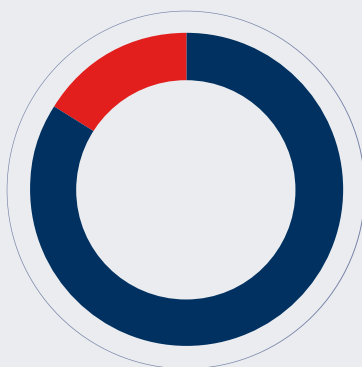


Our energy use by source



- Energy use from non-renewable sources 92%
- Energy use from renewable sources 8%

Our Water Use



- Water consumption in non-scarce areas 84%
- Water consumption in water scarce areas 16%

Energy use

	2018	2019	2020	2021	2022	2023
Total consumption (GWh) ¹	6,484	5,635	5,165	5,912	5,423	5,055
MWh/t ¹	1.94	1.91	1.93	1.83	1.89	1.79

1. The historical data has been refined to incorporate new acquisitions in 2023. Total energy consumption and energy intensity now align with the current plant footprint, and historical data has been adjusted accordingly. Changes in the originally reported figures – 2022:12%; 2021:15%; 2020:13%; 2019:8%; 2018:13%.

In 2023, energy intensity decreased by 6% compared to 2022 and was 8% lower compared to 2018, exceeding the target. The energy intensity KPI is affected by M&A, changes to the extent of vertical integration and product mix changes (e.g. production of flow control and shaped products consumes more energy).

Energy efficiency measures in Hochfilzen, Austria resulted in 21 GWh of energy savings. In Tlalnepantla, Mexico the capture of waste heat from the tunnel kiln saved 350 MWh. Across all ISO 50001 plants, improvements made to compressed air systems result in 1 GWh of energy saving and other energy efficiency measures resulted in 33 GWh of energy savings. We are continuing to roll out ISO 50001 standards across all operations and by end of 2023, 38% of energy was consumed at plants which have implemented ISO 50001. 88% of energy consumption was used for heating and 12% for electricity. No steam is used in our production process and for cooling, some climate-chambers are in use for ISO-production that is reported under electricity.

Reducing NO_x and SO_x emissions

The Group has a target to reduce nitrogen oxide (NO_x) and sulphur oxide (SO_x) emissions by 30% by 2025 compared to 2018. The target was achieved in China in 2021 and recent focus has been in North America, where we have realised the 30% reduction goal for NO_x in by implementing a two-stage combustion process in the rotary kilns at the largest plant in the region. The North America SO_x reduction target has also been achieved, with DeSO_x equipment now operational and delivering almost a 50% reduction of emissions compared to 2018.

Waste management

Applying the principles of a circular economy is key for our waste management approach, shifting away from the linear take-make-waste model, minimizing environmental impact. In 2023, our production sites generated 7kt hazardous and 84kt of non-hazardous waste,

By fostering a circular economy mindset, we can not only mitigate the environmental impact but also contribute to a more resilient and responsible industrial landscape.

Water stewardship

RHI Magnesita's production processes are not inherently water-intensive. In 2023 the Group withdrew 12,400 megaliters of water. 92% of water comes from underground sources, followed by third party water. Around 16% of this consumption occurred in areas considered to be at risk of possible water scarcity. The Group has updated its water risk assessment, to include newly acquired in 2023.

The Group takes steps to reduce its water consumption where possible. In India, Bhiwadi plant installed a sewage treatment system to recycle domestic wastewater, utilizing reclaimed water for on-site irrigation.

Protecting biodiversity

The Group is dedicated to preserving biodiversity at its operational sites and is actively working to minimise its impacts. A new screening of biodiversity risks was conducted in H2 2023 and further assessments are planned for 2024 at the Group's key mining sites to provide a more detailed understanding of biodiversity risks or potential dependencies.

At the Brumado mine and raw material processing site in Brazil, the Group adheres to licence requirements to restore land to its original state after use. This includes the planting of native vegetation, which must match species found in the local area. For this purpose and to provide broader community benefits, over 20,000 seedlings were cultivated at the on-site nursery and planted both within and outside RHI Magnesita properties by employees and community members in 2023. Over 1,000 trees were planted near the Bhiwadi, India, and Eskisehir, Türkiye plants and across various local initiatives the Group planted a total of 7,000 trees in 2023.



👁 CASE STUDY — ENVIRONMENTAL PROTECTION

Reforestation and water safeguarding

RHI Magnesita is committed to environmental recovery and protection in the Brumado region of Brazil, where it operates a magnesite based raw material production facility and open cast mine.

Through the Degraded Areas Recovery Project (“PRADA”), the Group has demonstrated its dedication to restoring ecological balance, in compliance with environmental legislation and as part of its commitment to the responsible extraction of natural resources.

Developed by a multidisciplinary team, PRADA focuses on reforestation and rehabilitation of areas previously impacted by mining activities. Over a six-month period, RHI Magnesita implemented maintenance and stabilisation actions for recovered areas, including the direct planting of native seedlings. The process for effective seedling planting involves clearing, mounding, monitoring, insect control and the application of fertiliser and hydrating gel.

Compensatory planting over a recovered area of 9 hectares included over 18,000 seedlings of 35 different species. Of these, five species are considered by law as protected or immune to cutting, necessitating greater compensatory planting. *Anadenanthera macrocarpa* (angico), *Handroanthus spongiosus* (sete casca), and *Spondias tuberosa* (umbuzeiro) were planted in a 15:1 compensation ratio as required by legislation.

The Serra das Éguas area, home to RHIM Magnesita’s Brumado facility, encompasses 22 water springs. RHI Magnesita acknowledges, protects and recovers if necessary these water resources. Our comprehensive environmental strategies aim to preserve water sources to ensure that ecological balance is maintained in the local area.

Sustainability

Our people



Related SDGs



Health and safety

Maintaining a safe and healthy workplace is fundamental to RHI Magnesita's culture and mindset. The Group assigns the highest importance to the health and safety of its employees and contractors. Our operations by necessity involve hazardous and higher risk activities and maintaining high safety standards is a minimum expectation for all stakeholders.

Our approach to safety centres on people and safe work practices, seeking to promote a safety-oriented mindset based on clear operating procedures and management of key risks. New joiners including contractors are trained according to RHI Magnesita's safety principles, which underline the shared responsibility to contribute to safety at work.

To deliver continuous improvement in our safety culture and performance, we monitor leading indicators in addition to key trailing performance indicators including Lost Time Injury Frequency ("LTIF") and Total Recordable Injury Frequency ("TRIF") — Total Recordable Injury Frequency. Assessing trends and parameters guides future improvement initiatives.

Safety performance

LTIF improved to 0.16 (2022: 0.20), representing a downward trend since 2021 and the lowest level of lost time injuries since the COVID-19 pandemic in 2020.

A fatal incident occurred at one of the Group's plants in Austria in November 2023 during material handling. A thorough investigation of the root causes of this incident has been carried out and changes to operating procedures and standards are being implemented worldwide to prevent recurrence. Based on a detailed analysis of the circumstances and underlying causes of the incident, 'lessons learned' have been communicated globally. Senior leaders are committed and engaged in the follow up and operational sites will receive further tools to audit compliance with operating procedures.

A fatal accident occurred at the Breitenau mine in Austria due to rock fall in February 2024. Consideration of this incident and follow up measures was ongoing as at the date of this document

RHI Magnesita encourages a culture of communication, benchmarking and knowledge sharing across its regional business units which is underpinned by regional Health & Safety

coordination and execution. Following any major incident, including those resulting in serious injuries or a fatality, or that are defined as potentially life-threatening or life-changing, detailed analysis of root causes is carried out and appropriate countermeasures implemented.

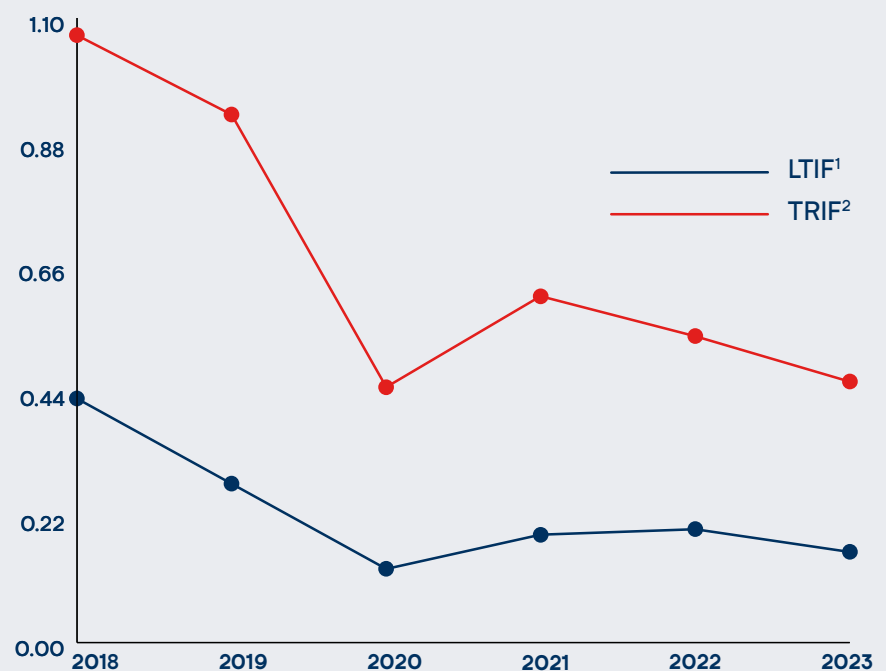
During 2023 we continued to progress our existing occupational health & safety programmes, seeking to balance leading and lagging indicators in order to be more proactive in the prevention of incidents before they occur. Leading indicators assist our leaders and employees in understanding the strengths and weaknesses of their safety performance, giving direction and insights into the typical behaviours and conditions that usually precede any incident. The Group closely monitors its Preventive Rate, which indicates the number of reported near-misses or unsafe situations per person, which remained stable in 2023 but at a high level compared to previous years. The Group also monitors the closing rate of actions that are

assigned to prevent repeat accidents caused by similar unsafe situations. The actions closing rate increased to 93% in 2023 (2022: 88%).

RHI Magnesita Global Health and Safety Guidelines

RHI Magnesita is a manufacturer of refractories operating 47 refractory and raw material production facilities worldwide as well as providing services at customer sites. To manage Health & Safety on a global basis the Group has developed a set of mandatory Global Guidelines as part of its Health & Safety Management System. The Global Guidelines are regularly reviewed and updated to consider best practices and learnings from incidents as well as from internal and external audits for ISO45001. Every employee or contractor who works within the Group at a controlled location is expected to comply with the Global Guidelines.

Health & Safety performance



1. Lost time injury frequency rate per 200,000 hours.
2. Total Recordable Injury Frequency.

Target 2025: Maintain LTIF at <0.3 (goal: Zero Harm - No Injuries).



It's our goal that everyone returns home from work safe and sound. Everyday."

Stefan Borgas
Chief Executive Officer

Workplace risk assessments

RHI Magnesita's business includes high-risk activities for which hazard identification and risk assessments are carried out, documented, and shared. Following a continuous improvement approach, the Group performs risk assessments in multidisciplinary teams which include team leaders, workplace personnel, local health & safety experts and locally assigned occupational health or occupational physician representatives and worker representatives, depending on local legal requirements.

A "Hierarchy of Controls" approach is applied to the risk assessment process, including but not limited to:

- Assessing whether the risk can be eliminated, e.g. purchasing equipment which is not noisy.
- Implementation of engineered solutions to eliminate or reduce the risk, e.g. automated processes which reduce manual work.
- Organisational measures, such as training and auditing.
- Standard operating procedures and work instructions defined with the involvement of the team who performs the task, with illustrations and in local languages.
- Providing personal protective equipment according RHIM global minimum standard to employees.

Corrective and preventive actions and further upgrades identified by the risk assessment are documented.

RHI Magnesita provides training on safety awareness and a "Stop Work" procedure, which leads to the application of a pre-defined "Quick Check" for assessing unsafe situations. A "Quick Check" can either be carried out directly by the worker assigned to the task or there can be a call for further support.

All employees and contractors are required to immediately report any "Unsafe Situation" to supervisors so that corrective actions can be put in place to avert harm. Both "Unsafe Situation" information and a report of a near miss are flagged in RHI Magnesita's safety reporting system for further follow-up and analysis.

Occupational health

In addition to prevention of workplace accidents, RHI Magnesita seeks to safeguard the long term health and wellbeing of its people.

A variety of measures and programmes are in place to establish a safe work environment with minimal potential adverse effects on health and wellbeing.

Occupational health aspects are covered in risk assessments of workplaces which include areas such as noise monitoring and emissions of volatile organic compounds or dust. To fulfil local legal obligations and the Group procedure for Hazard Identification and Risk Assessment the participation of an Occupational Physician is obligatory.

Healthcare, health awareness campaigns and medical support are made available for operational teams, often managed locally according legal or regulatory obligations.

For all employees, including office locations, RHI Magnesita also provides awareness and information campaigns for common illness and health issues such as nutrition, hydration, ergonomics, and other medical screenings.

RHI Magnesita reports on frequency-rates based on 200,000 hours worked, considering the LTIs — Lost Time Injuries (37 cases in 2023) and TRI — Total Recordable Injuries (105 cases for 2023), — including employees and non-employees (temporary workers/leased personnel, contractors). Thereof, 1 fatality (temporary worker) and 2 high-consequence workrelated injuries (employee) are considered in the LTIF and TRIF. The fatal accident rate (FAR) for RHIM Group results in 0.004 per 200,000 hrs whereas the FAR calculated for the affected category of workers is at 0.01 per 200,000 hrs worked. The calculation of the rate for "High consequence work-related injuries, incl. fatalities" (2 high consequence-cases and 1 fatality) gives back the groupwide result of 0.013 and for the affected category of "Employees and temporary workers" at 0.015.

Global standardisation for health and safety excellence

Standardisation is an effective tool to improve health & safety performance. RHI Magnesita has a global Health & Safety Management System and seeks certification through external auditors. Safety aspects are also incorporated into standard operating procedures.

The following locations achieved a successful initial certification against ISO 45001 Occupational Health & Safety Management System in 2023:

- Jinan New Emei Plant in Shandong, China.
- Regional headquarters in Shanghai, China.
- RHIM Trading Co Ltd. based in Dalian, China.

RHI Magnesita health and safety guidelines and standards were implemented in newly acquired facilities in China (Jinan New Emei) and India (five plants) during 2023. Due to the ongoing expansion of Group's production network, the integration of other plants has also commenced. We seek to engage with local senior management and the workforce from the beginning to ensure that our values and standards are adopted.





Diversity & inclusion is not a tick-the-box exercise, it's a reflection of the world around us.”

Claudia Bergner
Head of People & Culture

Goal

RHI Magnesita seeks to create an environment where every form of diversity is cherished, every voice resonates, and every talent is fostered.



29%

Female representation on Board of directors¹

28%

Women in leadership roles (EMT + EMT -1)

18%

Senior female roles

Diversity, equity and inclusion

RHI Magnesita is committed to fostering an inclusive culture across its global operations. The Group introduced a new Global Equality Policy in 2023 setting out its commitment to diversity and inclusion irrespective of race, age, gender and sexual orientation.

We are committed to upholding human rights and labour rights. 74% of our employees belong to unions, are represented by works councils or are subject to collective bargaining agreements.

The Group has made significant strides in advancing female representation at senior leadership levels through various initiatives implemented across all regions.

Other noteworthy campaigns and initiatives were launched relating to mental health, including the “RHIMindset” Channel which aims to cultivate a positive and resilient mindset and promotes overall wellbeing at work. Weekly articles on mental health topics, monthly action calendars on wellbeing and other proactive measures further contribute to our employee wellbeing programme.

To improve employee engagement a new employee app was launched in 2023, providing a tailored and de-centralised experience that caters for the diverse needs of our global workforce. Unlike previous platforms with more limited scope, the app is fully accessible for plant employees, including those without a corporate email address. A smart activity feed facilitates personalised and efficient communication, while collaboration sub-spaces promote teamwork and resource sharing.

A culture that supports people in reaching their potential

At RHI Magnesita, our people-centric approach places customer experience and satisfaction at the core of every decision and activity. This customer-centric culture is supported by our four cultural pillars: innovation, openness, pragmatism, and performance. To sustain this culture, we seek to attract, develop, and retain the best talent, embracing a diverse and high-performing workforce. We believe that a diverse and inclusive environment leads to better, faster, and more courageous decision making, resulting in overall improved performance.

1. With the inclusion of the Board Nominated NED, who will be proposed to the 2024 AGM, the gender diversity of the Board is 33%.

Our employees from over 90 countries bring a wide range of experiences, backgrounds, and perspectives with them. We support and encourage a mindset of lifelong learning, and personal and professional growth.

In 2018, we introduced the “culture champions” network with over 60 employees worldwide engaging with colleagues on a regular basis to promote our corporate culture and this work continued in 2023. The Group also promoted unconscious bias training which addresses biases that may impact decision making.

Developing our leaders

Developing an internal talent pool of future leaders has always been a key focus at RHI Magnesita and we are building our leadership pipeline through strategic succession management. Succession planning secures a sustainable pipeline of internal high performers for our most senior and critical positions, which also includes future female leaders. With a global footprint, we aim to reflect the geographic diversity of our business and we have appointed female leaders to senior roles in each of our five regions. We also seek to increase representation from different age groups to enable us to benefit from a multi-generational workforce.

Through our global trainee programme, we aim to attract and retain young talent as the future leaders of our business. In 2023, we introduced a third cohort of global trainees with a 60% female intake. On average, female representation in the three most recent trainee cohorts is 50%.

In 2023, we submitted a report to the FTSE Women Leaders Review, an independent, business-driven framework providing recommendations to enhance the representation of women on the Boards and Leadership teams of the FTSE 350 and 50 of the UK's largest private companies.

Our new Leadership Onboarding Programme equips managers with all the necessary attributes of a leader at RHI Magnesita, covering leadership principles, change management, general business acumen and systems and tools.

Building a diverse and inclusive workforce

At RHI Magnesita we want to reflect the diversity of the world around us and to be a company that is open to receiving the best and brightest talent the world has to offer. Diversity is embedded in our corporate culture. We believe that an inclusive workplace and employee experience covers all aspects of diversity: age, gender, race, ethnic minority, LGBTQIA+ and persons with disabilities.

In 2023, the Group introduced a new Gender Equality Policy. Our Diversity, Equity, and Inclusion (DEI) committee meets regularly to coordinate the creation of a workplace that values and supports individuals of all backgrounds.

We want our business to be innovative and productive so we can deliver the best products and services to our customers, and we need diversity to help us achieve this. Our diversity and inclusion strategy provides us with a road map to create an inclusive workplace.

Gender diversity

As part of the Group's ongoing efforts to promote gender diversity, a partnership with Female Factor has been established to boost leadership skills and confidence among our female colleagues, while raising awareness of gender balance through workshops and webinars. RHI Magnesita further reinforces these efforts through initiatives such as EmpowerHER, an internal development academy for female talents, and maintaining a gender balance ratio in our Global Trainee Programme for 2024. Our collaboration with “SHEgoesDIGITAL” aligns with our commitment to promoting the role of women in the digital sector, helping young talents of all backgrounds to develop an interest in careers in information technology.

The Group also launched a Global Internal Mentoring Programme, an initiative designed to empower and elevate careers at RHI Magnesita, with a special focus in 2023 on encouraging female leadership within our organisation.

As of the end of 2023, board female representation stood at 29%, while 28% of all senior leadership positions, including the EMT and direct reports, are held by females. Our goal is to increase the share of female leaders at EMT -1 level to 33% by 2025. Board diversity will be restored to 33% if shareholders approve the nomination of Katarina Lindström to the Board at the 2024 AGM.

Sustainability

Our communities



As our Group continues to expand, maintaining robust and positive relationships with our local communities is integral to our ongoing success. Our sites are located in diverse and sometimes remote regions and it is essential for us to understand local context. We regularly engage and consult with our stakeholders, seeking to understand and respect their interests and priorities.

In 2023, 'Health and medical care' was approved by the Corporate Sustainability Committee as a new community investment pillar to align the Group's community strategy with the practical reality of local spending priorities.

The Group funded more than 220 community initiatives globally during the year, focused on the three main pillars of (i) education and youth development; (ii) health and medical care, and (iii) environment. Depending on local needs, we may also support projects in other areas including wellbeing, arts and culture, and emergency relief. The Group encourages employees to participate in and support volunteering activities.

The community investment programme is often carried out in partnership with local non-governmental organisations and reputable entities who implement projects aimed at fostering enduring social and environmental improvements in communities close to our operations.

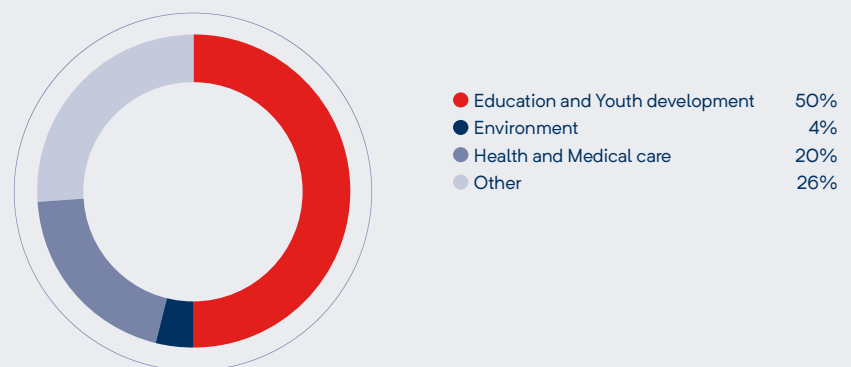
Our pillars

Our approach to community investment has been developed based on the UN Global Compact, focusing on three main pillars:

Education and youth development

RHI Magnesita recognises the importance of empowering individuals through education and skill development initiatives. Our focus is on supporting programmes that promote access to high quality education, vocational training, and lifelong learning opportunities. By investing in education, the Group aims to support community members with the necessary tools to succeed and contribute to the growth of their communities.

Community spend 2022 by focus area



We aim to create and support programmes that engage young people in intentional, dynamic and valuable ways while recognising and enhancing their strengths.

Health and medical care

The Group is committed to improving the health and medical care of communities where it operates. Investments are directed towards initiatives that address healthcare accessibility, disease prevention, mental health support, and promoting healthy lifestyles. By prioritising health and medical care, the Group aims to create healthier and more resilient communities and improve community relations.

Environment

RHI Magnesita is committed to addressing climate change and the protection of the environment. The Group's investments focus on supporting projects that promote environmental protection, waste reduction, conservation of natural resources, and other sustainable practices.

Related SDGs



🕒 CASE STUDY — EMPOWERMENT & VOLUNTEERING

Brazil social empowerment projects

A social empowerment project engaged over 180 women from vulnerable economic situations in a unique Christmas decoration course, resulting in the manual creation of more than 5,000 decorations using recyclable materials. Women from various communities in Contagem and Brumado were empowered through training in upcycling techniques, encouraging creativity and providing a potential source of income.

“Magic Christmas” extended its impact, reaching over 700 children from social projects in Contagem, Ponte Alta, and Brumado. In this initiative, children express wishes for gifts which are matched through an internal campaign within the company. Employees enthusiastically embrace the initiative which has a clear positive impact for local children.

The campaign was orchestrated by the Volunteer Programme of the Company, with the support of 80 volunteers and over 200 “godparents”. RHI Magnesita’s “Magic Christmas” project combines sustainability, community support, and festive spirit, creating lasting memories and fostering goodwill.



On behalf of the communities, I would like to thank you for everything you have done for our us. What a beautiful moment, what enchantment, what fun, what love, what smiles, our children were overflowing with joy. Thank you to all the volunteers, for their commitment, for the beauty of the event, thank you all.”

Katiane Leite

Community leader, Brumado-Bahia-Brazil

Our initiatives

Youth development, Casa de Apoio, Contagem, Brazil

RHI Magnesita’s partnership with Casa de Apoio has been in place since 2019 and yielded tangible results for local young people, with numerous initiatives contributing to the education and empowerment of vulnerable communities.

In 2023, RHI Magnesita supported 64 talented students from the Casa de Apoio social project with sewing classes and fully equipped facilities, in a fashion design project called “Ponto da Moda”. The project celebrated local culture, art and cuisine.

RHI Magnesita’s partnership with Casa de Apoio goes beyond education, encompassing sport, music and artistic workshops, digital inclusion,

and holistic support for children, teenagers, and families in need. Since 2019, more than 2,160 children and teenagers have been served directly. 60 elderly people and more than 10,000 adults benefited indirectly.

Education, Jinan, China

RHI Magnesita sponsored a primary school located in Laiwu District, Jinan City, including the donation of 400 school bags to students Supporting primary education contributes to academic development as well as improving community relations.

Volunteering

RHI Magnesita encourages staff volunteering to increase community engagement and to make a positive impact on the communities in which we operate.

A volunteering programme in the Vienna Headquarters was fully implemented in 2023, serving as a pilot scheme for other regions and paving the way for the establishment of a permanent volunteering programme. Each employee in Vienna is granted one day of paid volunteering leave per year.

“When the Others Plant Trees”, Pfaffstätten, Austria

Volunteers engaged in a conservation initiative within the Glaslauerriegel-Heferlberg-Fluxberg nature reserve in Austria.

Partnering with the Landschaftspflegeverein Thermenlinie-Wienerwald-Wiener Becken (LPV), RHI Magnesita volunteers removed hazelnut bushes, rowan trees, and barberries, significantly contributing to the preservation of

🕒 CASE STUDY – YOUTH DEVELOPMENT

India youth development projects

The Group funded an initiative in India with Don Bosco Tech focusing on short-term skill training spanning two months followed by job placements for underprivileged youth. Participants included 380 girls and 340 boys, with training programmes encompassing customer care, sewing machine operation, data quality analysis, desktop publishing, food & beverage service, domestic electrician, and general duty assistant roles. These vocational skills align with market demands, offering direct pathways to gainful employment.

Trained individuals will be contributing to the local economy by meeting skill gaps in various industries. This helps businesses thrive and stimulates economic growth in these regions. The initiative is supported by a strategic MoU signed in 2023. RHI-Magnesita's committed contribution is approximately €200,000. Objectives are scheduled for accomplishment by March 2024, aligning with the end of the India financial year.



"I completed the Food & Beverage Service course from Don Bosco Tech Society. Now I have been selected by Paradise Food Court in Hyderabad as team member, so I am thankful to Don Bosco Tech Society and RHI Magnesita for helping me to get this opportunity!"

Ahtesham Ali
2023, Chaibasa, India

dry grasslands. These grasslands are renowned as one of Austria's most species-rich habitats, playing a pivotal role in supporting various insects and rare species of butterflies.

Engaging in this initiative heightened awareness of biodiversity and climate protection, as the preservation of grasslands is positive for CO₂ sequestration.

RHI Magnesita and environment protection, Dalian, China

Over 200 employees in China participated in a project themed "Reduce the use of plastic bottles. Protect our Environment." This collective commitment involves saying "No" to plastic water bottles and other plastic products, advocating the use of reusable containers made from glass or ceramics.

Internal records indicate that prior to the project, the Dalian plant generated over 60,000 waste plastic water bottles, highlighting the pressing issue of plastic pollution. To address this, the initiative provides practical tips for reducing plastic waste in daily life, such as rejecting plastic straws, opting for eco-friendly bags, choosing cartons or glass containers over plastic, and buying food in bulk to minimise packaging waste.

Indigenous people

RHI Magnesita recognises and respects Indigenous peoples, their rights and heritage, knowledge, and practices. None of the Group's operational sites are located close to any Indigenous communities. RHI Magnesita supports the strengthening of legal recognition

for Indigenous territories including protection against illegal mining and guaranteeing Indigenous people a strong voice in local and global dialogues that affect their future.

RHI Magnesita Global Reporting Initiative Standards Index 2023

Disclosure number	Description	Location/page Annual Report 2023	Additional content
GRI 1 Foundation 2021			
	Statement of use		RHI Magnesita has reported in accordance with GRI Standards for the period 1 January 2023 to 31 December 2023.
	Applicable GRI Sector Standards		None
GRI 2 General Disclosures			
The Organisation and its reporting practices			
GRI-2-1	Organisational details	5, 265	See Global refractory production network
GRI-2-2	Entities included in the organisation's sustainability reporting	61	See details in the management of material topics
GRI-2-3	Reporting period, frequency and contact point	61	Contact: sustainability@rhimagnesita.com
GRI-2-4	Restatement of information	62,77	See 2025 Targets table: Energy Use
GRI-2-5	External assurance	61	RHI Magnesita commissioned Deloitte Audit Wirtschaftsprüfungs GmbH for an independent third-party limited assurance engagement on the non-financial report for the year ended 31 December 2023, according to the Taxonomy Regulation ((EU) 2020/852) and GRI Standards. For more information, click here for more details on the assurance process and conclusions.
Activities and workers			
GRI-2-6	Activities, value chain and other business relationships	2-5, 65-69	
GRI-2-7	Employees	—	<p>a. Total number of employees by employment contract (permanent and temporary) and by gender (headcount):</p> <ul style="list-style-type: none"> • Permanent: 13,285 (of which 11,560 male, 1,725 female) • Temporary: 1,492 (of which 1,096 male, 326 female) <p>b. Total number of employees by employment contract (permanent and temporary), by region (headcount):</p> <ul style="list-style-type: none"> • Western Europe: Permanent: 3,175; Temporary: 472 • Eastern Europe: Permanent: 172; Temporary: 20 • Near and Middle East: Permanent: 508; Temporary: 22 • South America: Permanent: 4,410; Temporary: 190 • North America: Permanent: 1,320; Temporary: 88 • Asia Pacific: Permanent: 3,652; Temporary: 697 • Africa: Permanent: 48; Temporary: 3 <p>c. Total number of employees by employment type (full-time and part-time), by gender (headcount):</p> <ul style="list-style-type: none"> • Full time: 15,659 • Part time: 227 • Full time male: 13,568 • Full time female: 2,091 • Part time male: 66 • Part time female: 161
GRI-2-8	Workers who are not workers	—	For 2023, an estimation would result in an average FTE of 1.100 without newly acquired sites. The Group is evaluating a methodology to compile this KPI.



Disclosure number	Description	Location/page Annual Report 2023	Additional content
Governance			
GRI-2-9	Governance structure and composition	107-146, 64	See Governance Chapter, Sustainability Governance
GRI-2-10	Nomination and selection of the highest governance body	108	See The Board in 2023
GRI-2-11	Chair of the highest governance body	108,130	Herbert Cordt, Chairman of the Board of Directors
GRI-2-12	Role of the highest governance body in overseeing the management of impacts	61	See Board powers, responsibilities and representation
GRI-2-13	Delegation of responsibility for managing impacts	115	See EMT and delegation of authority
GRI-2-14	Role of the highest governance body in sustainability reporting	119, 140-141	See Chairman of Corporate Sustainability Committee
GRI-2-15	Conflict of interest	66, 115	See Business & Ethics, Conflicts of Interest
GRI-2-16	Communication of critical concerns	66,117	See Business & Ethics, Whistleblowing
GRI-2-17	Collective knowledge of highest governance body	116	See Skills and experience
GRI-2-18	Evaluation of the performance of highest governance body	111	See Board performance review
GRI-2-19	Remuneration policies	146-172	See Remuneration Committee Report
GRI-2-20	Process to determine remuneration	148,151	See Implementation of the Remuneration Policy for 2024
GRI-2-21	Annual total compensation ratio	148	See Annual bonus, 2024 LTIP; Performance metrics
Strategy, policies and practices			
GRI-2-22	Statement on sustainable development strategy	108	See Sustainability, stakeholder and strategy
GRI-2-23	Policy commitments	114,141	See Culture and purpose; Compliance programme For more details, see also here
GRI-2-24	Embedding policy commitments	45-57	See Risk management approach
GRI-2-25	Processes to remediate negative impacts	118	See Board operation RHI Magnesita follows the precautionary principle in all its operations. All major operations in the EU follow the requirements of the EU IPPC Directive on the precautionary principle. Operations outside the EU follow the precautionary principle in line with national regulatory requirements. For more details, see also here
GRI-2-26	Mechanisms for seeking advice and raising concerns	143	See Whistleblowing programme
GRI-2-27	Compliance with laws and regulations	—	There were no significant instances of non-compliance with laws and regulations that resulted in fines or sanctions during the reporting period according to Management. Provisions for potential litigations can be seen on Annual Report 2023, Notes 39. The Group will work to establish a comprehensive approach to report this indicator.

RHI Magnesita Global Reporting Initiative Standards Index 2023 continued

Disclosure number	Description	Location/page Annual Report 2023	Additional content
GRI-2-28	Membership of associations	—	<ul style="list-style-type: none"> World Refractories Association (WRA) European Refractories Producers Federation (PRE), via the Austrian Mining and Steel Association of the Austrian Federal Economic Chamber Austrian Mining and Steel Association The Austrian Society for Metallurgy and Materials (ASMET) German Refractory Industry e.V (DFFI) Brazilian Association of Metallurgy, Materials & Mining (ABM) Brazilian Association of Refractories Producers (ABRAFAR) SIRef/MG (Minas Gerais State Refractory Industry Union) Latin-American Association of Refractories Producers (ALAFAR) SIR (Brazilian Refractory Industry Union) Industriellenvereinigung (Federation of Austrian Industries) The European Ceramic Industry Association (Cerame-Unie) Euromines European Technical Platform of Sustainable Mineral Resources (ETPSMR) European Cement Research Academy (ECRA) American Ceramic Society Bergmännischer Verband Österreichs (BVÖ) US National Lime Association Respect Global Compact Network Austria Transparency International
Stakeholder engagement			
GRI-2-29	Approach to stakeholder engagement	122-127	See Stakeholder engagement report
GRI-2-30	Collective bargaining agreements	81	See Diversity, Equity and Inclusion
GRI 3 Material topics 2021			
GRI-3-1	Process to determine material topics	60-61	See Materiality
GRI-3-2	List of material topics	61	See Materiality
Economic Performance 2016			
GRI-201-1	Direct economic value generated and distributed	83-85	See Our communities
GRI-201-2	Financial implications and other risks and opportunities due to climate change	99-105	See TCFD Report
Anti-corruption 2016			
GRI-3-3	Management of material topics	—	RHI Magnesita's Code of Conduct outlines anti-corruption, conflicts of interest, and gifts & invitations policies. There are digital workflows in place to report potential conflicts of interest, seek pre-approval for gifts & invitations, and process proposals for community contributions. An independently operated whistleblowing hotline is available for employees and third parties to report potential violations. Regular reporting to executive management, regional management, and the Audit & Compliance Committee is conducted regarding key compliance issues. There is an annual audit of anti-bribery & corruption controls. Business partners (e.g. customers, sales intermediaries and suppliers) and transactions such as mergers or acquisitions are subject to a due diligence process. All sales agents are certified by Ethixbase360 (former TRACE International), a leading international organisation specialised in third-party due diligence solutions and all suppliers are expected to follow the Supplier Code of Conduct.
GRI-205-1	Operations assessed for the risk of corruption	64	See Business & Ethics
GRI-205-2	Communication and training about anti-corruption policies and procedures	64	See Business & Ethics
GRI-205-3	Confirmed incidents of corruption and actions taken	64	See Business & Ethics



Disclosure number	Description	Location/page Annual Report 2023	Additional content
Materials 2016			
GRI-3-3	Management of material topics	—	<ul style="list-style-type: none"> • Base year 2018 • New acquisitions conducted in 2022-2023 not considered
GRI-301-1	Materials used by weight or volume	—	Not available
GRI-301-2	Percentage of recycled input materials used to manufacture the organization's primary products and services	72	See Recycling
GRI-301-3	Reclaimed products and their packaging materials	—	Not available
Energy 2016			
GRI-3-3	Management of material topics	—	<ul style="list-style-type: none"> • Base year 2018 • Acquisitions conducted in 2023 for the most part included (two small sites in USA and Italy not considered) • Transportation, sales offices and other administrative buildings not included
GRI-302-1	Energy consumption within the organisation	77	See Energy Use
GRI-302-2	Energy consumption outside the organisation	—	Not applicable
GRI-302-3	Energy intensity	77	See Energy Use
GRI-302-4	Reduction of energy consumption	77	See Energy Use
GRI-302-5	Reductions in energy requirements of products and services	77	The Group strives to have all sites supplied with renewable sources of electricity; 64% of our sites have green electricity.
Emissions 2016			
GRI-3-3	Management of material topics	—	<ul style="list-style-type: none"> • Base year 2018 • Acquisitions conducted in 2023 for the most part included (two small sites in USA and Italy not considered) • Transportation, sales offices and other administrative buildings not included. • Historical CO₂ emission data were revised to reflect new acquisitions.
GRI-305-1	Direct (Scope 1) GHG emissions	70	Biogenic emissions (thousand tonnes): 2018: 5; 2019: 8; 2020: 10; 2021: 13; 2022: 13; 2023:17 For questions on the emission factors and calculation methods, please contact: sustainability@rhimaginesita.com
GRI-305-2	Energy indirect (Scope 2) GHG emissions	70	For questions on the emission factors and calculation methods, please contact: sustainability@rhimaginesita.com
GRI-305-3	Other indirect (Scope 3) GHG emissions	70	Reported Scope 3 covers only CO ₂ emissions from purchased raw materials. For questions on the emission factors and calculation methods, please contact: sustainability@rhimaginesita.com
GRI 305-4	GHG emissions intensity	63	See 2025 Targets table
GRI 305-5	Reduction of GHG emissions	59	See Our planet
GRI 305-6	Emissions of ozone-depleting substances (ODS)	—	Not applicable
GRI 305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	63	Not available

RHI Magnesita Global Reporting Initiative Standards Index 2023 continued

Disclosure number	Description	Location/page Annual Report 2023	Additional content
Employment 2016			
GRI-401-1	New employee hires and employee turnover	—	<p>a. Total number and rate of new employee hires during the reporting period, by age group, gender and region.</p> <p>i. Age group Under 30 years old: 1,311 (51.5% – headcount 2,546) 30 – 50 years old: 2,603 (26.5% – headcount 9,818) Over 50 years old: 1,038 (29.5% – headcount 3,521) Excluding seasonal staff Total: 4,952 (31.2%)</p> <p>ii. Gender Male: 4,258 (31.2%) Female: 694 (30.8%)</p> <p>iii. Region Western Europe: 929 (22.7%) Eastern Europe: 790 (92.4%) Near and Middle East: 123 (23.2%) South America: 862 (18.7%) North America: 436 (31.0%) Asia Pacific: 1,802 (41.4%) Africa: 10 (19.6%) Excluding seasonal staff Total: 4,952 (31.2%)</p> <p>b. Total number and rate of employee turnover during the reporting period, by age group, gender and region.</p> <p>i. Age group Under 30 years old: 880 (34.6%) 30 – 50 years old: 1,609 (16.4%) Over 50 years old: 617 (17.5%)</p> <p>ii. Gender Male: 2,633 (19.3%) Female: 473 (21.0%)</p> <p>iii. Region Western Europe: 705 (17.2%) Eastern Europe: 5 (0.6%) Near and Middle East: 101 (19.1%) South America: 1,239 (26.9%) North America: 404 (28.7%) Asia Pacific: 648 (14.9%) Africa: 5 (9.8%)</p>
GRI-401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	—	Benefits vary across locations. Full data is not available
GRI-401-3	Parental leave	—	<p>b. Total number of employees that took parental leave, by gender. Total: 73 (Male: 46 (63%); Female: 27 (44%))</p> <p>c. Total number of employees that returned to work in the reporting period after parental leave ended, by gender. Total: 72 (Male: 43 (60%); Female: 29 (40%))</p> <p>d. Total number of employees who returned to work after parental leave ended were still employed 12 months after their return, by gender. Total: 50 (Male: 34 (68%); Female: 16 (32%))</p> <p>e. Return to work and retention rates of employees that took parental leave, by gender. Return to work rate: Total: 70 (Male: 41 (58%); Female: 29 (42%)) Retention rate: see GRI401-3 c</p>
Occupational Health & Safety 2018			
GRI-3-3	Management of material topics	—	All RHI Magnesita employees and contracted workers under direct control as well as contracted workers without direct control considered. For 2023, Health & Safety data are partially considering following acquisitions: One plant in China (Jinan New Emei) and further 5 plants in India (Jamshedpur, Bhilai, Rajgangpur, Dalmiapuram Khambalia). Further sites are starting the integration of data reporting during 2024.
GRI-403-1	Occupational Health & Safety Management System	79	Occupational Health & Safety is part of RHI Magnesita's Integrated Management System (IMS) with respective policy and procedures.



Disclosure number	Description	Location/page Annual Report 2023	Additional content
GRI-403-2	Hazard identification, risk assessment, and incident investigation	80	Global procedure for hazard identification and risk assessment as part of IMS implemented. For incident investigations the methodology of 5-Whys and Fishbone are commonly applied.
GRI-403-3	Occupational Health Services	80	
GRI-403-4	Worker participation, consultation, and communication on occupational health and safety	—	For global aspects to be considered as well as for local, detailed information RHIM provides Safety boards, daily/weekly safety talks, participation of workforce-representatives in Safety Committees (also represented at the CSC – Corporate Sustainability Committee).
GRI-403-5	Worker training on occupational Health & Safety	14,80	Beside legally required trainings for specific tasks and exposures, all persons visiting our operational sites need to attend a standardised basic Safety-training.
GRI-403-6	Promotion of worker health	80	RHI Magnesita provides in every location a set of health promotion offers and activities for which the participation rate for employees is measured. Health Projects Rate (HPR) =8,68.
GRI-403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	79	RHIM performs onsite services (OSS) at customer operational facilities for which the same global requirements as per IMS (integrated management system) and respective Global H&S Guidelines apply (unless the customers' requirements are even more stringent than RHI Magnesita's).
GRI-403-8	Workers covered by an occupation Health & Safety Management System	79	All RHI Magnesita employees (incl. trainees, interns), temporary workers and (sub-) contractors under direct control and supervision of RHI Magnesita.
GRI-403-9	Work-related injuries	80	a. i.: 1 work-related fatality, employee. RHIM Group FAR = 0,04; ii.: 3 high-consequence cases = 1 FAT + 2 "Serious Injuries"; iii.: Total number of recordable work-related injuries = 326; (incl. FAT, LTI, MTI, FAI); iv.: About 1/3 of all injuries resulted in contusion and another 1/3 in cut/stitch and sprain/strain. In addition, 12,5% of injuries were fractures; v.: Hours Worked Total (Group): 45,817,391 hrs, split into 26,475,317 for Employees/Temporary Workers and 19,342,074 for Contractors. b. i -iv.: Not available; v: see item a. c. i-iv.: Not available; v: see item a. d., e., f. and g.: see page 80
GRI-403-10	Work-related ill health	80	a. Not available b. Not available c. and d. RHIM monitors all H&S-related hazards, especially also those posing a risk of ill-health, like noise, dust, volatile organic compounds; implementation of actions and provision of information to all affected workforce included. e. Not available
Diversity and equal opportunity 2016			
GRI-3-3	Management of material topics	—	<ul style="list-style-type: none"> • Base year: 2018 • Focus on Gender Diversity (Board and senior levels)
GRI-405-1	Diversity of governance bodies and employees	—	<p>a. Percentage of individuals within organization's governance bodies in each of the following diversity categories:</p> <p>i. Gender Executive Management Team (including the Executive Directors): Male: 4 (67%) Female: 2 (33%)</p> <p>ii. Age group: under 30 years old, 30-50 years old, over 50 years old Under 30 years old: 0 (0%) 30 - 50 years old: 2 (33%) Over 50 years old: 4 (67%)</p> <p>b. Percentage of employees per employee category in each of the following diversity categories:</p> <p>i. Gender Male: 13,634 (86%) Female: 2,252 (14%) Salaried staff: Male: 5,458 (40%); Female: 1,784 (79.21%) Wage earners: Male 7,969 (58.45%); Female: 362 (16%)</p> <p>ii. Age group: under 30 years old, 30-50 years old, over 50 years old: Salaried staff: Under 30 years old: 1,062 (42%); 30-50 years old: 4,674 (47.6%); over 50 years old: 1,506 (43%) Wage earners: Under 30 years old: 1,174 (46%); 30-50 years old: 4,674 (47.6%); over 50 years old: 1,506 (43%)</p>

RHI Magnesita Global Reporting Initiative Standards Index 2023 continued

Disclosure number	Description	Location/page Annual Report 2023	Additional content
GRI-405-2	Ratio of basic salary and remuneration women to men	—	Considering positions Professional Junior positions and above (BPG 10 and above) and information registered for December 31 2023, the average of compa-ratio (the ratio between employee current salary to the salary range midpoint assigned to the position) split by men and women was: Men:93.3% and Women: 89.9%
Non-discrimination 2016			
GRI-3-3	Management of material topics	—	The Code of Conduct of an organisation covers the topic of human rights, such as non-discrimination, prohibition of child or forced labour. RHIM's Code of Conduct is available in 10 different languages and was last reviewed in November 2022. In addition, the organization provides a whistleblowing hotline and other reporting channels for employees and third parties to report any violations of the Code of Conduct. All reports are investigated by the Internal Audit, Risk & Compliance department.
GRI-406-1	Incidents of discrimination and corrective actions taken	—	No incidents in 2023.
Human rights assessment			
GRI-412-1	Operations that have been subject to human rights reviews or impact assessments	—	See more details here , available on our website
GRI-412-2	Employee training on human rights policies or procedures	64	Human rights e-learning was launched in Dec 2023. Approx 1700 employees have already completed the training.
GRI-412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	—	Not available
Supplier Social Assessment 2016			
GRI-414-1	New suppliers that were screened using social criteria	68	Supplier assessments through EcoVadis
GRI-414-2	Negative social impacts in the supply chain and actions taken	68	Supplier assessments through EcoVadis and on-site audits
Supplier Environmental Assessment 2016			
GRI-308-1	New suppliers that were screened using environmental criteria	68	Supplier assessments through EcoVadis
GRI-308-2	Negative environmental impacts in the supply chain and actions taken	-	<ul style="list-style-type: none"> a. Number of suppliers assessed for environmental impacts: 817 b. Number of suppliers identified as having significant actual and potential negative environmental impacts: 1(One) c. Significant actual and potential negative environmental impacts identified in the supply chain: 1(one) d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment: 0.001% e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why: 0%

Sustainability

ESG/EU Taxonomy

Our performance in ESG rankings

AA

Prime C+


Gold

A-


ESG ratings and recognitions

RHI Magnesita was recognised for its sustainability disclosure in 2023 by the UK and Ireland Corporate Governance Institute. The Group achieved an A- rating from CDP, placing it in the esteemed Leadership band. The Group has also been industry top-rated by Sustainalytics and maintains a “AA” rating from MSCI. RHI Magnesita kept its existing “Gold” status rating from EcoVadis, achieving an overall ESG score of 72 out of 100, amongst the top 5% of rated companies. Regionally, RHI Magnesita was awarded the Corporate Environmental Achievement Award from the American Ceramic Society (ACerS), recognising the impact RHI Magnesita has on sustainability within the refractory industry and beyond.

EU Taxonomy

The EU Taxonomy Regulation (“EU Taxonomy”) applies in respect of the financial year to 31 December 2023 and requires the Group to report annually on the proportion of its turnover, operating expenditure and capital expenditure attaching to economic activities that are considered to be environmentally sustainable.

The EU Taxonomy identifies the six environmental objectives: climate change mitigation; climate change adaptation; the sustainable use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems. In respect of the 2023 financial year, the Group, RHI Magnesita has reviewed its activities that qualify as eligible and aligned according to the published technical screening criteria for climate change mitigation and adaptation, including amendments to Article 8. Additionally, the Group is reporting eligibility on the other four EU environmental objectives according to the technical screening criteria specified in the Taxonomy Environmental Delegated Act. As no sector-specific guidance for the refractory industry has been published yet and therefore the Group is required to use its own judgement against the eligibility criteria.

The NACE (the statistical classification of economic activities in the European Community) codes most closely describing the activities of the Company are “23.20 Manufacture of refractory products” and “08.99 Other mining and quarrying”. These NACE codes are not listed in Annex I or Annex II of the Taxonomy Regulation, but certain activities carried out by the Group do meet the definitions of economic activities listed in Annex I of the Regulation. As elaborated further by the Commission on Taxonomy, if the NACE code of an economic activity is not mentioned in the Climate Delegated Act, but the economic activity corresponds to the description of the activity, it can qualify as Taxonomy eligible.

The EU Taxonomy distinguishes between taxonomy eligibility and taxonomy alignment. An economic activity can be considered eligible if it is listed in the annexes of Taxonomy regulation. However, in order to be considered “aligned”, further Technical Screening Criteria (TSC) must be met. This requires a further assessment of the eligible activities identified. The TSC comprise of Substantial Contribution plus the Do-No-Significant-Harm criteria (DNSH) for each of the environmental objectives associated with the relevant business activities. Additionally, the Minimum Social Safeguards (MSS) at the corporate level have to be met. The overall aim of this process is to establish the taxonomy-eligibility and alignment.

The EU Taxonomy Alignment refers to the process of aligning the EU’s Taxonomy Regulation with existing and proposed national and international sustainable finance initiatives.

Accounting policy

RHI Magnesita N.V. prepares consolidated financial information in accordance with generally accepted accounting principles under IFRS, as adopted by the EU and the financial information for turnover, operating expenditure and capital expenditure presented under the EU Taxonomy has been prepared under the same accounting principles.

Taxonomy eligible activities of RHI Magnesita

The following RHI Magnesita’s economic activities are outlined in the annexes of EU Taxonomy Delegated Acts and therefore, are deemed eligible:

- CCM 3.6 Manufacture of other low carbon technologies.
- CCM 5.9 Material recovery from non-hazardous waste.
- CE 2.7 Sorting and material recovery of non-hazardous waste.
- BIO 1.1 Conservation and restoration of habitats, ecosystems, and species.

R&D supports eligible economic activities, allocated accordingly. GHG emission avoidance related to R&D is not material, and therefore, not reported separately.

Manufacture of other low carbon technologies

The economic activity CCM 3.6 “Manufacture of other low carbon technologies” covers the “Manufacture of technologies aimed at substantial GHG emission reductions in other sectors of the economy”.¹

EAF refractories

RHI Magnesita provides refractory products specifically designed for EAFs. Additionally, RHI Magnesita provides solutions and services to its customers to reduce their GHG emissions, including digital solutions as well as advanced refractory products.

EAFs are a vital enabling technology for the reduction of CO₂ emissions in the steel industry. EAFs can be powered using electricity sourced partially or wholly from renewable electricity and replace the BOF phase of the traditional integrated steel manufacturing process, which pairs a blast furnace with a BOF and is highly CO₂ intensive. To replace a BOF, EAF steelmaking requires scrap steel, and a source of virgin iron like DRI or pig iron produced from the reduction of iron ore. EAF steelmaking requires a source of scrap steel or sponge iron produced from the reduction of iron ore.

DRI using elevated levels of or exclusively hydrogen and is a new technology under development that seeks to eliminate CO₂ emissions from the reduction of iron ore in blast furnaces using coke. If sufficient quantities of hydrogen manufactured from renewable sources can be accessed and if a DRI furnace can be paired with an EAF for the second stage of the steelmaking process that is also powered by renewable energy, CO₂ emissions from steel production can be largely eliminated. A key limiting factor for increased DRI production is currently the availability of suitable iron ore, as DRI production requires highest quality iron ore pellets while blast furnaces can consume almost any kind of iron ore facing no restrictions.

EU Taxonomy continued

RHI Magnesita has a leading market position in EAF-specific refractories, services and solutions, in part due to the unique chemical composition of the Group's vertically integrated raw material supply. EAF refractories produced by RHI Magnesita directly enable substantial reductions in CO₂ emissions at steel plants, as the EAF output is displacing steel that would otherwise have been produced using a blast furnace and BOF.

In its EU taxonomy disclosure for the year to 31 December 2022, RHI Magnesita used its own judgement to categorise the sale of EAF refractories as both an eligible and aligned activity according to CCM 3.6 "Manufacture of other low carbon technologies". This assessment was based on widely available public information from multiple sources which substantiated that the production of steel through scrap or DRI fed Electric Arc Furnaces could result in significantly lower CO₂ emissions than the traditional integrated steelmaking process, using blast furnaces and basic oxygen furnaces.

On 20 October 2023, the EU Commission published guidance on the implementation and interpretation of the EU Taxonomy Climate Delegated Act which specified verification requirements for certain activities. The verification requirements in the guidance stipulate that an external verifier must provide an independent report to support compliance with alignment criteria. The Group is unable to fulfil this verification requirement in respect of the 2023 financial year but intends to obtain suitable independent verification in the future. For the financial year to 31 December 2023, sales of Electric Arc Furnaces have been excluded from its Taxonomy aligned activities and have also been removed from the 2022 comparative year disclosure. Sales of Electric Arc Furnaces remain Taxonomy eligible and continue to be disclosed as eligible activities in both 2023 and 2022.

Digital solutions and other products that increase energy efficiency

RHI Magnesita offers digital solutions and associated physical equipment which achieve CO₂ emissions reductions through process efficiencies, such as wear monitoring and gunning repairs to extend the safe working life of refractory linings. Safely extending the working life of refractory linings can achieve significant energy savings for steel producers by reducing the number of heating and cooling cycles required per unit of steel output.

The Group also offers advanced refractory products which enable its customers to substantially reduce GHG emissions by reducing electricity consumption, improving yield and reducing oxygen consumption, saving up to 13kg CO₂ per tonne of steel produced.

Other solutions and products which directly contribute to CO₂ emissions reductions at customers' sites include cold setting mixes, EAF direct purging plugs and converter inert gas purging.

Material recovery from non-hazardous waste

The activity CCM 5.9 Material recovery from non-hazardous waste covers the "construction and operation of facilities for the sorting and processing of separately collected non-hazardous waste streams into circular raw materials involving mechanical reprocessing, except for backfilling purposes."

RHI Magnesita increased its SRM input to 12.6% of raw material used in production of refractories. As part of this effort, RHI Magnesita operates facilities for the sorting and processing of spent refractories from customers' industries. Circular raw materials which are mechanically processed by RHI Magnesita and transformed from waste to raw material are eligible for consideration under the EU Taxonomy, whilst circular raw material processed by a third party and purchased externally by the Group are non-eligible.

Sorting and material recovery of non-hazardous waste

The activity CE 2.7 "Sorting and material recovery of non-hazardous waste" covers "Construction, upgrade, and operation of facilities for the sorting or recovery of non-hazardous waste streams into high quality secondary raw materials using a mechanical transformation process".

RHI Magnesita actively collaborates in the transition to a circular economy through the sorting and material recovery of non-hazardous waste. This encompasses the construction, upgrade, and operation of facilities for sorting or recovering non-hazardous waste streams into high-quality secondary raw materials using mechanical transformation processes. Across various sites, RHI Magnesita engages in sorting non-hazardous waste, recovering materials for use as secondary raw materials in its refractory production, aligning with the EU taxonomy criteria.

Conservation and restoration of habitats, ecosystems and species

The activity BIO 1.1 "Conservation and restoration of habitats, ecosystems and species" covers in-situ conservation and restoration activities aligned with Convention on Biological Diversity¹.

RHI Magnesita is committed to the protection and restoration of biodiversity and ecosystems, specifically through the conservation and restoration of habitats, ecosystems, and species. RHI Magnesita's engagement in-situ conservation and restoration activities aligns with the Convention on Biological Diversity's

definition and applies to its open-pit mining operations, where recovery of ecosystems and habitats is planned and executed.

The Group operates multiple mines, where a crucial aspect of open-pit mining involves restoring ecosystems and habitats. In 2023, recultivation activities occurred at seven sites.

KPIs

Share of Taxonomy-eligible revenue, operating expenditure and capital expenditure — climate change mitigation, transition to circular economy, and protection and restoration of biodiversity and ecosystems.

Turnover

The turnover KPI is calculated as the ratio of turnover associated with taxonomy-eligible and/or aligned economic activities in the reporting period to total turnover in that period. The total turnover of the financial year 2023 of €3.6 billion forms the denominator of the turnover key figure and can be taken from the Consolidated Income Statement on page 2 of this Annual Report.

The following eligible and/or aligned activities have been identified as relevant in view of turnover:

- CCM 3.6 Manufacture of other low carbon technologies.
- CCM 5.9 Material recovery from non-hazardous waste.
- CE 2.7 Sorting and material recovery of non-hazardous waste.

Most of our Taxonomy-eligible turnover (numerator) are reported under Activity CCM 3.6. "Manufacture of other low carbon technologies". The only portion of our turnover Taxonomy-aligned is reported under Activity CCM 5.9 "Material recovery from non-hazardous waste". A thorough analysis of turnover KPI drivers during the reporting period considered diverse revenue sources, including customer contracts and lease income. About 90% of materials recovered by the Group from non-hazardous waste are consumed internally. Therefore, the 2023 financials now include external Turnover from material recovery in non-hazardous waste.

Capital expenditure

The capex KPI is defined as Taxonomy-eligible capex (numerator) divided by total capex (denominator), for the financial year, ended December 31, 2023.

The following eligible activities have been identified as relevant regarding the capital expenditure KPI:

- CCM 3.6 Manufacture of other low carbon technologies.
- CCM 5.9 Material recovery from non-hazardous waste.

1. RHI Magnesita offers products and services which help to make CO₂-intensive processes in the steel industry more efficient and therefore achieve emissions reductions in the global steel industry.



- CE 2.7 Sorting and material recovery of non-hazardous waste.

The project descriptions of the additions of assets in the reporting year served as a basis for the necessary identification.

Taxonomy-eligible capex (numerator) is an aggregation of addition to property, plant and equipment reported under Activity CCM 5.9 "Material recovery from non-hazardous waste" and Activity CE 2.7 "Sorting and material recovery of non-hazardous waste"; and to internally generated intangible assets reported under Activity CCM 3.6 "Manufacture of other low carbon technologies". No eligible capex related to acquisitions through business combinations is reported. There is neither a capex plan to expand RHI Magnesita's Taxonomy-aligned economic activities nor to upgrade Taxonomy eligible economic activities to render them Taxonomy-aligned. The total capital expenditures in line with point 1.1.2.1. Annex 1 of the Disclosure Delegated Act equal the denominator.

Total capex consists of additions to tangible and intangible fixed assets during the financial year, before depreciation, amortisation and any re-measurements, including those resulting from revaluations and impairments, as well as excluding changes in fair value. It includes acquisitions of tangible fixed assets (IAS 16), intangible fixed assets (IAS 38), right-of-use assets (IFRS 16) and investment properties (IAS 40).

Operating expenditure

The denominator of the operating expenditure KPI shall cover direct non-capitalised costs that relate to R&D, building renovation measures, short-term lease, maintenance and repair, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets.

The following eligible activities have been identified as relevant regarding the operating expenditure KPI:

- CCM 3.6 Manufacture of other low carbon technologies.
- CCM 5.9 Material recovery from non-hazardous waste.
- CE 2.7 Sorting and material recovery of non-hazardous waste.
- BIO 1.1 Conservation and restoration of habitats, ecosystems, and species.

Most of our Taxonomy-eligible opex (numerator) is related to assets or processes associated with taxonomy-eligible activities reported under Activity CCM 3.6. "Manufacture of other low

carbon technologies". We have also reported a portion of our turnover under Activity 5.9 "Material recovery from non-hazardous waste". There is neither a capex plan to expand taxonomy-aligned activities nor related to the purchase of output of taxonomy-aligned activities. An analysis of key elements of change in opex KPI during the reporting period has been conducted and as a result, recultivation opex has been reported under the activity BIO 1.1 "Conservation, including restoration, of habitats, ecosystems and species". Opex related to activity CE 2.7 "Sorting and material recovery of non-hazardous waste" is overlapping with opex reported under activity CCM 5.9 "Material recovery from non-hazardous waste" therefore, not reported. Total applicable opex is in line with the Taxonomy legislation consisting of maintenance opex and R&D opex. Other Opex categories such as short-term lease are excluded as they are immaterial.

Avoidance of double counting

To avoid double counting, data sources for the various reported items are individually crosschecked to identify overlapping classifications. Where double counting is identified, overlapping data is removed from the eligible amount.

Taxonomy aligned activities of RHI Magnesita

For the eligible economic activities of RHI Magnesita previously described, the following activity are considered aligned:

- Material recovery from non-hazardous waste.

In respect to alignment criteria, RHI Magnesita considered its activities under "Material recovery from non-hazardous waste" aligned because for each raw material recovery site, monthly yield reports demonstrate a constant yield above 50% which fulfil the alignment criteria.

Does Not Significant Harm (DNSH)

To fulfil the DNSH criteria for the identified taxonomy-eligible economic activities, corresponding analyses and surveys were carried out in accordance with (EU) 2021/2139 to establish taxonomy alignment.

For the economic activity Material recovery from non-hazardous waste (5.9), the DNSH criteria to climate change adaptation and to protection and restoration of biodiversity and ecosystems need to be met.

DNSH to climate change adaptation Activity 5.9

For the climate risk and vulnerability analysis for objective 2 "climate change adaptation", potential climate hazards were analysed and assessed for their risk potential in accordance with the requirements of Appendix A (EU) 2021/2139. RHI Magnesita conducted

climate risk assessment considering both physical and transitional climate risks aligned with TCFD. Four climate scenarios (representative concentration pathways 2.6, 4.5, 6.0 and 8.5) were considered based on the Intergovernmental Panel on Climate Change Fifth Assessment Report and the International Energy Agency ("IEA") Sustainable Development Scenario. The results of the assessment indicated that the impact for physical risks is limited, since measures are in place to assess on a regular basis the risk of physical damage of assets. Insurance policies are covering physical damaged by natural catastrophes.

DNSH to protection and restoration of biodiversity and ecosystems

Activity 5.9

The requirements for objective 6 "Biodiversity" according to Appendix D of Regulation (EU) 2021/2139 are ensured due to the legal framework within the EU. For sites outside the EU, the national legal framework was analysed.

RHI Magnesita considers its mining sites as the part of the production process with the highest potential for adverse effects on biodiversity. Therefore, the assessment focuses on mining sites. For all RHI Magnesita's mining sites an environmental impact screening has been conducted. Out of the six mining sites. The mining sites operate within or near IUCN category Ia, II, IV, VI and unclassified (Natura 2000) protected areas. All mining sites fulfil general environmental protection requirements in line with legal requirements. "Material recovery from non-hazardous waste" replaces virgin materials with secondary raw materials; thus, contributes in an effective way to reduce the environmental impact associated with raw material extraction.

Minimum Social Safeguards

To ensure compliance with minimum social safeguards RHI Magnesita established a due diligence process. According to Article 8 (EU) 2020/852, the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Right were considered by RHI Magnesita.

In 2023, a Human Rights Officer was appointed. Policies on global gender equality, and anti-discrimination/harassment are available online. The Code of Conduct is available in 11 languages and available on the Company website, intranet, and Compliance Portal. The Anti-Slavery Statement is updated and published annually on the Company's website.

EU Taxonomy continued

Our suppliers shall adhere to the same principles as outlined in our Supplier Code of Conduct, which includes laws related to the protection of human rights. Furthermore, RHI Magnesita has implemented processes to continuously screen business partners in high-risk countries for compliance with fundamental human and labour rights. RHI Magnesita has established an independent whistleblowing hotline and web-based system, which allows both employees and third parties to make reports anonymously. Additionally, other reporting channels are available. All cases reported are investigated by the Internal Audit, Risk and Compliance department in

conjunction with other relevant departments. Moreover, business partners (e.g. customers, sales intermediaries and suppliers) and transactions such as mergers or acquisitions are subject to a due diligence process. All sales agents are certified by Ethixbase360 (formerly TRACE International), a leading international organisation specialised in third-party due diligence solutions, which is updated annually and includes a reputational screening that can detect any human rights violations that may have occurred.

With all these measures, RHI Magnesita ensures compliance with the minimum safeguards for itself and its suppliers, and processes are

implemented to become aware of suspicious cases of human rights violations, corruption, and bribery and to be able to react accordingly.

EU Taxonomy reporting in the year to 31 December 2023

RHI Magnesita commissioned Deloitte Audit Wirtschaftsprüfungs GmbH for an independent third-party limited assurance engagement on the Taxonomy Regulation (EU) 2020/852 and GRI Standards. For more information, [click here](#) for more details on the assurance process and conclusions.



The driving
force of the
refractory
industry



Taxonomy disclosure table¹

Turnover				Substantial contribution criteria					
Economic activities	Code(s)	Absolute turnover	Proportion of turnover	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular Economy	Pollution	Biodiversity and ecosystems
A. Taxonomy-eligible activities									
A.1 Environmentally sustainable activities (Taxonomy-aligned)									
Material recovery from non-hazardous waste	CCM 5.9	€6,058,974	0.2%	Y	N	N/EL	N/EL	N/EL	N/EL
Turnover of environmentally sustainable activities (Taxonomy-aligned)		€6,058,974	0.2%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which enabling			0.2%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which transitional			0.0%	0.0%					
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)									
Manufacture of other low carbon technologies	CCM 3.6	€577,068,237	16.2%	EL	N/EL	N/EL	N/EL	N/EL	N/EL
Sorting and material recovery of non-hazardous waste	CE 2.7	€—	0.0%	N/EL	N/EL	N/EL	EL	N/EL	N/EL
Conservation, including restoration, of habitats, ecosystems and species	BIO 1.1	€—	0.0%	N/EL	N/EL	N/EL	N/EL	N/EL	EL
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		€577,068,237	16.2%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total A.1 + A.2		€583,127,211	16.3%						
B. Taxonomy non-eligible activities									
		€2,988,655,729	83.7%						
Total A+B		€3,571,792,940	100.0%						

opex				Substantial contribution criteria					
Economic activities	Code(s)	Absolute opex	Proportion of opex	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular Economy	Pollution	Biodiversity and ecosystems
A. Taxonomy-eligible activities									
A.1 Environmentally sustainable activities (Taxonomy-aligned)									
Material recovery from non-hazardous waste	CCM 5.9	€1,218,114	0.8%	Y	N	N/EL	N/EL	N/EL	N/EL
Opex of environmentally sustainable activities (Taxonomy-aligned)		€1,218,114	0.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which enabling			0.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which transitional			0.0%	0.0%					
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)									
Manufacture of other low carbon technologies	CCM 3.6	€17,606,412	11.6%	EL	N/EL	N/EL	N/EL	N/EL	N/EL
Sorting and material recovery of non-hazardous waste	CE 2.7	— €	0.0%	N/EL	N/EL	N/EL	EL	N/EL	N/EL
Conservation, including restoration, of habitats, ecosystems and species	BIO 1.1	€498,138	0.3%	N/EL	N/EL	N/EL	N/EL	N/EL	EL
Opex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		€18,104,550	11.9%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total A.1 + A.2		€19,322,664	12.7%						
B. Taxonomy non-eligible activities									
		€132,526,437	87.3%						
Total A+B		€151,849,101	100.0%						

capex				Substantial contribution criteria					
Economic activities	Code(s)	Absolute capex	Proportion of capex	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular Economy	Pollution	Biodiversity and ecosystems
A. Taxonomy-eligible activities									
A.1 Environmentally sustainable activities (Taxonomy-aligned)									
Material recovery from non-hazardous waste	CCM 5.9	€4,295,970	0.8%	Y	N	N/EL	N/EL	N/EL	N/EL
Capex of environmentally sustainable activities (Taxonomy-aligned)		€4,295,970	0.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which enabling			0.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
of which transitional			0.0%	0.0%					
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)									
Manufacture of other low carbon technologies	CCM 3.6	€5,281,500	1.0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL
Sorting and material recovery of non-hazardous waste	CE 2.7	— €	0.0%	N/EL	N/EL	N/EL	EL	N/EL	N/EL
Conservation, including restoration, of habitats, ecosystems and species	BIO 1.1	— €	0.0%	N/EL	N/EL	N/EL	N/EL	N/EL	EL
Capex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		€5,281,500	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total A.1 + A.2		€9,577,470	1.9%						
B. Taxonomy non-eligible activities									
		€495,922,530	98.10%						
Total A+B		€505,500,000	100.0%						

1. Restatement of information: EU Taxonomy 2022 — the revenue, Opex reported as part of the EU Taxonomy disclosure table from the economic activity CCM 5.9 "Material recovery from non-hazardous waste" as eligible and aligned in 2022 is restated. Originally reported: Revenue 2022 at 1.9% and Opex 2022 at 1.4%. Restated: Revenue at 0.0% and Opex at 0.9%.
EU Taxonomy 2022 — the revenue, opex and capex reported as part of the EU Taxonomy disclosure table from the economic activity CCM 3.6 "Manufacture of other low carbon technologies" as eligible and aligned in 2022 is restated. Originally reported: Revenue 2022 at 16.8%, Opex 2022 at 12.5% and Capex at 2.7%. Restated: Revenue at 0.0%; Opex at 0.0% and Capex at 0.0%.

Taxonomy disclosure table continued

Economic activities	DNSH criteria ('Does Not Significantly Harm')							Taxonomy aligned proportion of turnover year 2023	Taxonomy aligned proportion of turnover year 2022	Category (enabling activity)	Category (transitional activity)
	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards				
A. Taxonomy-eligible activities											
A.1 Environmentally sustainable activities (Taxonomy-aligned)											
Material recovery from non-hazardous waste		Y	Y	Y	Y	Y	Y	0.2%	0.0%	E	
Turnover of environmentally sustainable activities (Taxonomy-aligned)		Y	Y	Y	Y	Y	Y	0.2%	0.0%		
of which enabling		Y	Y	Y	Y	Y	Y	100%			
of which transitional											
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)											
Manufacture of other low carbon technologies								0.0%	0.0%	E	
Sorting and material recovery of non-hazardous waste									0.0%		
Conservation, including restoration, of habitats, ecosystems and species									0.0%		
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)									0.0%		
Total A.1 + A.2									0.0%		
B. Taxonomy non-eligible activities											
Total A+B											
Economic activities	DNSH criteria							Taxonomy aligned proportion of Opex year 2023	Taxonomy aligned proportion of Opex year 2022	Category (enabling activity)	Category (transitional activity)
	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards				
A. Taxonomy-eligible activities											
A.1 Environmentally sustainable activities (Taxonomy-aligned)											
Material recovery from non-hazardous waste		Y	Y	Y	Y	Y	Y	0.8%	0.9%	E	
Opex of environmentally sustainable activities (Taxonomy-aligned)		Y	Y	Y	Y	Y	Y	0.8%	0.9%		
of which enabling		Y	Y	Y	Y	Y	Y	100.0%	100.0%		
of which transitional											
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)											
Manufacture of other low carbon technologies									0.0%	E	
Sorting and material recovery of non-hazardous waste									0.0%		
Conservation, including restoration, of habitats, ecosystems and species									0.0%		
Opex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)									0.0%		
Total A.1 + A.2									0.9%		
B. Taxonomy non-eligible activities											
Total A+B											
Economic activities	DNSH criteria							Taxonomy aligned proportion of Opex year 2023	Taxonomy aligned proportion of Opex year 2022	Category (enabling activity)	Category (transitional activity)
	Climate change mitigation	Climate change adaptation	Water and maritime resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards				
A. Taxonomy-eligible activities											
A.1 Environmentally sustainable activities (Taxonomy-aligned)											
Material recovery from non-hazardous waste		Y	Y	Y	Y	Y	Y	0.8%	1.5%	E	
Capex of environmentally sustainable activities (Taxonomy-aligned)		Y	Y	Y	Y	Y	Y	0.8%	1.5%		
of which enabling		Y	Y	Y	Y	Y	Y		100.0%		
of which transitional											
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)											
Manufacture of other low carbon technologies									0.0%	E	
Sorting and material recovery of non-hazardous waste									0.0%		
Conservation, including restoration, of habitats, ecosystems and species									0.0%		
Capex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)									0.0%		
Total A.1 + A.2									1.5%		
B. Taxonomy non-eligible activities											
Total A+B											

Sustainability

TCFD

Task Force on Climate-Related Financial Disclosures (TCFD)

Introduction

RHI Magnesita is committed to transparency about its climate-related risks and opportunities. In line with this commitment, we support the Task Force on Climate-related Financial Disclosures (TCFD) and the EU Taxonomy. We have made it a priority to identify, evaluate, and manage climate-related risks and opportunities, and we are always striving to improve our process while providing essential information to our stakeholders to make informed decisions.

RHI Magnesita has reported according to the TCFD recommendations since 2019 and has updated its climate-related risk assessment, including the newly acquired sites in China, India, Europe and the USA, and enlarged its disclosure in 2023.

The TCFD recommendations are the world's most commonly accepted standard for disclosing climate-related risks and opportunities. They focus on four key pillars of Governance, Strategy, Risk Management and Metrics and Targets.

Board oversight

The Board of RHI Magnesita guides the development of our strategy and appetite towards risk. It also has oversight of other material matters such as regulatory developments or reputational and financial topics. Responsibility for and oversight of climate-related risks and opportunities has been assigned to the Corporate Sustainability Committee (CSC).

The Chairman of the Committee, who is responsible for overseeing RHI Magnesita's climate strategy, engages directly with RHI

Magnesita managers and employees on climate topics as required between the regular Committee meetings. Certain members of the Executive Management Team regularly attend the Committee meetings. The Committee Chairman reports to the Board on climate-related matters on a regular basis. The CSC regularly reviews climate risks and opportunities, strategy and performance, while the Remuneration Committee reviews and approves bonus payment linked to climate. Climate-related progress is discussed at every CSC meeting, with the Chair engaging directly with those driving the CO₂ strategy in between CSC meetings as needed. The Audit & Compliance Committee oversees any material ESG risks, including climate-related risks.

In 2023, the corporate Sustainability Committee (CSC) met five times and addressed the following issues related to climate change:

Table 1. TCFD Recommendations

Pillar of TCFD Recommendations	Description	
Governance	• Describe the Board's oversight of climate related risks and opportunities	Page 99
	• Describe the management's role in assessing and managing climate related risks and opportunities	Page 100
Strategy	• Describe the climate -related risks and opportunities the organisation has identified over the short, medium and long term	Page 100
	• Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning	Page 101
	• Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Page 102
Risk Management	• Describe the organisation's processes for identifying and assessing climate-related risks	Page 102
	• Describe the organisation's processes for managing climate-related risks	Page 102
	• Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management	Page 102
Metrics and Targets	• Disclose the metrics used by the organisation to assess climate related risks and opportunities, in line with its strategy and risk management process	Page 105
	• Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	Page 105
	• Describe the targets used by the organisation to manage climate-related risks, opportunities and performances against targets	Page 105

Climate Governance



- Reviewed progress against 2025 targets including the CO₂ emissions intensity reduction target.
- Received reports on the methodology of the CO₂ roadmap, which is based on three pillars: Carbon avoidance, Carbon Capture Storage & Utilization and Scope 3 emissions reduction, highlighting RHI Magnesita's strategies for reducing carbon emissions and adopting sustainable practices.
- Received reports on the Group's participation in carbon capture technology initiatives and strategic partnerships such as its investment in and co-operation with MCI Carbon, a technology provider specialising in the mineralisation of CO₂ emissions.
- Received reports on the Carbon Border Adjustment Mechanism (CBAM), an important climate protection instrument of the European Union (EU), and its associated potential impacts on RHI Magnesita's operations.

Additionally, the corporate Sustainability Committee (CSC) addressed the following issues related to climate in the supply chain:

- Received an overview of RHI Magnesita supply chain due diligence that includes the country-specific risk assessment tool, EcoVadis supplier assessments, and on-site supplier ESG audits and risk mitigation efforts.
- Reviewed the status quo of data gathering for product carbon footprint (PCF) data and the outlook for 2024.

Management

At management level, in the C-Suite, the CTO reports regularly to both the CEO and Board CSC on a quarterly basis and anytime in-between as necessary. The CTO is also on the Executive Management Team. He directly oversees the development of the Company's CO₂ strategy and its implementation across the organisation. The Global Sustainability Team reports to the CTO and manages and facilitates sustainability across RHI Magnesita.

Driven by our Board and led by our Executive Management Team, we engage widely with stakeholders, investigate risks, and identify opportunities aligned with our sustainability strategy. Our climate governance is outlined in Figure 1.

In 2023 we further integrated carbon considerations into key processes:

- 25% of the Long-Term Incentive Plan (LTIP) payout criteria is linked to the Group's target to reduce CO₂ emissions per tonne against a 2018 baseline year.
- Increase the use of secondary raw material accounts for 10% of the annual bonus for all eligible employees.

- Enhanced monthly monitoring of CO₂ emissions (Scope 1 and 2) was integrated into the Group's enterprise resource planning tool.

In addition to that, we are continuously evolving our approach to engage with suppliers to fully integrate sustainability aspects, including emission transparency, into our procurement process.

Our goal is that by 2025 two-thirds of our suppliers will be rated by EcoVadis. Engagement on the subject of emission transparency is ongoing, particularly with our raw material suppliers, which accounts for approximately 70% of our Scope 3 emissions. Through meetings, follow up calls, the Group highlights to potential suppliers that reducing CO₂ emissions is a key priority for the Group, which is expected to drive changes in supplier behaviour and energy use in the long term.

Climate strategy

Driving down carbon emissions is a key priority for RHI Magnesita. Besides mapping out our own transition path, we would like to be a reliable ally to our customers as they venture into a carbon-reduced economy.

The Group's emission reduction plans target a 15% reduction in CO₂ emissions intensity for Scope 1, 2 and 3 (raw materials) emissions by 2025, compared to 2018. Our climate strategy is based on:

- 1) reducing the carbon footprint of our raw materials, including through the increased use of circular raw materials;
- 2) increasing energy efficiency in our operations;
- 3) reducing the carbon intensity of our energy sources; and
- 4) providing innovative solutions to reduce customer emissions.

In 2023, the Group has updated the modelling and analysis of climate-related transitional risks and opportunities that are foreseen to impact the Group over the short-, medium-, and long-term horizons.

Short term (2025)

For short-term risks (between 0-2 years, 2025), Group's first set of sustainability targets are planned within this timeframe. In addition, we are actively monitoring emerging trends and opportunities that may require us to adjust our strategic plans. We are committed to staying agile and adapting our plans as needed to ensure that we remain competitive in the marketplace and continue to meet our sustainability targets, specially our 2025 climate-related ones.

In 2023, total CO₂ emissions (Scope 1, 2 and 3 — raw materials) were 4.6 million tonnes and our emissions intensity has reduced by 12% compared to 2018 base year. This progress is

a result of recycling overperformance, but this has been offset by slower progress on switching to alternative fuels which is now uncertain due to capex constraints. Achieving our target is intricately tied to the effectiveness and success of our recycling initiatives, a key lever of our strategic approach.

While mergers and acquisitions (M&A) can bring strategic advantages, the Group anticipates a potential downside in terms of carbon footprint and target achievement. The integration of new entities may disrupt existing sustainability initiatives, causing a temporary setback. Harmonising diverse standards, supply chains, and operational processes poses challenges, affecting the overall environmental performance. To mitigate this impact, the Group is seeking to align sustainability practices and implementing efficient transition strategies to incorporate newly acquired sites while keeping carbon intensity goal.

Medium term (2030)

For Medium term risks (between 2-5 years, 2030), it is the most likely horizon for the regulatory frameworks (such as the EU Emissions Trading System and Carbon Border Adjustment Mechanism) currently over a three-years transition period, and to be expanded to all sectors within EU ETS in the future thus having partial effect on to RHI Magnesita's operations due to the gradual phase out of free allocations. We are anticipating and considering major adjustments to our industrial footprint.

Long term (2050)

For the long-term risks, the Group considered the deadline that has been set by the UN and many policy-making bodies to meet decarbonisation goals, being the year 2050. During 2021 and 2022, we completed a detailed assessment of all possible measures to reduce CO₂ emissions in our operations based on proven technology and available financial resources. Whilst it may be possible to reduce emissions in line with a "well below 2 degrees" scenario, it is our current assessment that it is not possible to set a target that is aligned with a 1.5-degree scenario which is not dependent on the development of as-yet-unknown technologies or significant external financial and infrastructure support.

We are committed to reduce our carbon footprint and we will continue to monitor the variables which support this conclusion and update our transition plan accordingly if the Group's own R&D activities result in the development of new technologies that could deliver a faster reduction in CO₂ emissions that is financially achievable.

Impact of climate-related risks on the Group's strategy

RHI Magnesita defines "substantive financial or strategic impact" as impact which is classified as "high" (score 4) or "critical" (score 5) impact.


Table 2. Climate-related transitional risks and opportunities

Climate drivers	Risk/Opportunity	Category	Impact (see reference table)	RHI Magnesita response and strategy	Main affected Time Horizon	Related metrics and targets
Policy-making & Regulatory pressure	Carbon Pricing	Risk	RHI Magnesita foresees an impact due to the increase in operating costs because of increase in level or scope of carbon pricing ●●●●●	<ul style="list-style-type: none"> The Group integrates carbon permit price projections into its financial planning and has a hedging programme in place to fix future exposures RHI Magnesita supports industry partnerships for the development of carbon capture and usage technologies. These include the K1-MET consortium in the Austrian steel industry and the Industrial Advisory Board of the EU-funded MOF4AIR project, a development of the new Metal Organic Framework for capturing CO₂. The Group also progressed a joint programme with the University of Leoben to research the possibility of re-mineralisation of captured CO₂. The Group aims to increase the use of secondary raw materials which will reduce CO₂ emissions compared to the mining or purchase of fresh raw material We will continue to invest in fuel switching, renewable energy and energy efficiency as additional methods to reduce our carbon intensity 	Medium-Long Term	We have set a 15% emissions intensity reduction target by 2025 on a 2018 baseline of Scope 1, 2 and 3 raw materials emissions. By the end of 2023, our emissions intensity was 13% lower than the 2018 baseline
Market & Customers	Increased demand for the Group's products arising from the development of or transition to lower-carbon emitting industrial processes by our customers	Opportunity	RHI Magnesita foresees a low financial impact regarding the increased demand from customers for refractory products that help them reduce their emissions is considered low (e.g. EAF) ●●●●●	<ul style="list-style-type: none"> We are already providing our customers with refractory products that support low carbon production processes. This includes our steel and cement customers who account for 70% of our business. For example, we provide products supporting EAFs for the steel industry, which is an enabling technology for CO₂ emissions reduction RHI Magnesita has a higher market share in lower CO₂ emitting applications (such as EAF) and a lower relative market share in high emitting applications (e.g. BOF, Blast Furnace) We will continue to offer our low energy and carbon services and product offering including process optimisation, recycling services, coating technologies and digital solutions 	Short-Medium-Long Term	Sales of refractory products supporting EAFs, associated with the lower carbon production of steel, was 577 million in 2023
Market & Customers	Increased demand for RHI Magnesita products that are produced with lower carbon footprint	Opportunity	Higher revenue due to increased demand for low-carbon (e.g. recycled) refractory products ●●●●●	<ul style="list-style-type: none"> In the short term, increasing the share of SRM in our products will help us to reduce our geogenic emissions from raw materials and create attractive low-carbon products In the longer term, if the Group is successful at developing and operating carbon capture and sequestration or utilisation technologies and switching to renewable energy sources, refractory products could be manufactured with low or potentially zero CO₂ emissions This is expected to translate into a pricing and/or market share advantage compared to competitor products with high emissions, particularly as customers focus more on their Scope 3 emissions 	Short-Medium-Long Term	We have set a target of 15% SRM content in refractory products by 2025. We achieved 12.6% of SRM content in 2023 (2022: 10.5%)

Opportunities			Risks		
High	>€875m	●	High	>€875m	●
Medium	€175m-€875m	●	Medium	€175m-€875m	●
Low	<€175m	●	Low	<€175m	●

RHI Magnesita defines the impact of a risk, including those related to climate change, on a scale of 1 (minor) to 5 (critical). Each of these five ratings has specific definition and quantifiable indicators based on the potential to compromise the ability of RHI Magnesita in achieving its strategic, operational, financial and compliance goals.

- A score of 1 represents minor impact on our ability to achieve these goals.
- A score of 2 represents low impact in achieving such goals.
- A score of 3 represents moderate impact (for example the potential for one strategic deliverable to be slightly delayed).
- A score of 4 represents high impact on the achievement of our goals, which might result in one objective not being achieved or being significantly delayed.
- Finally, a score of 5 represents a critical impact on RHI Magnesita's ability to deliver more than one goal.

With specific reference to climate-related risks, the following four quantifiable indicators are used by RHI Magnesita to define a substantive strategic or financial impact:

- An impact that would compromise the ability of RHI Magnesita to achieve (or achieve in a timely fashion) one or more objectives defined in the Group's 2025 company strategy, which includes climate-related targets.
- An impact that would compromise our ability to achieve our financial objectives by more than 15% group budgeted EBITA.
- An impact that would compromise our ability to meet climate regulatory requirements applicable to our company resulting in negative international media attention and/or reputational damage to RHI Magnesita.
- An impact that would create a substantial disruption to a) our plants (i.e., the inability to continue operations in more than one of RHI Magnesita key locations across four global regional areas) and b) our ability to fulfil contracts with customers comprising a negative impact of more than 15% group budgeted EBITA for the year and/or c) compromise the safety of our employees.

We have conducted our analyses across three different time horizons. The short-term (2025) sits within our short-term business plan, while the medium (2030) and long-term (2050) time horizons are oriented towards the broader international policy developments, including the Paris Agreement and the EU Green Deal.

Having reviewed the analysis, the Group believes and endorsed by CSC that it is well positioned to mitigate the risks and embrace the opportunities associated with the climate-change related developments across the

different scenarios. These could range from disruptive regulatory developments, physical hazards for our operations or new business opportunities, for example, to earn a Green Premium for low/no-CO₂ refractories. The Group believes that through monitoring market developments and enhancing its business adaptability, innovation and planning, RHI Magnesita can maintain a strong level of climate resilience over the short, medium and long-term across different scenarios. We remain committed to supporting our customers' decarbonisation efforts as well as actively managing our own climate-related risks and opportunities.

Climate risks management

The Group has an established risk management approach with the objective of identifying, assessing, mitigating, monitoring and reporting uncertainties and risks that could impact the delivery of RHI Magnesita's strategy. Since the environment and climate change represents both strategic and operational risk to our business, they are considered as RHI Magnesita's principal risks (see our risk management approach on our Annual Report 2023, on pages 45–57). Several mitigation measures are in place to ensure that the risk is appropriately managed and within the Group's risk appetite.

The risk management process at RHI Magnesita combines top-down, bottom-up and subject-specific risk assessments. The top-down risk assessment is performed by the Executive Management Team and reviewed by the Audit Committee, and reporting against these risks is included in Board meetings, Executive Management Team meetings and strategic reviews. The bottom-up risk assessment is based on operational sites that maintain ongoing risk management activity and is linked to the quality management-based governance practices. Subject-specific risk assessments are performed for areas of emerging or important risks such as climate change. These risk assessments are reviewed by the CEO, the Executive Management Team and the Audit Committee.

Climate-related risks are grouped as physical risks and transitional risks and are fully integrated within the RHI Magnesita risk management system.

Physical risks include greater severity of flooding, droughts or other extreme weather events which could disrupt our operations or supply chain.

Transitional risks arise from the uncertainty in the global move towards a more sustainable, low-carbon economy. These risks involve shifts in the regulations, market dynamics, technology and investor expectations related to climate change.

The process of identifying and assessing all Groups risks, including climate-related risks, is as follows.

Starting from the risk universe (comprising all risk categories that could impact businesses in the next ten years), categories which are not applicable to our business are excluded from the risk analysis. Categories of risks identified as applicable to our Group are analysed to identify specific risks that impact (or potentially impact) our business. These are linked to potential root-causes and assessed for their inherent likelihood, impact, and velocity.

For climate-change risks, the following categories are considered: acute and chronic physical risk, legal, current and emerging regulations, technology, market, and reputational risks. Within each category, specific risks impacting direct operations, downstream and upstream, are identified and assessed based on the Company's risk management processes.

Risk impact is evaluated based on a scale of 1 (minor) to 5 (critical). Each rating has a specific definition based on the impact of the risk on RHI Magnesita's strategic, operational, financial and compliance goals.

Risks are also rated according to their inherent likelihood on a scale of 1 (rare) to 5 (very likely) based on their probability or expected frequency.

Once likelihood, impact and velocity of a risk has been assessed, an appropriate response is determined. This ranges from mitigating the risk to transferring or avoiding the risk based on the level of "risk appetite" defined by the Board.

Appropriate initiatives to reduce the level of inherent risk are then identified and implemented. The level of residual likelihood and impact after mitigation is assessed for each risk using the scoring system above (i.e. impact on a scale of 1 "minor" to 5 "critical" and likelihood on a scale of 1 "rare" to 5 "very likely").

The overall level of residual risk is evaluated to ensure that it is aligned with the Company's risk appetite and risk tolerance. Effectiveness of mitigating measures is monitored over time and risks are re-assessed at least on an annual basis and as needed in the case of significant changes in the risk landscape.

Risks

The Group has updated the modelling and analysis of climate related transitional risks and opportunities that are foreseen to impact the Group over the short, medium, and long-term horizons.

RHI Magnesita's main risk is the additional operating expense resulting from carbon pricing developments. The financial impact of this risk has increased due to implementation of CBAM in Europe, which is an EU policy instrument designed to level the playing field for domestic producers subject to carbon pricing by implementing a carbon-based import tariff on goods from countries without equivalent carbon pricing.



Table 3. Climate-related physical risks

Country	Climate Hazards High Risk Exposure	Site	2030-2050			
			RCP 2.6	RCP 4.5	RCP 6.0	RCP 8.5
Brazil	Heat stress	Brumado	●	●	●	●
	Sea level rise	Terminal Marítimo Aratu	●	●	●	●
	Soil erosion	Contagem	●	●		●
		Coronel Fabriciano - Recycling	●	●	●	●
		Fazenda Funchal, clay mine	●	●	●	●
		Retiro Pd Domingo-mine	●	●		●
		Fazenda Serra dos Ferreiras	●	●		●
	Changing air temperature	Uberaba	●	●	●	●
	Heat stress	Uberaba	●	●	●	●
	Soil erosion	Uberaba	●	●		●
China	Flood	Chizhou	●	●	●	●
	Changing air temperature	Chongqing	●	●	●	●
	Soil erosion	Chongqing	●	●	●	●
Jinan		●	●		●	
Germany	Flood	Niederdollendorf	●	●	●	●
		Urmitz				●
India	Changing air temperature	Venkatapuram	●	●	●	●
		Rajnandgaon	●	●	●	●
	Soil erosion	Dalian	●	●		●
	Drought	Devbhumi (mining)	●	●	●	●
	Changing air temperature	Jamshedpur	●	●	●	●
	Heat stress	Jamshedpur	●	●	●	●
	Soil erosion	Jamshedpur	●	●		●
	Changing air temperature	Katni	●	●	●	●
		Bhikampali	●	●	●	●
		Cuttack	●	●	●	●
		Patrapalli, Mine	●	●	●	●
		Dalmiapuram		●	●	●
	Maharashtra	Visakhapatnam	●	●	●	●
		Maharashtra	●	●	●	●
		Water stress	Maharashtra		●	
Heavy precipitation		Maharashtra				●
Soil erosion		Maharashtra	●	●		●
Kosovo	Water stress	Decan		●		●
Mexico	Changing air temperature	Tlalnepantla	●	●	●	●
Switzerland	Water stress	Pfäffikon/Interstop				●
Türkiye	Water stress	Sörmas		●		●
	Water stress	Eskisehir		●		●
US	Soil erosion	Pevely	●	●		●
	Changing air temperature	York	●	●	●	●

Legend	
No risk	●
Low risk	●
Medium risk	●
High risk	●
Red flag	●
No data	

CBAM is designed to protect domestic producers from competitive disadvantages resulting from carbon pricing by making imports from countries without equivalent carbon pricing more expensive. This mechanism would help to ensure that domestic producers and consumers are not put at an economic disadvantage by having to bear the cost of carbon pricing, while their international competitors do not. The CBAM is intended to incentivise countries to adopt similar carbon pricing policies, thereby reducing the global emissions of greenhouse gases.

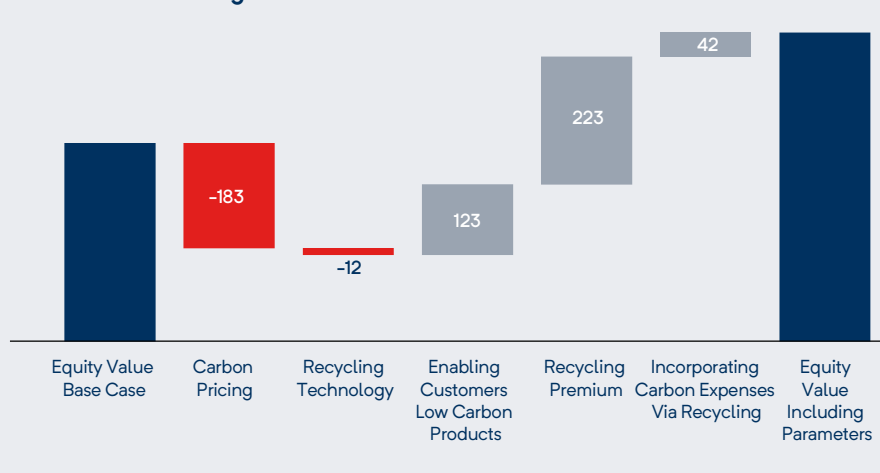
The implementation of the Carbon Border Adjustment Mechanism (CBAM) is expected to have a financial impact on the Group from 2030 onwards as free carbon allowances under EU-ETS are phased-out. This is due to levies on imported materials, which are designed to protect the EU domestic business. This is expected to increase refractory pricing for all suppliers selling into the EU. Additionally, products manufactured in the EU and then exported will incur higher costs, as there are currently no compensation mechanisms for exporters. The financial impacts of the CBAM have been included in the Group's updated TCFD modelling, resulting in impact on equity value ranging from €180 million to €350 million.

Opportunities

Three opportunities were identified: (i) increased demand for products that customers will require for technology transition, e.g. EAF refractories; and (ii) increased demand for low-carbon refractory products containing recycled raw materials; and (iii) increased recycling rate and absorption of carbon expenses via recycling for EU operations.

The steel industry is undergoing a decarbonisation process which is predicted to continue into 2050 and beyond. This megatrend has led to an increased demand for electric arc furnaces (EAF) and electric smelter furnaces. As the pressure to reduce carbon emissions intensifies, RHI Magnesita is well-positioned to benefit from this growing trend. With its vertically integrated model, RHI Magnesita has access to the raw material required for an electric arc furnace from its European mines in Austria, Hochfilzen and Breitenau. This gives RHI Magnesita a competitive edge and makes it the leading refractory partner of choice in the green transition of the steel industry.

2023 Valuation Bridge



Additionally, RHI Magnesita's joint venture with Horn & Co., MIRECO, combines recycling activities in Europe and increases the production, use and offering of secondary raw materials. This results in a significant decrease in CO₂ emissions. MIRECO is well positioned at the forefront of the circular economy, providing services to customers in steel, cement, glass and other process industries (read more on recycling and circular economy on page 72).

The net impact on equity value of these opportunities combined is +€388 million (2022:+123 million; 2021:+€352 million).

Physical-related risks and opportunities

The Group has undertaken a comprehensive update of risk assessments at its production sites across a broad range of physical climate hazards, to cover newly acquired sites. The analysis considered 70 sites, including all production sites, recycling facilities and mining locations.

The assessment considered four distinct climate scenarios—RCP2.6, RCP4.5, RCP6.0, and RCP8.5—taken from the Intergovernmental Panel on Climate Change Fifth Assessment Report. These scenarios project varying greenhouse gas concentration trajectories, indicating potential outcomes such as staying below a 2°C temperature increase, reaching approximately 2°C above the modern climate baseline, a global temperature rise of about 3–4 °C by 2100, and an exceeding 4°C increase in the global average surface temperature by 2100.

The assessment focused on evaluating future exposure of RHI Magnesita sites to climate-related hazards across temperature, wind, water, and solid matter, encompassing a total of 29 categories. Due to data availability, some climate dimensions had risks calculated over different time periods. The estimation of future climate-related risks was rooted in probability, gauging the likelihood, expressed as the relative number of years in the data ensemble, that future climate values would surpass the mean values of the current climate at specified locations.

Results revealed some sites are susceptible to physical climate hazards. The Group will perform a further detailed risk assessment for 32 flagged sites in 2024. This approach ensures that the Group is addressing climate-related risks and improving the resilience of its operations. Separately, a three-year programme dedicated to assessing physical damage risks of any origin is being implemented. This assessment involves site visits by experts to evaluate preparedness for various risks, encompassing structural conditions and geographical exposure to extreme weather events such as storms, hurricanes, and earthquakes. Newly acquired sites are integrated into the three-year programme. Insurance policies provide coverage, encompassing protection for our assets against physical damage and losses, including damage arising from natural catastrophes.



Metrics and targets

The Group's emission reduction plans target a 15% reduction in CO₂ emissions intensity for Scope 1, 2 and 3 (raw materials) emissions by 2025, compared to 2018.

In 2023, total CO₂ emissions (Scope 1, 2 and 3 - raw materials) were 4.6 million tonnes and our emissions intensity has reduced by 12% compared to the baseline year of 2018. This progress is largely a result of recycling performance. There has been slower progress on switching to alternative fuels due to capex constraints, public infrastructure delays and uncertainty in energy markets. The Group is on track to achieve its 2025 CO₂ intensity reduction target, mainly through its successful efforts to increase the use of recycled raw materials.

The Group has increased transparency for its customers by disclosing the carbon footprint of its c.200,000 refractory products in the Customer Portal.

CO₂ emissions calculations follow the principles of ISO 14067 standard and include all Scope 1 and 2 emissions, as well as relevant Scope 3 emissions related to the manufacturing process (known as "cradle-to-gate" greenhouse gases from raw material extraction to production and packaging).

The Group is undertaking a substantial M&A programme which may affect the achievement of its environmental targets. The integration of new entities may disrupt existing sustainability initiatives. Harmonising diverse standards, supply chains, and operational processes poses challenges which may affect overall environmental performance. To mitigate this impact, the Group is seeking to align sustainability practices and implementing efficient transition strategies to incorporate new acquired sites.

Tracking our progress

We use metrics and targets to track our progress in relation to our material climate-related risks and opportunities.

Outlook

We recognise the importance of understanding our risk and opportunity landscape in guiding our climate strategy. In addition to charting our own transition, we want to be a trusted partner to our customers on their journey to net zero. We will further deepen our climate-related initiatives in the coming years to help us to continue to be a sustainability leader within the sector.

Table 4. Metrics and Targets¹

	Absolute emissions (thousand tonnes of CO ₂)					
	2018	2019	2020	2021	2022	2023
Scope 1	2,540	2,151	2,113	2,643	2,347	2,191
of which geogenic emissions	1,305	1,066	1,075	1,277	1,124	1,052
of which fuel-based emissions	1,184	918	873	1,146	1,223	1,138
of which other emissions	50	168	165	220	—	—
Scope 2	240	223	177	147	120	119
Scope 3 (only raw material)	3,389	3,008	2,682	2,901	2,420	2,272
TOTAL	6,169	5,382	4,973	5,691	4,887	4,583
Carbon Intensity (t CO ₂ /t product) ²	1.84	1.82	1.86	1.76	1.71	1.62
Biogenic Scope 1 emissions	5	8	10	13	13	17

- CO₂ emission data are calculated based on GHG Protocol methodology. Historical data have been adjusted to reflect new acquisitions in the baseline and methodology changes following an external verification process that took place in July 2022. All assets acquired in 2023 are considered in the performance data except three minor production sites at Huron, Bussalla and Bochum which are still undergoing integration.
- Adjustments in line with the Greenhouse Gas protocol and refinement in reporting resulted in energy efficiency figures for 2018–2023.