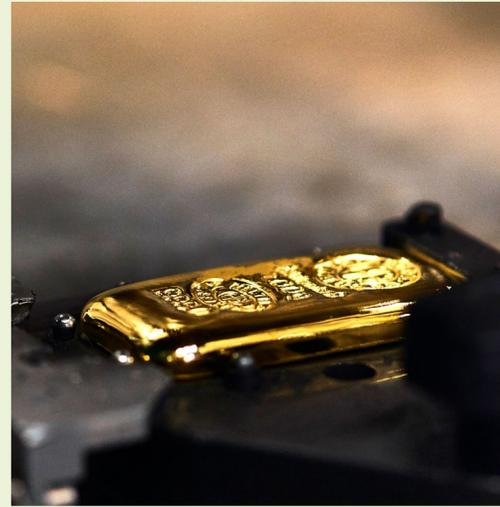


SUSTAINABILITY
REPORT

2022



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Foreword

GRI 2-22

Precious metals are indispensable and often enable technological transformation and innovation that is needed for humankind to create a more sustainable future. In pharmaceutical ingredients precious metals help to battle cancer, they eliminate bacteria and fungi, and on solar cells they enable efficient generation of renewable electricity. The effective production and use of green hydrogen relies on precious metal catalysts, and so does the cleaning of exhaust air.

As impressive as precious metals are, they do also have drawbacks. The huge demand cannot nearly be covered by recycling, so mining is indispensable. However, the extraction and processing of precious metals is very energy- and carbon-intensive and can adversely impact workers, nature, and nearby communities.

Substantial progress can only be achieved through collaborative efforts involving all key players, including miners, refiners, processors, and users of precious metals. Our aim at Heraeus Precious Metals is to lead by example and to propel positive change in our industry.

We cover the whole value chain from refining, trading, and processing value-added precious metal products to recycling—for all platinum group metals as well as for gold and silver.

We set rigorous standards for our own business and actively encourage the adoption of similar standards along the entire value chain. Our customer and supplier partnerships often last for many decades, and our long-term commitment to the precious metals industry is a decisive factor for our success.

I am convinced that the precious metals industry has great potential for a successful transition toward sustainability and that our dedication to responsible business practices will continue to attract like-minded customers and partners.

That is why our commitment goes beyond our products' contribution to a better world.



We strive to realize the potential of precious metals as responsibly as possible.

With our first Sustainability Report we underline this commitment with our pledge to responsibility: precious to us. We pledge to systematically decarbonize our business because the climate is precious to us. We look for ways to conserve resources and promote a circular economy because resources are precious to us. People are precious to us; we therefore prioritize the well-being and interests of our people, nearby communities, and people along our value chain.

We understand our sustainability efforts as a great opportunity to expand our business while being the most sustainable and responsible player in our industry. Consequently, we have set ourselves ambitious targets, some of which go far beyond those of our industry peers.

We will be carbon-neutral by 2025 and net zero by 2033!

I believe that future business growth must and can only be achieved in a sustainable way. Our report shows our progress so far as well as our commitments and priorities. We are looking forward to an active dialogue with our stakeholder community.

André Christl
CEO Heraeus Precious Metals

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About this report

GRI 2-22

The world is changing, faster than ever. The need for sustainable practices has never been more pressing for ensuring the long-term viability of societies and businesses alike. We understand the challenges we face, and we are determined to make a difference. This report reflects our ongoing efforts to address these challenges head-on.

In 2021, we started the most ambitious climate program in the industry: carbon neutrality for our own operations by 2025. Our journey toward this target is well underway. In the past year alone, we have reduced our absolute energy consumption by more than 8% while growing our business by more than 20%.

As part of our commitment to addressing the climate crisis, we announced our target for 50% emission reduction along our value chain in 2023. We recognize that sustainability is not just about our own operations but extends to our entire value chain. By setting goals with our suppliers and customers, we aim to drive positive change throughout the industry.

We have been working on many of our material topics for years. For example, we introduced diversity goals in 2019. Today, we are close to achieving our target of having 40% women in leadership positions.

We continue to support the United Nations' Sustainable Development Goals (SDGs). We continuously review, adapt, and examine our own contributions, actions, and measures to ensure we are making a meaningful impact toward achieving these global goals.



While we have come a long way, we also acknowledge that change takes time. We are still in the early stages of our sustainability journey, but we believe that challenges breed opportunities for innovation. By fostering a culture that embraces sustainability, we provide our employees with a platform to think creatively and find new, more sustainable solutions.

We are integrating sustainability into all our business processes, ensuring that it becomes part of our daily operations. We strive to set targets that truly make a change—within our sites, throughout our value chain, within our industry, and beyond.

This Sustainability Report showcases the progress already made and reflects the hard work and dedication of our employees, who remain the driving force behind our sustainability initiatives. It also shows the steps we will take in the future, in a continuous effort to improve.

Thank you for joining us on this journey.

Svea Scherleithner
Global Head of Sustainability

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Heraeus Precious Metals

GRI 2-6, -7, -8

Heraeus Precious Metals is a global leader in precious metals. We are part of the Heraeus Group and cover the value chain from trading to innovative precious metals products to recycling end-of-life waste materials. We have extensive expertise in all platinum group metals as well as gold and silver. With about 3,000 employees¹ at 15 sites worldwide, we offer a broad portfolio of products that are essential for many industries, including but not limited to the automotive, chemicals, semiconductor, pharmaceutical, hydrogen, and jewelry industries. Our headquarters is located in Hanau, Germany.

Trust and reliability, strict adherence to leading compliance standards, transparency, and financial stability are the foundation of our business. We value long-term relationships over short-term profit, and our customer relationships often endure for decades.

Heraeus Precious Metals strives to have an organizational structure that enables fast decision-making processes and smooth and open communication that addresses every employee on every level. We have six market-oriented **Business Lines**. In addition, we cluster our business into four major **regions**. Both are supported by central **functions**.

The **Lead Team** (14 members) is Heraeus Precious Metals' highest governance board. It consists of the leaders of all Business Lines, major regions, and the core functions Finance, Human Resources, and Sustainability. To reflect the international set-up of our business and to ensure efficient exchange, the **Extended Lead Team** includes the Lead Team and in addition leaders of all sites and further functions (Digital Business, EHS, Quality, Strategy). The **Global Management Team** (113 members) includes the Lead Team and the most senior leaders.

Heraeus Group

GRI 2-1, -6

The Heraeus Group is a broadly diversified and globally leading family-owned technology company, headquartered in Hanau, Germany. The company's roots go back to a family pharmacy started in 1660. Today, Heraeus bundles diverse activities in the Business Platforms Metals and Recycling, Healthcare, Semiconductor and Electronics as well as Industrials. Customers benefit from innovative technologies and solutions based on broad materials expertise and technological leadership.

In the 2022 financial year, the Group generated revenues of €29.1 billion with approximately 17,200 employees² in 40 countries. Heraeus is one of the top 10 family-owned companies in Germany and holds a leading position in its global markets.

¹ Including joint ventures and including external employees. All other figures in this report refer to the number of internal employees only.

² Including staff leasing.



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Globally leading in the precious metals industry

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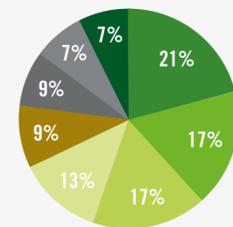
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€24.9 BN
TOTAL REVENUE



190 PEOPLE IN RESEARCH AND DEVELOPMENT

SHARE OF TOTAL VALUE ADDED SALES PER INDUSTRY OR APPLICATION



- Avoidance of emissions
- Recycling
- High tech industry
- Process efficiency in industrial applications
- Others
- Jewelry
- Financial
- Health



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Employees

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GRI 2-7/8 EMPLOYEE DATA

Total number of employees ¹	HC	2,984
thereof total number of internal employees	HC	2,543
thereof total number of external employees	HC	84
thereof total number of joint ventures employees	HC	357

HC = Headcount

GRI 2-7 EMPLOYEES BY EMPLOYMENT CONTRACT (BY REGION AND GENDER)

	Permanent contract	Fixed term contract
Total	HC 2,136	HC 407
Asia	HC 266	HC 322
<i>Share of total</i>	% 12.4	% 79.1
Africa	HC 72	HC 2
<i>Share of total</i>	% 3.4	% 0.5
Europe	HC 1,570	HC 76
<i>Share of total</i>	% 73.5	% 18.7
North America	HC 228	HC 7
<i>Share of total</i>	% 10.7	% 1.7
Total	HC 2,136	HC 407
Women	HC 582	HC 99
<i>Share of total</i>	% 27.2	% 24.3
Men	HC 1,552	HC 308
<i>Share of total</i>	% 72.7	% 75.7
Other	HC 2	HC 0
<i>Share of total</i>	% 0.1	% 0.0



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Our Guiding Principles

Heraeus Precious Metals' Guiding Principles are the cornerstone of our corporate culture. They serve as a general orientation and guide as to how we conduct our business.

We expect all employees worldwide to bring our core values to life and therefore work continuously to ensure their implementation and ongoing development.

These principles define behaviors and mindsets that are essential for successful cooperation with our partners, customers, and within our company.

CUSTOMER FOCUS

We concentrate on our customers' needs.

CLEAR LANGUAGE AND RESPECT

We communicate clearly and respect each other.

DIVERSITY

We foster different perspectives and diverse teams.

CONTINUOUS IMPROVEMENT

We continuously want to get better.

ACCOUNTABILITY

We are responsible for our success and failures.

RESPONSIBILITY

We care about people and our planet.



Company profile

Precious metals services and products

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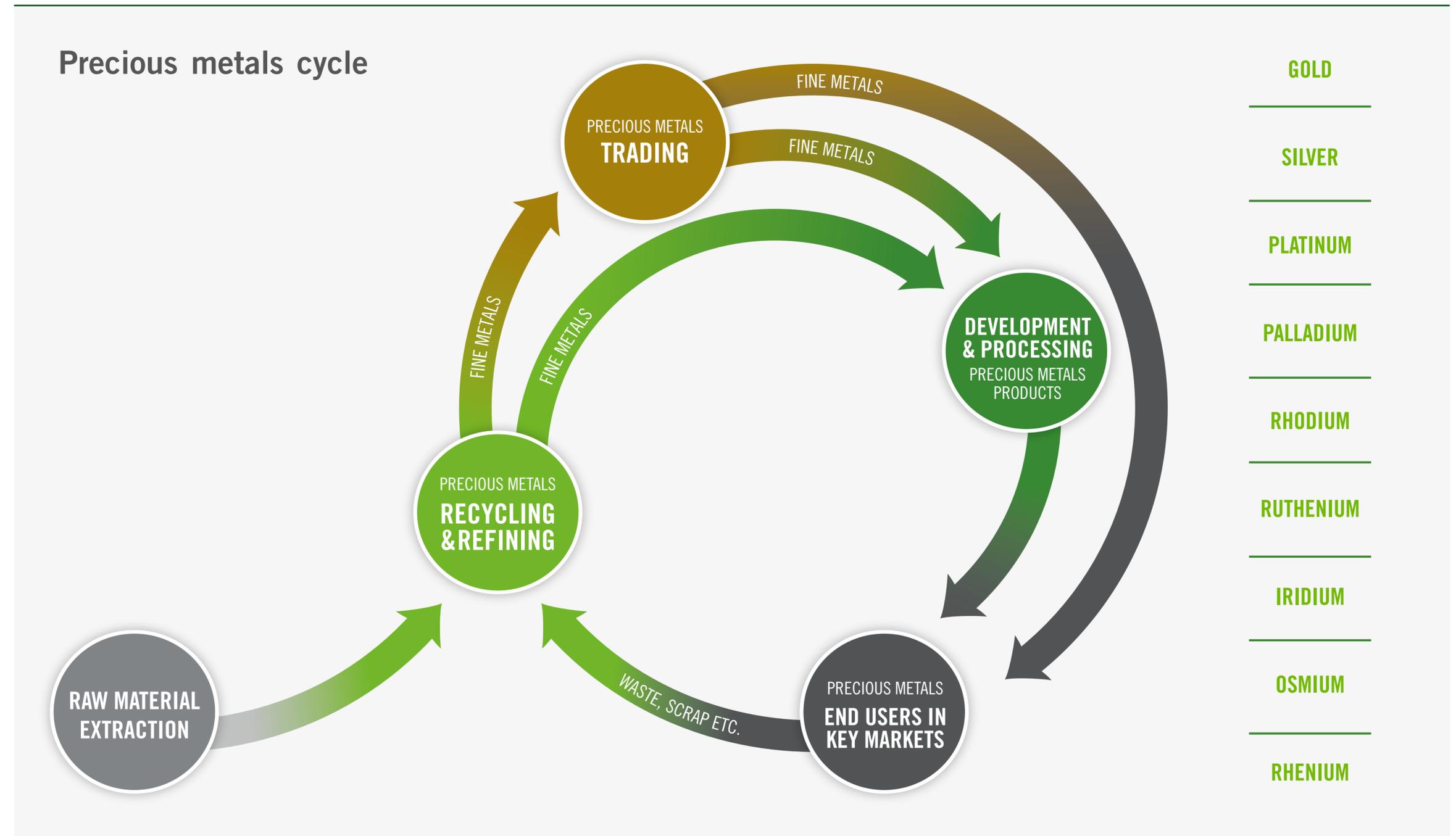
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Supply of precious metals

Heraeus Precious Metals is one of the world’s leading precious metals companies. We operate an extensive network of trading offices and recycling facilities around the globe.

Precious metals sourced from 

It encompasses six countries: the United States, Germany, Switzerland, South Africa, India, and Greater China. This network enables us to provide precious metals at the place, at the time, and in the form our customers need them. Our comprehensive precious metals portal [MYHERAEUS.COM](https://myheraeus.com) enables our customers to monitor real-time prices, execute spot, forward, hedging, and financing transactions securely, and manage their weight accounts and recycling orders.

71% customer orders placed digitally

Hedging and risk management

Companies that need precious metals are exposed to volatile and unpredictable prices. Severe fluctuations can affect their margins, capital requirements, and competitiveness. Heraeus Precious Metals has comprehensive expertise in helping our customers manage these risks in all major time zones. Our hedging strategies provide our customers with price stability and enable them to manage uncertainty.

Fine metals produced by Heraeus Precious Metals

120 t PGM 
1,270 t silver 
370 t gold 

Recycling and refining

Global supply chains would not function without recycled precious metals, which supplement primary sources. Heraeus Precious Metals is one of the largest recyclers and refiners of precious metals. With 11 facilities in six countries worldwide, we not only maintain close proximity to our customers but also achieve shorter transportation distances, thereby con-

tributing to environmental conservation. We use state-of-the-art pyrometallurgical and hydrometallurgical processes to recover precious metals from end-of-life materials to the maximum extent possible. In 2022, our recycling and refining processes yielded about 120 metric tons of platinum group metals (PGM), 370 metric tons of gold, and 1,270 metric tons of silver.

Precious metals recycling has a much smaller environmental footprint than extraction. Its carbon emissions can be up to 98% lower¹. Our recycling business therefore helps to decarbonize our customers’ value chain. In addition, it helps to bring down the costs for our customers and their own customers, as highly valuable metals are recycled and reused again and again.

60% of PGM volume processed in our plants is secondary material

23% of gold and silver volume processed in our plants is secondary material

¹ Based on International Platinum Group Metals Association and GaBi database 2022.



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Precious metal content determination

Customers worldwide rely on our advanced equipment and expertise to precisely analyze their valuable material's precious metal content. More than 100 chemical and physical scientists and experts work in our analytics department, where our customers' prepared homogenized materials are analyzed in a variety of well-established processes in accordance with industry standards for quality and materials. Our analytics services also include materials characterization as well as survey, purity, and surface analysis.

Precious metal logistics

Shipments of waste materials containing precious metals must comply with state, national, and international laws and regulations. Decades of expertise enable us to guide customers through these complex requirements. In addition, we carry out our recycling processes in government-licensed treatment and storage facilities for hazardous and non-hazardous materials containing precious metals. Heraeus Precious Metals' international door-to-door logistics, transportation, and pickup services ensure that valuable material is handled correctly and safely. Our extensive experience in waste declaration, permits, and regulations saves time and reduces customers' logistics costs.

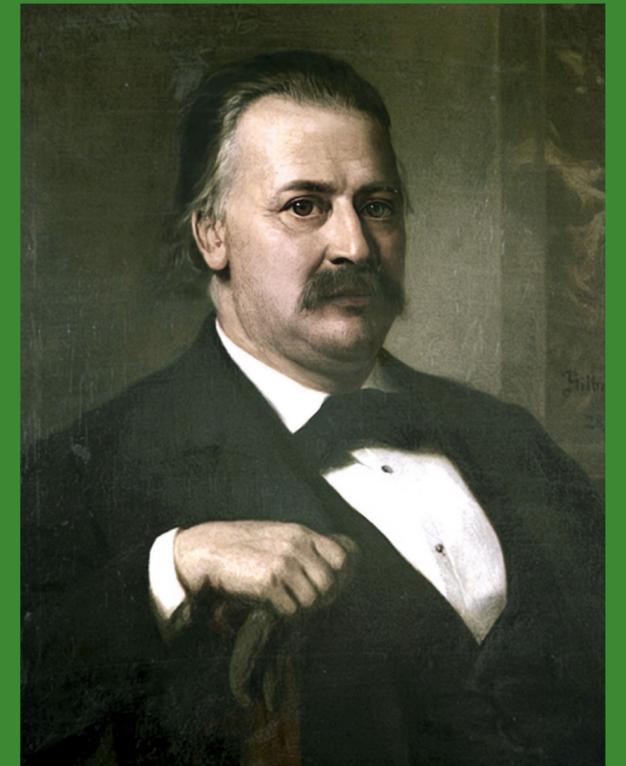


Heraeus' history with precious metals

The Heraeus family business began in 1660 with a family-operated pharmacy. Its first documented handling of precious metals was in 1694, when it delivered gold to a church in Hanau, Germany. More than one and a half centuries later, when Wilhelm Carl Heraeus began running the pharmacy, he focused on another precious metal: platinum. The demand for platinum was especially high at that time, in various industries including goldsmiths, jewelry, dental factories and chemical labs. Wilhelm Carl succeeded in developing a revolutionary smelting process in 1856, enabling him to process large quantities of platinum at once. This is how he laid the foundation for Heraeus to become one of the world's most important family businesses. To this day, Heraeus Precious Metals is a global leader in the precious metals industry.



"Einhorn" pharmacy in Hanau



Wilhelm Carl Heraeus (1827–1904)



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 <p>4 QUALITY EDUCATION 4.4</p>	 <p>5 GENDER EQUALITY 5.1, 5.5</p>	 <p>7 AFFORDABLE AND CLEAN ENERGY 7.2, 7.3</p>
 <p>8 DECENT WORK AND ECONOMIC GROWTH 8.5</p>	 <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION 12.2, 12.4</p>	 <p>13 CLIMATE ACTION 13.1, 13.2, 13.3</p>



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Impact and materiality analysis

GRI 3-1

Heraeus Precious Metals is committed to acting responsibly and to becoming the most sustainable company in the precious metals industry. This requires that we have a thorough understanding of how our business model and operations impact the environment and society. In 2022 we therefore voluntarily conducted our materiality analysis using the double materiality method prescribed by the Corporate Sustainability Reporting Directive (CSRD). This method, which is described on the right, gives us an accurate picture of our material topics and also prepares us for upcoming regulatory changes.

The materiality analysis identified ten material topics as well as four further strategic action areas. Heraeus Precious Metals has already been striving for many years, and in some cases decades, to make a positive difference in many of them, from occupational safety and respect for human rights along our value chain to energy conservation and climate protection. Nevertheless, the analysis enabled us to establish a baseline for our sustainability strategy and for investigating how Heraeus Precious Metals can best help the precious metals sector tackle its current and future environmental and social challenges.

Methodology

Understanding our organization's context

We analyzed our business activities and relationships along our entire value chain to identify our potential positive and negative impacts on society, the environment, and the economy. Our value chain has six stages: 1. raw material extraction, 2. refining, 3. trading and administration, 4. processing, 5. use phase, and 6. recycling of end-of-life materials. Heraeus Precious Metals itself is active at four of these stages: refining, trading and administration, processing, and recycling.



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Impact and materiality analysis

Value chain

GRI 2-6



The impact analysis assessed several factors associated with our industry and business model for the different stages of the value chain.

These factors include:

- resources used: precious metals, including their countries of origin, and the treatment processes necessary for both primary and secondary sources

- processing of precious metals into innovative products at our production sites
- manufactured products and their impact on society
- our employees
- employees in our value chain
- end users
- communities affected by our business and industry.

Our value chain analysis considered the different challenges of gold and silver compared with platinum group metals (PGMs) at each phase of the value chain, from extraction to recycling.



Impact and materiality analysis

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Differences in the value chains of precious metals

The value chain of gold and silver differs from that of PGMs (platinum, palladium, rhodium, ruthenium, iridium, and osmium) in terms of mining, processing, and applications. Gold and silver can be found in elemental form in nature and as byproducts of the mining and refining of zinc, lead, and copper. Their occurrence in nature is more widely dispersed than that of PGMs. Large-scale operations are common, but deposits also allow for local, small-scale, and artisanal mining. In contrast, PGMs typically occur in sulfide ores associated with nickel, copper, iron, and cobalt. PGM deposits can mainly be found in South Africa, Zimbabwe, Russia, and North America. Separating PGMs from the ore requires complex processing techniques, making them more challenging to be mined economically. As a result, PGMs are mainly mined by large, specialized operators. PGMs' unique physical and chemical properties make them suitable for a broad range of industrial applications. Silver and gold are mainly used for jewelry, watches, investment products, and electronic applications.

Impact identification

Our impact and materiality analysis addressed all environmental, social, and governance topics deemed relevant by the CSRD. We assessed Heraeus Precious Metals' potential positive and negative impacts on them. We analyzed each potential impact's likelihood as well as its significance in several respects:

- scale (how severe or beneficial it is)
- scope (how widespread it is)
- for a negative impact: irreversibility (how difficult it is to remediate)
- for a positive impact: magnitude (how sustainable or long-lasting it is).

In addition, we broadened our perspectives by assessing how the topics covered by the European Sustainability Reporting Standards (ESRS) could affect Heraeus Precious Metals' potential financial performance, including potential financial opportunities and risks.

Engagement with relevant stakeholders and prioritization of impacts

GRI 3-1

Our analysis benefited from input which we obtained in interviews with relevant internal

and external stakeholders. Our internal stakeholders consisted of senior management of the Heraeus Group (such as the Group CEO) and Heraeus Precious Metals (the CEO and the Global Management Team), and managers from business-critical functions at Heraeus Precious Metals, such as Finance, Compliance, and HR. They helped us review our current sustainability measures and revise our governance structure. We used the perspectives of external stakeholders, mainly customers from our different Business Lines, to elaborate and validate our findings. A particular focus of our engagement with stakeholders was to obtain feedback on our existing environmental protection measures. We drew on this feedback to fine-tune our strategy. In addition, we asked for their views on diversity, equity, and inclusion, respect for human rights along our value chain, and other social issues. After consulting stakeholders, we assessed the significance of all impacts in relation to each other. The final step was to identify our material topics based on the most significant impacts—including from our stakeholders' perspectives—as well as our financial opportunities and risks.



Impact and materiality analysis

Material topics

GRI 3-2

The materiality analysis identified ten material topics grouped in five clusters. We will review the material topics on a regular basis to ensure

that they remain up to date in light of possible future changes, such as in our corporate setup or operating performance.

ENVIRONMENT			GRI
	Climate protection	Emissions and energy	302, 305
	Environmental pollution	Air pollution	305
	Circular economy	Resource used: precious metals	301
Waste, disposal, and treatment processes		306	
SOCIAL	Own people		GRI
	Working conditions	Health and safety	403
		Training and development	404
	Diversity, equity, and inclusion	Inclusion, equal opportunity, and anti-discrimination	405, 406
	People in our value chain		
	Working conditions	Health and safety	
	Human rights	Forced and child labor	407, 408, 409, 414
	Affected communities		
Affected communities	Impacts on human, economic, social, and cultural rights of affected communities	411, 413	
GOVERNANCE			GRI
	Business conduct	Corruption	205
		Transparency	
	Governance	Risk management and internal control	2-9, -12, -13, -23
Governance structure and composition			

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Impact and materiality analysis

Further strategic action areas

We used the findings of the impact and materiality analysis to expand and enhance our sustainability targets beyond material topics.

In addition to our material topics listed above,

we have identified further topics that are not material for us according to our materiality analysis, but in which we nevertheless intend to drive progress in the years ahead.

Consequently, they are also included in the chapters of this sustainability report and supported by our sustainability governance.

ENVIRONMENT			GRI
	Water and marine resources	Water footprint (including suppliers' water management)	303
	Biodiversity and ecosystems	Pressure on biodiversity and ecosystems	304
SOCIAL	Own people		GRI
	Working conditions	Work-life balance	401
	People in our value chain		
	Working conditions	Social security, fair remuneration, and working hours	

Implications for reporting

The chapters of this Sustainability Report describe how we manage our material topics. The report was prepared in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI) under the "In reference to" option. The [GRI INDEX](#) provides a quick overview of the GRI indicators covered.

The description of our management approach is based on GRI 3: 3-3 Management of material topics.

We also determined which GRI aspects our material topics correspond to.

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Strategy

Our pledge to responsibility

Precious metals foster a better world

Precious metals are indispensable. They enable technological transformation and innovation needed for a more sustainable world. For example, our products are key ingredients for the production and use of green hydrogen. Our catalysts containing precious metals clean the exhaust of millions of vehicles or industrial processes worldwide. Our pharmaceutical ingredients are used in medicines that treat cancer.

Maximize impact, minimize harm

We are proud of the positive impact our precious metal products have. The modern life we are all used to today would not be possible without them. Therefore, we have a duty to realize their potential as responsibly as possible.

As impressive as precious metals are, they do also have drawbacks. The huge demand for precious metals cannot nearly be covered by recycling, so mining is indispensable. However, the extraction and processing are very energy- and carbon-intensive and can adversely impact workers, nature, and nearby communities. That is why we work tirelessly to maximize the benefits of precious metals for people and the

planet, while steadily reducing their negative impact. We want to maximize impact and minimize harm.

Our pledge to responsibility

Climate, resources, and people are precious to us. We pledge to always act accordingly: to systematically decarbonize our business, to always look for new ways to conserve resources and promote a circular economy, and to prioritize the well-being and interests of the people in our company, in nearby communities, and along our value chain.

Just as importantly, we expect the same from our business partners, both upstream and downstream. We are convinced that our industry can make a successful transition toward sustainability, but we can only achieve this by working together: from miners to refiners, processors, and users of precious metals. Our aim

is to lead by example and to propel positive change in our industry. We set rigorous standards for our own business and actively encourage the adoption of similar standards along the entire value chain.



Strategy

Sustainability roadmap

Our sustainability roadmap is a cornerstone of our strategy. It helps us to ensure that we stay focused and implement meaningful measures. We set clear, transparent, and measurable targets. We monitor and communicate progress toward them on a regular basis. Our reporting focuses on the topics that are currently particularly important for us and our stakeholders. In 2022 we revised our sustainability roadmap based on our impact and materiality analysis.

Environment

TARGET	TIME HORIZON	STATUS QUO
CLIMATE PROTECTION		
Achieve carbon neutrality for Scope 1 and 2 emissions <ul style="list-style-type: none"> Reduce our energy consumption by 20% in absolute terms relative to 2019 Switch to 100% green electricity at all our facilities 	2025	<ul style="list-style-type: none"> While revenues grew by 20% in 2022, we reduced our energy consumption by 8%; our aim is to reduce it by another 4% in 2023 Solar panels will be installed at 11 production sites by year-end 2023; more than half were already operational at year-end 2022
Achieve net zero for Scope 1 and 2 emissions <ul style="list-style-type: none"> End the use of fossil fuels at all our facilities 	2033	<ul style="list-style-type: none"> Electrification of several production processes by year-end 2023 will significantly reduce our natural gas consumption well before 2033
Reduce Scope 3 emissions by 50% <ul style="list-style-type: none"> Increase the proportion of recycled metals in our products Engage with mining partners to support and encourage them to decarbonize 	2033	<ul style="list-style-type: none"> Completed inventory phase for Scope 3 emissions Defined roadmap to reduce Scope 3 emissions
Submit reduction and net-zero targets to the Science Based Targets initiative (SBTi) in 2023 for final validation	2023	<ul style="list-style-type: none"> Committed to SBTi in 2021
CIRCULAR ECONOMY		
Continually expand our worldwide precious metals recycling capacities <ul style="list-style-type: none"> Between 2018 and 2026, we will have invested a total of 300 million euros 	Ongoing	<ul style="list-style-type: none"> Installation of new recycling smelter in Wartburg, United States in 2024; powered exclusively by renewable energy Foundation of 50-50 joint venture (JV) company with BASF to recover precious metals from spent automotive catalysts in Pinghu, China; will begin doing business in 2024 €35 million investment to enlarge recycling capacity in Hanau, Germany; expected to be operational by 2026
Continually increase the proportion of recycled precious metals in our products	Ongoing	<ul style="list-style-type: none"> In 2022, 60% of PGM and 23% of gold and silver volume processed in our plants is secondary material
Establish audited accounting for share of recycled precious metals	2024	<ul style="list-style-type: none"> Auditable system already in place for gold Mass balance established for platinum group metals; first certificates for “100% certified secondary material” issued

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Our people

TARGET	TIME HORIZON	STATUS QUO
DIVERSITY, EQUITY, AND INCLUSION		
Aim for our Global Management Team to consist of at least 40% women	2025	<ul style="list-style-type: none"> Status at year-end 2022: 37% Doubled proportion of women in Global Management Team since 2019
Aim for our Global Management Team to consist of at least 50% non-Germans	2025	<ul style="list-style-type: none"> Status at year-end 2022: 42% Increased proportion of non-Germans in Global Management Team by 17% since 2019
Conduct gender pay gap analysis and identify measures to improve potential gaps	2023	<ul style="list-style-type: none"> Analysis started in 2022
Focus on anti-racism and anti-discrimination and improve further by taking action that reflects their importance	2023	<ul style="list-style-type: none"> No cases of discrimination reported in 2022
Implement a company-wide equal opportunity policy and process	2023	<ul style="list-style-type: none"> Policy for selected countries already available Company-wide policy and process in preparation
HEALTH AND SAFETY (H&S)		
Reduce work-related injuries to zero <ul style="list-style-type: none"> Reduce lost days caused by incidents and High Potential Events by 20% in 2023 Establish site-specific safety targets by year-end 2023 	Ongoing	<ul style="list-style-type: none"> Lost-time incident rate status at year-end 2022: 8.6¹ Analysis of all incidents to ensure complete transparency of their causes and define countermeasures
Occupational exposure limit for chloroplatinates of 100 ng/m ³	2030	<ul style="list-style-type: none"> Hotspots identified Engineering controls established to reduce exposure and open handling
Roll out company-wide training sessions and workshops on H&S and social well-being	2023/2024	<ul style="list-style-type: none"> Roll-out of training concept in Germany started
Develop company-wide communications campaign to further foster employee H&S behavior	2024	

¹ A lost-time incident prevents an employee from working for at least one day or one shift. The rate is calculated per 1,000,000 hours of work. The figure represents total recordable accidents for employees.

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TARGET	TIME HORIZON	STATUS QUO
Where gaps still exist, conduct targeted risk analysis relevant for conflict materials in conformity with OECD due diligence requirements	2024	<ul style="list-style-type: none"> Due diligence checks and investigations over the course of the business relationship at intervals commensurate with the respective risks or whenever changes regarding the risk of human rights violations become known
Introduce streamlined central system to compile, monitor, compare, and evaluate working conditions at all our suppliers in line with Germany's Supply Chain Due Diligence Act	2024	<ul style="list-style-type: none"> System selected, currently in implementation
<p>Ensure 100% of our mining partners have set improvement targets for their particular ESG issues:</p> <ul style="list-style-type: none"> By 2024 we aim to have transparency on ESG topics for all mining partners By 2026 we aim for 80% of mining partners to at least have ESG targets in place 	Ongoing	<ul style="list-style-type: none"> Categories defined to classify mining partners based on their ESG journey, considering whether they set targets and have measures in place and progress to show Categorization of mining partners currently in progress, to be finished in 2024
Engage with artisanal small and medium-sized mines to help improve living conditions of their workers	Ongoing	<ul style="list-style-type: none"> Engagement through the Swiss Better Gold Association

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GRI 2-17

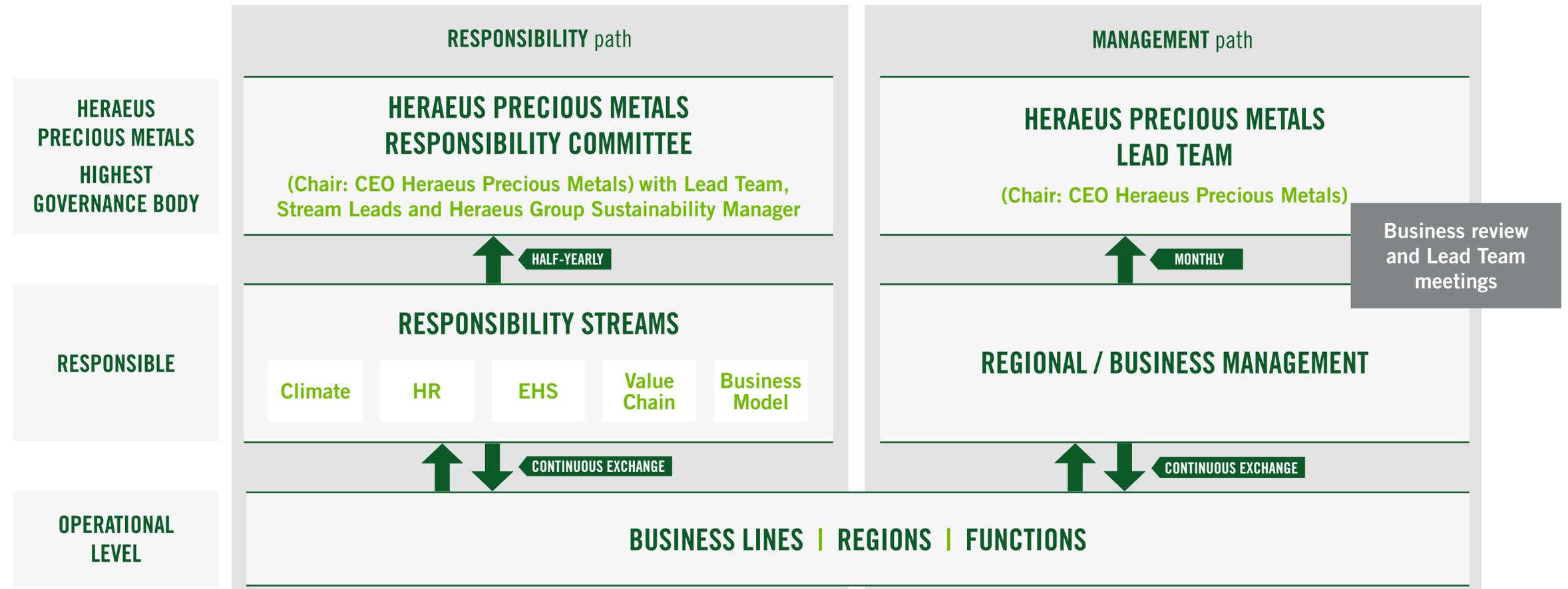
Sustainability topics are embedded in our existing management structures and thus are integrated into our decision-making processes. This reflects the importance that Heraeus Precious Metals attaches to sustainability and ensures that they receive the same visibility as other considerations, such as earnings performance and financial situation.

We have a dedicated governance set up for sustainability, as described in the responsibility path in the graphic below. It is overseen by the Heraeus Precious Metals Responsibility Committee.

Governance boards and their composition

GRI 2-7, -9, -11, -12, -13, 405-1

Heraeus Precious Metals is one of the Operating Companies (OpCos) in the Heraeus Group. Heraeus Precious Metals' most senior officer is the CEO. He chairs the **LEAD TEAM** and reports to the CEO of the Heraeus Group.



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GRI 405-1 NUMBER OF EMPLOYEES BY CATEGORY

		Internal employees	Joint venture employees
CEO		1	
Lead Team¹		12	2
Global Management Team²	HC	113	2
Share of total	%	4.4	
Management	HC	284	
Share of total	%	11.2	
Employees below management level	HC	2,146	
Share of total	%	84.4	

GRI 2-7, 405-1 GOVERNANCE BODIES

Lead Team members' average years of service	years	13	
Total number of CEO's	HC	1	% 100.0
Women	HC	0	% 0.0
Men	HC	1	% 100.0
Other	HC	0	% 0.0

GRI 2-7, 405-1 GOVERNANCE BODIES

Lead Team total¹	HC	12	% 100.0
Women	HC	3	% 25.0
Men	HC	9	% 75.0
Other	HC	0	% 0.0
< 30 years old	HC	0	% 0.0
30–39 years old	HC	3	% 25.0
40–49 years old	HC	3	% 25.0
50–59 years old	HC	6	% 50.0
> 60 years old	HC	0	% 0.0
Global Management Team²	HC	113	% 100.0
Women	HC	42	% 37.2
Men	HC	71	% 62.8
Other	HC	0	% 0.0
< 30 years old	HC	3	% 2.7
30–39 years old	HC	27	% 23.9
40–49 years old	HC	49	% 43.4
50–59 years old	HC	23	% 20.3
> 60 years old	HC	11	% 9.7

¹ Including CEO
² Including Lead Team



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Lead Team

The Lead Team is Heraeus Precious Metals' highest governance board. It consists of the leaders of all Business Lines, major regions, and the core functions Finance, Human Resources, and Sustainability.

Having the Global Head of Sustainability in the Lead Team ensures that sustainability aspects are well represented in Heraeus Precious Metals' key decision-making processes. This governance setup reflects the great importance that Heraeus Precious Metals attaches to sustainability topics. The Lead Team meets on a monthly basis; sustainability is a standard item on the agenda.

Responsibility Committee

Heraeus Precious Metals' Responsibility Committee is responsible for overseeing all ESG-related topics and activities company-wide. Chaired by the CEO, the Responsibility Committee consists of all Lead Team members representing Heraeus Precious Metals' Business

Lines and regions and the leaders of key ESG functions, such as the Global Head of Precious Metals Compliance, the Global Head of HR, or the Global Head of EHS.

The Responsibility Committee meets twice a year. Its tasks include setting targets, monitoring progress toward their achievement, overseeing all sustainability activities, and coordinating major projects. This governance setup ensures that the CEO and other top executives are consulted on a regular basis, concur on the company's sustainability strategy, and together manage ESG issues.

Business Lines and regions

The Sustainability Committee sets targets and defines KPIs for the Business Lines and regions, which are Heraeus Precious Metals' operating entities. They report to the CEO of Heraeus Precious Metals.



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Senior executive compensation

GRI 2-19

Overall compensation policy is defined by the Heraeus Group. In line with this policy, the compensation for Lead Team members at Heraeus Precious Metals includes an annual short-term variable incentive called performance bonus.

It is based on the degree to which the company meets its targets for certain KPIs in a financial year, such as earnings before taxes (EBT) or certain other KPIs including but not limited to carbon emissions and health and safety.

This provides a clear monetary incentive to members of Heraeus Precious Metals' Lead Team, including the CEO. In addition, all senior managers at Heraeus Precious Metals (10% of employees) have at least one individual sustainability target. The achievement of these targets is assessed at the end of each financial year and determines the amount of variable compensation.

Targets are set during the annual financial budgeting process. Heraeus Precious Metals' CEO, the CFO, and the Global Head of HR decide which targets to include in the executive incentive plan for each Business Line or function. The Global Head of Sustainability is included in the process for setting sustainability targets.

**10% OF EMPLOYEES
HAVE AT LEAST
ONE INDIVIDUAL
SUSTAINABILITY TARGET**



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Risk and opportunity assessment

Heraeus Precious Metals faces several types of risks and opportunities resulting from its continually evolving business environment. These include finance, market, counterparty, technology, policy and regulation (especially related to climate protection), and social. We classify risks and opportunities by assessing their probability and the size of their potential negative or positive impact on earnings as measured by EBT. A high risk, for example, is defined as one whose probability of occurrence and potential adverse earnings impact exceed 25% or €5m respectively.

Heraeus Precious Metals is assessing potential financial and strategic impact on the business for the aspects listed below, based on the Group's corporate methodology. The aim of this process, which is conducted twice a year, is to maximize transparency and to ensure that Heraeus Precious Metals identifies its risks and opportunities and quantifies their potential financial impact.

- Heraeus Precious Metals' own competencies
- technological changes
- market developments
- policy and regulatory environment
- industry benchmark
- social aspects
- climate-related and environmental risks and developments.

As this list indicates, Heraeus Precious Metals actively measures its ESG risks, particularly those related to climate change and respect for human rights. We also take timely action to reduce the risks and seize the opportunities we identify.

In earlier years, for example, we assessed the suitability of obtaining property insurance to cover for climate-induced storm damage, which is increasing worldwide, and purchased such insurance where appropriate.

Task Force on Climate Related Financial Disclosures (TCFD): climate impact analysis

We conducted a comprehensive climate impact analysis in 2022. It encompassed 1. the geographical, policy, and regulatory situation of each of our facilities worldwide and 2. the climate-related opportunities and risks of our products and services. This enabled us to identify our most relevant risks, their probability of occurrence, and their risk potential. As a result, suitable measures have been and are being designed to address them. The findings can be found in the overview.



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Drivers of climate impact

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	Global warming	SHORT TERM 2023–2025		MEDIUM TERM 2025–2030		LONG TERM 2030–2050	
		Risk	Likelihood	Risk	Likelihood	Risk	Likelihood
ACUTE PHYSICAL IMPACT DRIVERS							
Extreme weather events Droughts, flooding, heavy rain, hurricanes	< 1.5°C						
	> 3.0°C						
CHRONIC PHYSICAL IMPACT DRIVERS							
Temperature Long-term changes due to higher temperatures, influences on people and working models	< 1.5°C						
	> 3.0°C						
Availability of water Prolonged droughts and impacts on sites, people, and processes	< 1.5°C						
	> 3.0°C						
Weather changes Supply chain risks, climate damage leading to political instability	< 1.5°C						
	> 3.0°C						
TRANSITIONAL IMPACT DRIVERS							
Laws, regulations, policies Chemicals, waste water, and exhaust gases; strategic raw materials: restriction, raw material bans, costs, availability; availability of electricity	< 1.5°C						
	> 3.0°C						
Carbon pricing, carbon border CO ₂ certificates (including Scope 3), price increase due to certificate prices of purchased material	< 1.5°C						
	> 3.0°C						
Customers and markets Emission catalyst–market breakdown due to replacement of combustion engines	< 1.5°C						
	> 3.0°C						
Reputation Market player sells only CO ₂ -free products, incorrect interpretation of climate regulations, gas substitution-targets are not met	< 1.5°C						
	> 3.0°C						
Technology Ban on material burning, loss of protection of existing facilities	< 1.5°C						
	> 3.0°C						

low high



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Targets and KPIs



CARBON-NEUTRAL

0.0

CARBON EMISSIONS BY 2025, SCOPE 1+2*



-50%

INDIRECT CARBON EMISSIONS BY 2033, SCOPE 3**



60%

OF PGM VOLUME PROCESSED IN OUR PLANTS IN 2022 IS SECONDARY MATERIAL

* Savings compared to our emissions and set-up in 2019.
 ** Savings compared to our emissions and set-up in 2020.



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Environment

Many of Heraeus Precious Metals' products and solutions help protect the environment and climate. For example, our catalysts clean exhaust air and our precious metal recycling uses far less energy than primary metal extraction. In addition, we work systematically to enhance our energy efficiency, procure more renewable electricity, invest in green energy generation, and produce less waste. We expect our suppliers and business partners to do the same, as their environmental and climate performance has a direct impact on our business.

This chapter is divided into four topics:

- Climate protection
- Circular economy
- Biodiversity
- Water

The topics of climate protection and circular economy were identified as being particularly relevant for the operational environmental management of our core business in our [MATERIALITY ANALYSIS](#). As described in the chapter [OUR SUSTAINABILITY APPROACH](#), we take the issues of biodiversity and water seriously, even though they are not identified as material; therefore, we also report on our management approaches in these areas.

For each of these topics, we refer to selected company policies and programs in the various countries where we operate. The aim is to provide examples of how we put our management approach into practice; these, however, are not exhaustive.



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Climate protection

GRI 302/3-3, 305/3-3

Climate protection is one of humankind’s biggest challenges. Precious metals are needed to propel the transition to a lower-carbon world: They play a key role in electrolyzers for the production of green hydrogen, wind turbines, solar panels, electric vehicles, and fuel cells, to name just a few. However, mining and processing of precious metals are very energy- and carbon-intensive. As a company in the precious metals industry, we thus have a particular responsibility to drive decarbonization. This applies to our own worldwide operations as well as our value chain. Heraeus Precious Metals is committed to being a pacesetter in the industry, to reduce our carbon footprint, and to become a role model in climate protection.

Impacts

GRI 305-1, -2, -3, -7

We are fully aware that our business activities result in carbon emissions at our company and along our value chain. Precious metals are needed for many applications and are often used for many years. There is however not enough recycled metal to meet global demand.

Thus, mining precious metals and bringing new primary material into the lifecycle is inevitable today and will stay crucial in the future.

Due to the substantial energy usage in upstream operations, mining is the decisive emission driver for products containing precious metals, and thus for our overall carbon footprint (Scope 3 emissions). Heraeus Precious Metals does not operate mines. Our mining partners are both our suppliers and customers, as we provide refining services to and source material from them. Our actions to help reduce upstream emissions are described under [📄 REDUCING EMISSIONS ALONG THE VALUE CHAIN \(SCOPE3\)](#).

The production and recycling of precious metal products at our global production sites is energy- and emission-intensive as well. Most of our company’s CO₂ emissions stem from the consumption of energy (Scope 1 and 2 emissions). Heraeus Precious Metals requires energy primarily in the form of electrical power to operate its plants and production processes, natural gas for heating our furnaces and melting, and in the form of thermal energy to heat buildings.

In the next section we explain our systematic approach to reducing our emissions worldwide. The section entitled [📄 HOW OUR PRODUCTS AND SERVICES PROMOTE DECARBONIZATION](#) describes the ways in which many of our products and business models contribute to climate protection.

Ambitions

At Heraeus Precious Metals, our vision is to be a pioneer in sustainability and to actively shape climate action. We act to promote positive change within our industry and beyond. We have set highly ambitious climate targets for our own operations as well as our value chain. Our targets are in line with the Paris Agreement’s objective of limiting global warming to at most 1.5 degrees Celsius. In 2021 we committed to set near- and long-term company-wide emission reductions in line with science-based net-zero with the Science Based Targets initiative (SBTi). Preparation for submission of the targets is underway; we expect our validation by year-end 2023.



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Climate protection

Our climate strategy focuses on the following goals: **We will be carbon-neutral by 2025 for our own operations (Scope 1 and 2 emissions).**

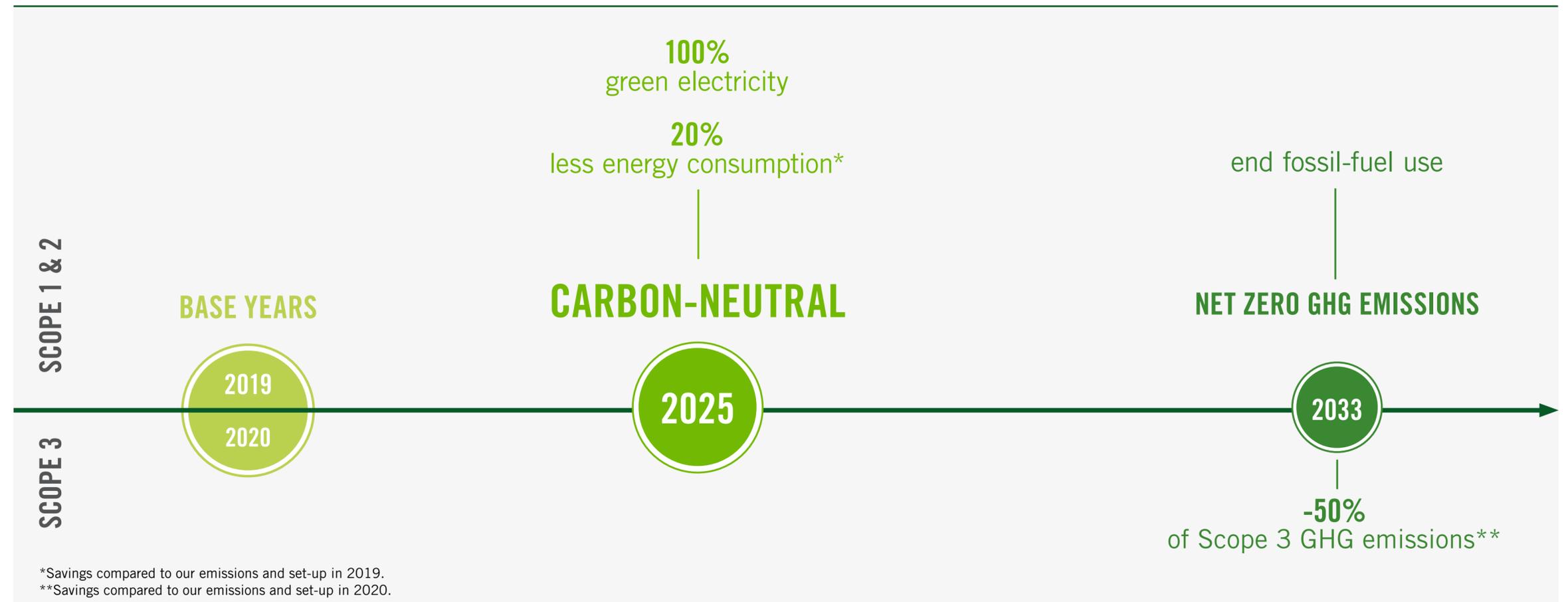
We will achieve this through the following levers:

- 20% less energy consumption in absolute terms (relative to 2019), while growing the business substantially
- 100% green power

By these means, we will reduce our emissions by well over half. We will offset remaining emissions, which occur mainly through the usage of natural gas. Our goal is to invest in meaningful projects in the regions where we and our upstream suppliers operate. We see this as an interim solution and strive to reduce the underlying emissions year by year.

By 2033 we intend to operate entirely without fossil fuels to reach net zero greenhouse gas (GHG) emissions.

We will reduce our indirect emissions along our value chain (Scope 3 emissions) by 50% by 2033 (relative to 2020). We will achieve this through increased recycling, engaging with our mining partners, and challenging our business models.



*Savings compared to our emissions and set-up in 2019.
 **Savings compared to our emissions and set-up in 2020.



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Climate protection

Reducing air pollution

We measure various particularly relevant emissions in terms of their environmental impact. In the table below we focus on the major and most relevant emissions. A global measurement procedure is underway which includes all our production sites. Since we have not yet aligned a global measurement procedure, all sites where data is available were included (see table). The next step will be to increase our measurement of exhaust gases such as nitrogen oxides (NOx) and sulfur oxides (SOx) worldwide to improve our set of data.

GRI 305-7 NITROGEN OXIDES (NOx), SULFUR OXIDES (SOx), AND OTHER SIGNIFICANT AIR EMISSIONS

		2021	2022
NOx Emissions ¹	met.tons	72	75
SOx Emissions ²	met.tons	12	12
Particulate matter (PM) Emissions ³	met.tons	1	1

1 Excluding the United States
 2 Excluding the United States, Mendrisio (Switzerland), Shanghai (China)
 3 Excluding the United States, Hong Kong (China), Mendrisio (Switzerland)

Organization and responsibilities

The Sustainability team is led by the Global Head of Sustainability, who is part of the Lead Team and reports directly to the CEO. The team's main responsibility is to design Heraeus Precious Metals' climate strategy and to oversee its implementation. It also coordinates sustainability activities company-wide, monitors progress toward all targets, and supports our sites and Business Lines in developing their sustainability roadmaps. In addition, it facilitates knowledge sharing and supports the entire organization on all issues related to sustainability.

The responsibility to find and implement improvement measures lies within our Business Lines. We are convinced that they and their local teams know their operations best. They are in the lead when it comes to designing and implementing the actions necessary to reach their energy-efficiency and climate targets. We foster a continuous exchange between our sites to adapt learnings and jointly drive our sustainability journey. Within the past two years, our sites have generated several hundred projects to achieve energy savings worldwide.



Task Force Energy: global on-site support for energy conservation

The Task Force Energy brings together experts from Sustainability, Controlling, and Continuous Improvement. Its mission is to support our sites worldwide in identifying measures to achieve further energy savings. The Task Force begins by getting to know each site's individual needs and then works with local staff to identify and also initiate potential savings. It further serves as a forum for sharing ideas and best practices across the organization. The Task Force identified 160 ideas for energy savings worldwide.



Climate protection

Policies and regulations

All Heraeus Precious Metals production facilities have had in place an environmental management system certified to ISO 14001 for more than 15 years. Furthermore, our global GHG emission reporting has been verified to ISO 14064 since 2020.

Progress and measures toward decarbonization

Heraeus Precious Metals works systematically to reduce its own emissions as well as those that occur upstream and downstream. We engage with customers, industry associations, suppliers, and other stakeholders on a regular basis to discuss expectations, possible solutions, and standards for measuring and reporting.

Reducing direct emissions (Scope 1 & 2)

GRI 302-1

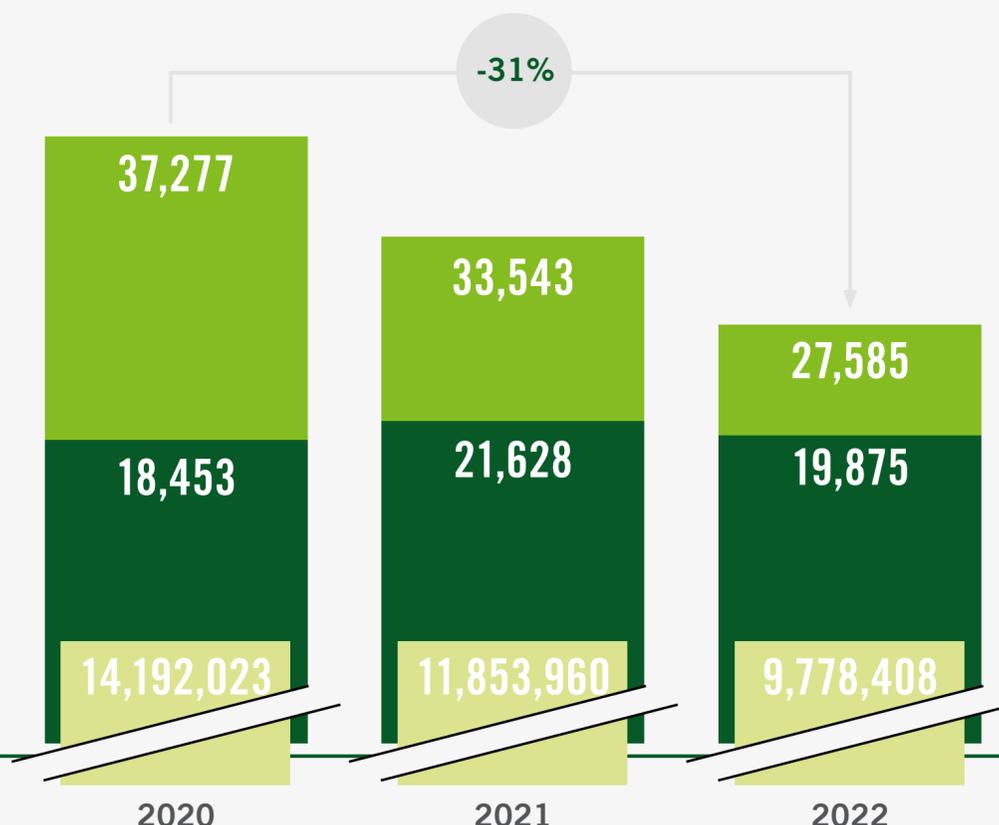
To reach our target of using 20% less energy at our facilities worldwide by 2025 (this refers to absolute energy consumption, mainly electricity, natural gas, heating, and cooling), we are implementing an ambitious energy-efficiency program that includes heat recovery, process optimization, and building upgrades.

In 2022, we were able to reduce our energy consumption by 8% while growing our business by more than 20%. Since 2022, yearly reduction targets per site and Business Line have been part of the bonus system for our managers worldwide.

Reduction in Scope 1, 2, and 3 emissions

TOTAL IN tCO₂e

- Scope 1 emissions total
- Scope 2 emissions total (market-based)
- Scope 3 emissions total



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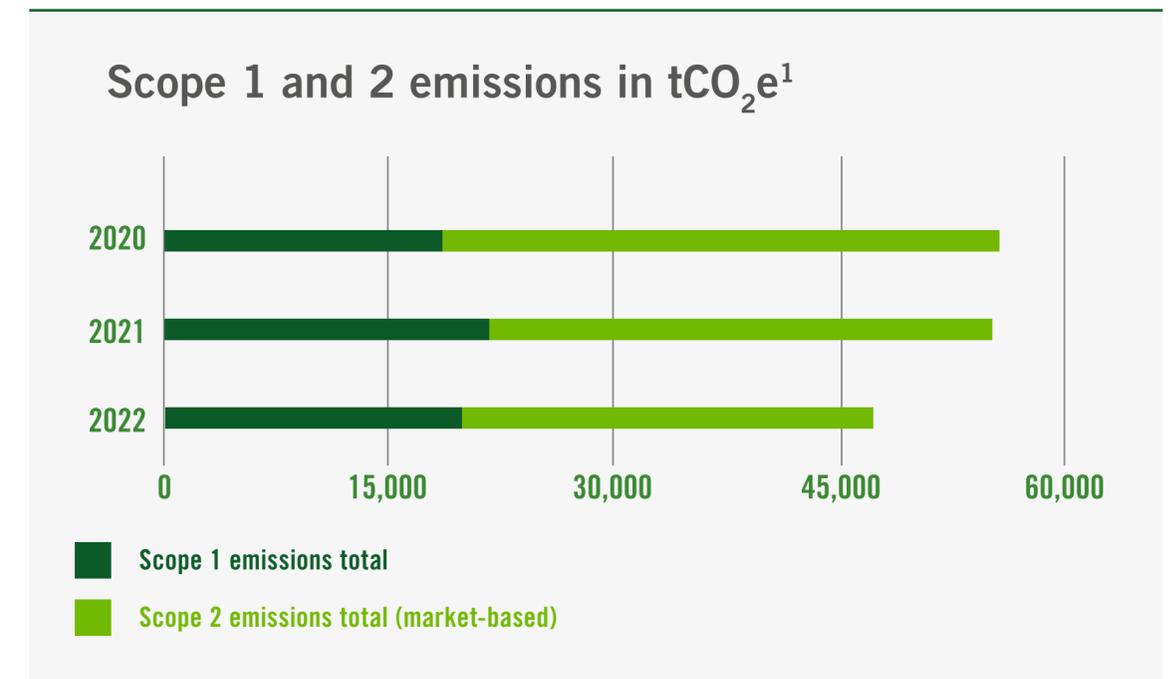
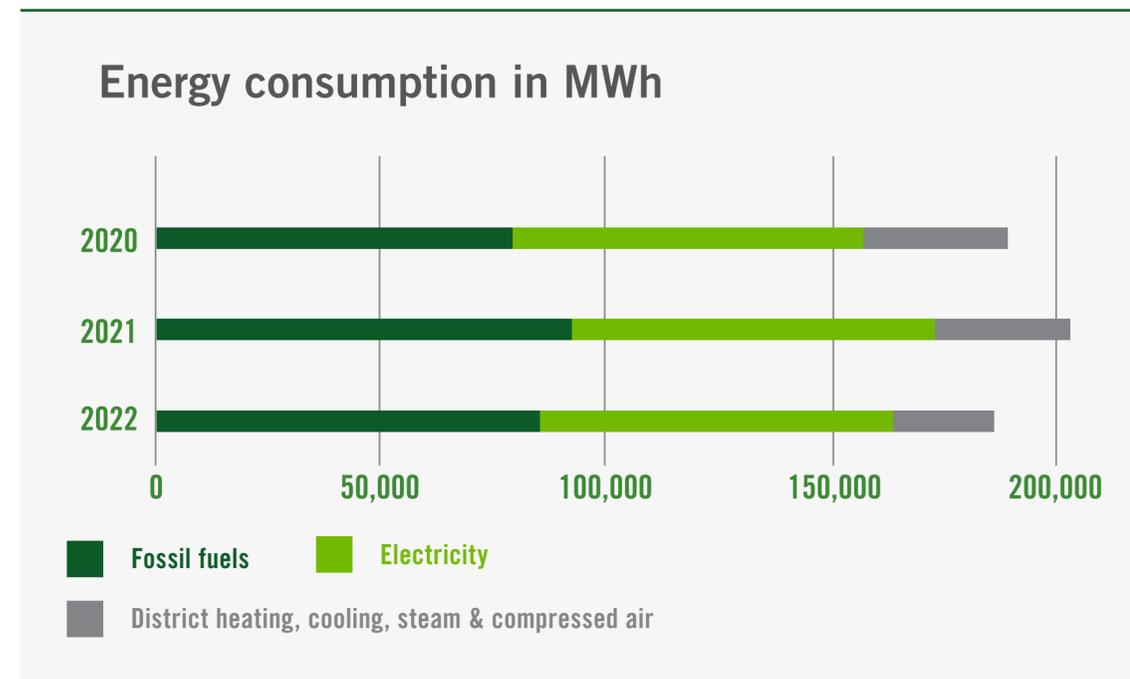


Climate protection

Using natural gas is inevitable today, especially for our recycling operations, for example as a medium for heating recycling furnaces. Turning away from fossil fuels implies major challenges not only in terms of processes, but even more so with regard to the infrastructure. In the years to come, our facilities will work to gradually drive this transformation. All of our sites are currently designing their transformation roadmaps to establish and execute measures, such as electrification of production processes.

We are already taking first steps in electrifying processes when replacing equipment. For our site in Hanau, **Germany** we have a roadmap in place to cut natural gas consumption by 50% by 2025. We will achieve this by electrifying some of our main processes that currently use natural gas.

Driving efficiency improvements, together with our equipment suppliers, helps us further bring down energy consumption. One example is the replacement of a gas-fueled chamber furnace with the first electrically powered furnace of its kind.



¹ We used the latest conversion factors available when calculating our 2022 emissions, as not all power suppliers have yet published new factors when this report was compiled.

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Climate protection

As we move toward 100% green power by 2025, we strive for local solutions, ideally ones that add new renewable energy to the grid. We will have installed rooftop solar panels at 11 production facilities worldwide by the end of 2023. At year-end 2022, more than half of these solar systems were already operational. We also enter into long-term power purchase agreements (PPAs) with renewables developers. In November 2022, we signed a 20-year PPA for 40 GWh of solar power for our headquarters in Hanau, **Germany**. In January 2023, we signed a letter of intent with a power producer in **Switzerland** to add more than 13 GWh of solar power to the grid. In addition, we are actively exploring further options for investing in renewables in the regions where we operate.

Reducing emissions along the value chain (Scope 3)

GRI 308/3-3

The precious metals we purchase account for an overwhelming proportion of our Scope 3 emissions. We can only succeed in the sustainable transformation by working together with our upstream partners. We accept this challenge and have identified potential fields of action to reduce these emissions. For example, we are continuously increasing the proportion of recycled metals; this reduces the lifecycle emissions of our products. As one of the world's largest recyclers and refiners of precious metals, we are very well positioned in this respect.

The reduction of Scope 3 emissions between 2020 and 2022 is to a significant extent correlated to volume effects in certain business areas. We expect these effects to partially reverse in 2023.



Recovering heat to conserve energy

In late 2022, we added a heat recovery system to one of our buildings in Hanau. It uses waste heat from production processes to preheat air that is then circulated in the ventilation system. This conserves about 620,000 kWh of heat energy per year, corresponding to roughly 126 metric tons¹ of CO₂e. We are exploring similar approaches for other buildings and facilities.

¹ We have used the latest conversion factors available when calculating our 2022 emissions, as not all global suppliers have yet published new factors when this report was compiled.

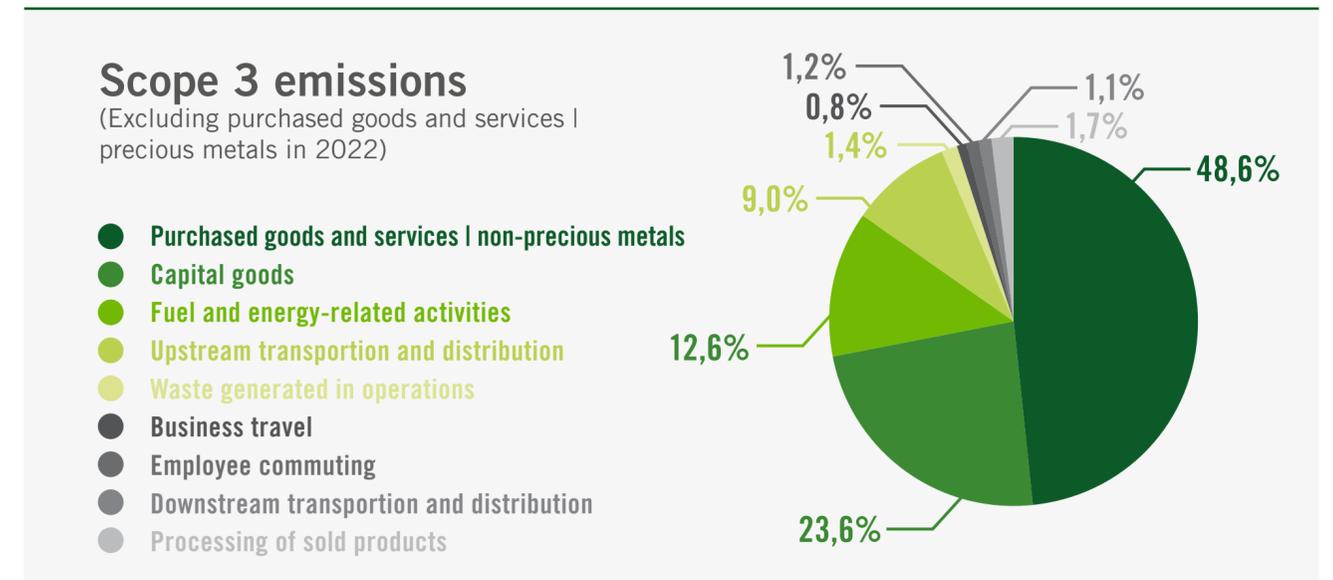
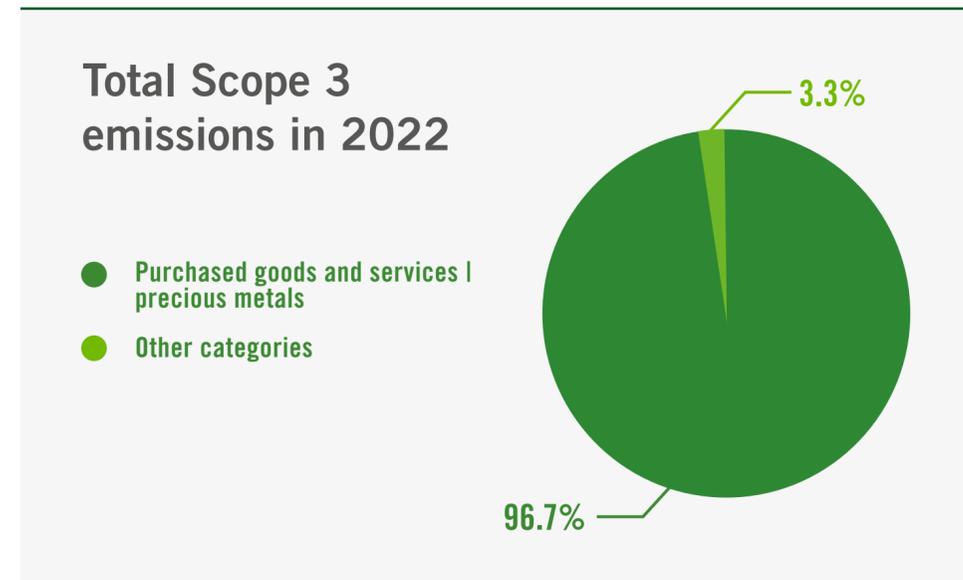


Climate protection

Contributing to our goal of reducing our Scope 3 emissions, the Heraeus Group's [SUPPLIER CODE OF CONDUCT](#) requires all our suppliers to comply with all environmental protection laws, minimize their environmental impact, and continually improve their environmental performance. We audit their performance and compliance on a regular basis. If a supplier violates or commits a breach of any commitment under this Code of Conduct, we draw respective consequences up to the termination of the business relationship.

Great potential lies with our mining partners. We embrace our responsibility as a link between mines and end users of precious metals, for example the chemicals or jewelry industry. Decarbonization of the industry is only possible if we find solutions together. We are in constant exchange with our mining partners. First projects are underway to discuss decarbonization measures together with mines and end customers. More information on our engagement strategy with mining partners can be found in the chapter [PEOPLE IN OUR VALUE CHAIN](#).

Decarbonization goals and transparency on emissions are also playing an important role in the choice of our mining partners. We will make sure that the partners we work with pursue concrete decarbonization goals. We see that standards for carbon accounting need to be further developed in the industry and are therefore involved in industry associations to support this. Transparency and data exchange will play an increasingly important role in the future.



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Climate protection

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Green controlling

Since 2022, carbon intensity has been an integral part of our main controlling and reporting processes. Energy use and emissions data are reported and displayed in the same IT system we use for financial data. This makes decarbonization an essential element of internal management control. We calculate each Business Line's and facility's carbon footprint individually. Facilities' energy consumption and progress toward their energy-efficiency targets are tracked on a quarterly and, in the case of some facilities, monthly basis.

In 2022, our Finance department received the **GREEN CONTROLLING AWARD** from the International Controller Association in Germany for its reporting approach that combines financial and carbon emission data.

In addition, sustainability is a criterion in our investment decisions. The financial business case evaluation of a potential investment is supplemented by an evaluation of its impact on carbon emissions. This ensures that decisions reflect both an investment's financial merit and its climate impact.

Ratings and rankings



Ecovadis rates companies' performance in four categories: environment, labor and human rights, ethics, and sustainable procurement. Our headquarters in Germany received a Gold rating in 2022, ranking us among the top 5% of all companies evaluated.



CDP promotes standardized disclosures and rates companies' climate, water, and forest performance. In 2022 Heraeus Precious Metals prepared its first climate disclosures to CDP and received a B rating.

Continuous engagement with employees

We are convinced that engaging with our employees worldwide is crucial to driving change. In 2022, we provided regular training sessions to our employees worldwide to reinforce their awareness of energy conservation and climate protection. Our focus is to foster constant exchange and to discuss concrete topics, situations, and possible measures. We particularly look into the individual facilities to jointly find possible solutions for their situations.

In addition, our company intranet includes a sustainability channel, where we regularly post examples and success stories from our operations, provide advice on how to save energy in everyday life, and communicate our targets transparently to our employees.



Climate protection

How our products and services promote decarbonization

Precious metals recycling

Our products and business models help reduce carbon emissions. For example, precious metal recycling dramatically reduces both energy use and carbon emissions compared with primary sourcing from mines. In fact, the carbon footprint of recycled precious metals is up to 98%¹ smaller than that of primary precious metals.

Catalysts, coatings, and gauzes

Our precious metal catalysts are used in a broad range of industries. They help to make processes more efficient and thus less energy-intensive. Both the choice of precious metal and the right amount of it have a direct impact on the sustainability of an industrial process. By finding the right balance, our catalysts enable less energy usage to make a reaction possible and higher selectivity to maximize the desired product outcome. Emission catalysts are used in combustion engines and industrial processes to avoid harmful emissions from being released into the atmosphere.

We have also developed secondary catalytic solutions to reduce emissions of the greenhouse gas N₂O in fertilizer production processes. The FTC Flex system uses specially developed precious metal alloys, which reduce these emissions by up to 70%.



Renewable feedstocks

Fossil feedstocks such as petroleum are still frequently used as a starting material for the production of chemicals. This needs to change, because these feedstocks are both finite and carbon-intensive. Several years ago we initiated a program to develop precious-metal-based catalysts for the conversion of **RENEWABLE FEEDSTOCKS**, such as biomass, carbon dioxide, and waste plastics, into value-added, sustainable biobased chemicals. Tomorrow's innovative chemicals could consist of sugarcane, harvest residue, or wood residue.

Hydrogen

Green hydrogen will play a key role in enabling countries to meet their climate targets and enhance their energy autonomy. In contrast to other hydrogen sources, it is produced in a CO₂-neutral manner by means of water electrolysis and using renewable energy. Hydrogen functions as an energy vector: It can store renewable and low-carbon energy and be used in a wide variety of applications, many of which—particularly aviation, steel, and chemicals—would otherwise be hard to decarbonize.

However, the electrolyzers that convert water into green hydrogen require catalysts that contain precious metals which are scarce and whose extraction is very carbon-intensive. The key is therefore to reduce the amount of precious metals needed for electrolyzer catalysts. Heraeus Precious Metals' electrocatalysts provide a solution: Innovative design and production processes enable us to provide electrocatalysts with up to 90% lower precious metal loading. Our electrocatalysts are therefore crucial for green hydrogen to achieve its full climate potential.

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Climate protection

Wind power

Slip rings from Heraeus Precious Metals provide power and a data link to the motors that change the pitch of a wind turbine's blades. Adjusting the blades' pitch enhances the turbine's efficiency by enabling it to capture as much wind energy as possible under optimum conditions.

Batteries for electric vehicles

The breakthrough of e-mobility into the mass market will also be determined by the available of powerful and affordable batteries. Our roll clad strips are an efficient solution for connection between the cells and enable new connection designs with optimal material combinations on an industrial scale.



Research and development

We invest continually in the research and development (R&D) of products that propel decarbonization. Heraeus Precious Metals has developed an innovative catalyst solution for both the processing and storage of green hydrogen that uses only a small amount of ruthenium. It is a cost-effective as well as climate-friendly solution for transforming green hydrogen into ammonia. As ammonia is easier to transport by ship, it allows the import of green hydrogen from countries to which a pipeline connection does not exist and ultimately helps to meet the demand. After transport the ammonia is reconverted into hydrogen, again by means of our catalysts.

We also are active in two government-funded R&D projects in which captured carbon dioxide is used as an input to produce lower-carbon chemicals. The first uses our platinum-group-metal catalysts to convert carbon dioxide into methanol or directly into ethylene, which are reused as an energy source or a raw material for polyethylene. The second uses our platinum- and ruthenium-based catalysts to transform biomass into green, nontoxic resins that can replace existing formaldehyde-based resins in the production of chipboards. Both projects are funded by the [GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH](#) and the [AUSTRIAN RESEARCH PROMOTION AGENCY \(FFG\)](#), a state-owned entity that finances research.

Alongside conducting research, we continually look for ways to make all our products more sustainable. We focus primarily on improving performance, reducing the amount of water or solvents used in processes, and conserving energy in processes without altering our products' quality or functionality.



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Circular economy

GRI 301/3-3, 306/3-3

Many economies consume a lot of natural resources and produce a great deal of waste. Both can be harmful to the environment. A circular economy offers a sensible way to reduce the impact on the planet by reusing and recycling as much as possible.

Circularity is part of our DNA. Heraeus Precious Metals is one of the largest recyclers and refiners. By making new products out of the recycled fine metal, we are continuously keeping recovered precious metals in the loop.

Impacts

As stated under **CLIMATE PROTECTION** the high global demand for precious metals significantly exceeds the supply of recycled metals. We are well aware that extractive industries including the mining of scarce and finite resources such as gold, silver, or platinum group metals can have significant adverse impacts on landscapes and the environment. Our recycling business helps to reduce these impacts.

We are continuously working to increase our recycling capacities and improve our processes to maximize the amount of precious metals recovered.

The carbon footprint of recycled precious metals is up to 98%¹ lower than PGMs from mines. However, we recognize that mining will remain crucial, as demand cannot be covered by recycling alone. We therefore have a responsibility to do our utmost in supporting the mining industry in its ongoing efforts to systematically reduce its adverse impacts.

In addition, hazardous waste from the use of chemicals in transformation and recycling processes poses a risk to the environment and to people if not handled appropriately. We work systematically to minimize this risk and mitigate any potential negative impact. We do this by continuously applying and revising our standards and processes for handling waste that arises in our production processes. Our first priority is always to avoid waste; where this is not possible, we strive to reuse or recycle it.

Ambitions

We consistently improve and expand our processes for recovering valuable and scarce precious metals. This returns them back to the economy and reduces the need for primary resources. Primary resources are finite, and their extraction is often associated with major impacts on nature. As recycling is a core business model for us, there is a strong coherence between financial targets and targets for promoting circularity.

The following aims reflect our ambition to be a pacesetter in promoting a circular economy. This goes in line with and strongly supports our ambition to reduce emissions along our value chain (Scope 3 emissions).

In 2023 we intend to:

- Continuously expand our worldwide recycling capacities. Between 2018 and 2026, we will have invested a total of 300 million euros in expanding our global recycling capacities.



¹ Based on International Platinum Group Metals Association and GaBi database 2022.

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Circular economy

- Constantly increase the proportion of recycled precious metals in our products. 60% of PGM and 23% of gold and silver volume processed in our plants in 2022 is secondary material.
- Establish an audited accounting of recycled precious metals by 2024; an auditable system is already in place for gold.

Material for recycling is generally processed at our closest recycling site. This keeps transport distances and the associated emissions at a minimum. We will maintain this approach in the future.

Organization and responsibilities

Our efforts to promote a circular economy are divided into two categories: precious metals resource management and non-precious metals waste management.

Precious metals resource management

Responsibility for precious metals resource management lies within the Business Lines. The respective Business Line Heads are responsible for designing a business strategy that promotes a circular economy, by making relevant strategic decisions, approving specific mea-

asures, and setting targets. Our Business Lines and regions carry out the measures and report progress to our Lead Team and CEO on a regular basis.

Non-precious metals waste management

Responsibility for non-precious metals waste management lies with our Environmental, Health, and Safety (EHS) department led by the Global Head of EHS which reports directly to the CEO. Its main responsibility is to design our non-precious metals waste management strategy, oversee its implementation, and ensure that we comply with all applicable laws and regulations. Progress and measures are reported to the Lead Team and the CEO on a regular basis.

Policies and regulations

Our waste management worldwide applies the regulations of the jurisdiction in which a facility is located. This includes the operation of our waste treatment facilities as well as cross-border shipments of waste.

In **Europe**, for example, the operation of waste treatment facilities is based on the Industrial Emissions Directive, and waste transports

are governed by Regulation 1013/2006 on the shipment of waste and Regulation 1418/2007 on the export of waste.

In **China**, companies engaged in business activities of regenerating or utilizing dangerous waste must apply to the environmental protection authorities at or above the municipal level, according to the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste and Measures for the Administration of Permit for Operation of Dangerous Wastes.

We require all our partners to complete a questionnaire prior to sending precious metals containing waste. In the case of new material, we request a sample prior to shipment. In a next step, we evaluate the waste. Our process helps to ensure safe handling and to provide the most efficient recycling possible.



Circular economy

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Progress and measures Expanding our recycling capabilities

Various approaches and measures at our locations worldwide contribute to the continuous expansion of our recycling capacities.

At our site in Tennessee in the **United States**, we are currently installing a new smelter powered exclusively by renewable energy. It is expected to be in operation in 2024 and will allow the treatment of additional recycling material streams.

We will also invest 35 million euros in expanding our capacity at our headquarters in **Germany** for wet chemical recycling of PGMs. By 2026, several additional production lines will be built which use electrolytic processes to reduce the use of chemicals and further increase process efficiency.

In 2022, BASF and Heraeus formed a 50-50 joint venture to recover precious metals from spent automotive catalysts. The new company, called BASF HERAEUS Metal Resource Co. Ltd, based in Pinghu, **China**, will start business at the beginning of 2024.



The new factory of the joint venture with BASF in Pinghu, China covers an area of 32,000 square meters.

China's natural resources of platinum group metals (PGMs) are limited. Recycling scrap materials, such as spent automotive catalytic converters, to recover PGMs promotes the local circular economy.

Besides expanding our overall recycling volume, we are continuously increasing the yield of our recycling processes, for example with new filtration processes. This increases the quantity of metal recovered and consequently reduces that of metal needed from primary sources.



Circular economy

Waste management

GRI 306-2, -3

Heraeus Precious Metals has long had in place a circularity system for waste containing precious metals. All waste that arises during all processes, such as development, production, analysis, and filling, is first fed into our own recycling system. Our aim is always to recycle as much waste as possible ourselves and to only send it to third-party service providers as a last resort. This approach minimizes transport and thus carbon emissions.

In the case of non-precious metal waste from our own operations, such as packaging and residues from our production, Heraeus Precious Metals works globally with certified environmental service providers. The various types of waste are separated to enable best possible disposal and circularity. We always dispose waste in accordance with legal requirements and standard operating procedures. Employees handling hazardous wastes are trained annually on waste separation and disposal.

In addition, we continually review our waste to further enhance circularity. Examples of projects underway include recycling sodium aluminate and reusing metal barrel lids ourselves or marketing them for other companies to use.

306-3 NON-PRECIOUS METALS WASTE GENERATED¹

Waste generated total	met.tons	5,445
thereof hazardous	met.tons	2,946
thereof non-hazardous	met.tons	2,499

¹ Excluding Argor-Heraeus Italy S.p.A., Argor-Heraeus Deutschland GmbH, Erbas SA



Iridium: scarce but indispensable for producing green hydrogen

One of the most promising technologies for producing zero-carbon (green) hydrogen is proton exchange membrane (PEM) water electrolysis. This involves using renewable electricity to feed an electrolyzer that transforms water into hydrogen and oxygen. About 70 gigawatts (GW) of PEM electrolysis capacity are expected to be built worldwide by 2030. Every gigawatt currently requires an average of 400 kilograms of a catalyst made from the extremely rare precious metal iridium. 70 GW of capacity would therefore need about 28 metric tons of iridium, which is more than double the quantity available on the market. Heraeus Precious Metals can help in two ways. First, we have designed an innovative iridium catalyst that only requires about 100 kilograms of iridium per GW of PEM capacity. This would drastically reduce the amount of iridium needed to 7 metric tons. Second, we are continuously advancing our recycling of iridium from spent electrolyzers. Increasing iridium recycling, which is far less carbon-intensive than primary extraction, will be essential for ensuring that green hydrogen is truly green along its entire lifecycle.

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Biodiversity

GRI 304/3-3

Impacts

Although Heraeus Precious Metals does not operate mines, many mines are trusted and long-term partners for us. The global demand for precious metals could not be satisfied without primary extraction through mining. It is also true that mining and other extractive industries can have a significant adverse impact on ecosystems and surrounding areas. Examples include deforestation and other large-scale landscape alterations, as well as the use and pollution of water, soil, and air. In addition, changes, especially in microclimate, can have an impact on species diversity, the habitats of human life, and food production. The type and extent of these impacts differ in accordance with the size of a particular mining operation.

The mining industry is well aware of its impacts and is taking a wide variety of actions to reduce these. We support our mining partners in their ongoing efforts to steadily become more sustainable. Therefore, we have set it as an important action area to ensure that our upstream value creation promotes environmental sustainability, ecological balance, protection of flora

and fauna, agroforestry, conservation of natural resources, and soil, air, and water quality. Consequently, our focus on the topic of biodiversity lies on our upstream impact.

Of course, we also look at this issue at our own sites. We know that adverse environmental impacts can occur at other stages of value creation as well. One example is the use of chemicals in our precious metals recycling processes. Improper handling could result in such chemicals contaminating the environment, which in turn could harm agriculture, fishing, and water quality. Consequently, our production processes meet all relevant standards for preventing such events and are designed to have the least possible impact on animal and plant life in the vicinity of our facilities. This helps ensure that we safeguard nature in the best possible way.

Ambitions

- In the future we will work together with our mining partners and scientific institutions to develop targets for reducing our indirect impact on biodiversity.

- Going forward, we intend to enhance our efforts to monitor mining partners' countermeasures.
- We will keep supporting innovation and research to develop solutions for monitoring threats to biodiversity near mines.
- We advocate that mining partners adopt remediation measures that promote environmental and/or social well-being, such as land restoration and the reintroduction of selected species.

Organization and responsibilities

The Sustainability department is responsible for coordinating and monitoring initiatives related to biodiversity. It is led by the Global Head of Sustainability, who is part of the Lead Team and reports directly to the CEO. The Sustainability department works closely with the Head of Precious Metals Compliance. Together, they design our biodiversity strategy and measures. The Precious Metals Compliance department is especially responsible for monitoring mining partners' environmental strategy and measures.



Biodiversity

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i

Promoting mercury-free mining

Large amounts of mercury are used in artisanal and small-scale gold mining (ASM) in a chemical process that separates gold from rock and ore. However, this process also releases mercury into the atmosphere. Mercury is a persistent, toxic pollutant, which makes it not only a serious health hazard for ASM's employees. When released into the atmosphere, it is transformed into methylmercury and enters the food chain, posing a significant threat to people and the environment.

Heraeus Precious Metals is active in a number of projects around the world to promote mercury-free mining. A prominent example is the collaboration with the [FAIRTRADE MAX HAVELAAR FOUNDATION](#), a Swiss-based non-governmental organization, and the mining cooperatives of Central de Cooperativas Mineras de San Antonio de Poto de Ananea (CECOMSAP) in Peru. By investing part of the premiums generated via the sales of Fairtrade gold into processing technologies at the mine sites, the use of mercury in Peru has been significantly reduced.



i

Protecting biodiversity near our facilities

We also want to make a positive impact near the sites where we operate. For example, in 2022 we put in place a plan and measures to protect the biodiversity of the floodplain nature reserve Kinzigau, adjacent to our main site in Hanau, Germany. This includes installing 100 nesting boxes for birds and conducting periodic waste removal from the floodplains. For this and further projects, we cooperate with the Hanau Environmental Center.

In 2022 employees from our site in Gqeberha (Port Elizabeth), South Africa collected garbage on a nearby beach. We intend to take similar steps to preserve ecosystems and safeguard biodiversity near our other facilities as well.



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Water

GRI 303/3-3

Impacts

GRI 303-3, -4

Water plays an important role in our operations and processes. For example, it is needed as a solvent or adsorbent in our precious metal recycling processes. Like many chemical companies, we produce wastewater that could have a negative impact on water quality if not handled properly.

Therefore, our recycling and production facilities worldwide aim to reuse water and reduce its consumption and ensure proper wastewater treatment. We thereby ensure that pollutants and residual chemicals are removed or broken down, in order to minimize the risk of negative impacts on people and the environment.

Heraeus Precious Metals always applies the highest standards in compliance with all applicable laws and regulations for managing and handling water and wastewater to mitigate potential impacts. We assess our water-related risks on the basis of the substances that wastewater could conceivably contain and take appropriate steps to mitigate these risks.

To ensure optimal water use, we work closely with local wastewater treatment plants.

Mines in our upstream value chain also have the potential to impact water. Mining and related mineral processes usually require large quantities of fresh water. Inadequate mine water management can result in high withdrawal, low rates of water reuse, and the discharge of contaminated water. All of this can adversely impact local water resources as well as surrounding ecosystems and communities. Competition for water resources could be a source of tension and conflict between mines, nearby communities, and industries.

303-3/4 WATER WITHDRAWAL AND DISCHARGE¹

Water withdrawal total ²	m ³	360,521
Water discharge total ³	m ³	346,223

¹ Excluding Argor-Heraeus Italy S.p.A., Argor-Heraeus Deutschland GmbH, Erbas SA
² This includes water for sanitary installations.
³ Wastewater discharge from our internal wastewater treatment plants (without sanitary wastewater)

Ambitions

Today, water consumption at our global facilities is monitored and we take measures to save water. This especially accounts for sites in regions with water scarcity (such as South Africa) and processes with high water usage. Still, we see the need to do more. In the next two years, we plan to increase transparency through more detailed water reporting, as a foundation for our water-related ambitions. We will set targets and strive to save water with more focus in our organization.

We aim to reuse water and reduce its consumption in our production facilities worldwide. In 2023, we will expand the reporting pathways for water consumption at all of our facilities in order to compile detailed data. We are convinced that reliable data and quantitative targets are the most important basis for effective measures to reduce potential negative impacts. We will use this data to analyze our situation and set measurable targets in the years ahead.



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Water

We analyze our wastewater continuously to ensure we meet all requirements and to take appropriate steps to mitigate risks. We constantly evaluate the quality of our wastewater treatment and adapt our processes where necessary. We ensure that our wastewater treatment is always state of the art.

From 2023 onwards, we will also gather more detailed data about water management from our mining partners in our upstream value chain. As we gain more transparency, we will engage with them to find ways to reduce their impact.

Organization and responsibilities

The Sustainability department is responsible for coordinating and monitoring initiatives related to water. It is led by the Global Head of Sustainability, who is part of the Lead Team and reports directly to the CEO. Its main responsibility is to gather reliable data, design Heraeus Precious Metals' strategy for sustainable water use, and oversee the strategy's implementation.

The responsibility for wastewater management lies with our EHS (Environment, Health, and Safety) department, which is led by the Global

Head of EHS, who is part of Heraeus Precious Metals' Extended Lead Team and reports directly to the CEO. The department's main responsibility is to design our strategy for wastewater management, oversee its implementation together with our facilities, and monitor our compliance with all applicable laws and regulations. Progress and measures are reported to the Lead Team and the CEO on a regular basis. The responsibility for the treatment of wastewater lies with the individual sites.

Water reuse and conservation

We conduct a variety of projects to explore ways to reuse and conserve water in our production processes.

For example, lab tests and production trials showed that rinsing water can be reused in the production process for rhodium 2-ethyl hexanoate, a hydroformylation catalyst. Reusing rinsing water made it possible to reduce the water consumption of this process by one-third.

In addition, our facilities in Hong Kong, **China** and Mendrisio, **Switzerland** substantially reduced water consumption by replacing wet

chemistry methods with electrolytic cells in refinery processes. The trial in Hong Kong yielded water savings of 16%. Going forward, our facilities worldwide will continue to develop and implement water conservation measures, thereby helping to protect precious water resources. Through a continuous exchange of best practices, measures and learnings are transferred where possible.

The production of precious metal compounds typically includes processes that use water to remove the residues of water-soluble by-products, such as sodium ions, hydrogen ions, and chlorine ions, from a product. We continuously measure the product's conductivity during these processes to ensure that only the minimum amount of water needed is used.



16%

WATER SAVINGS DURING OUR TRIAL IN HONG KONG



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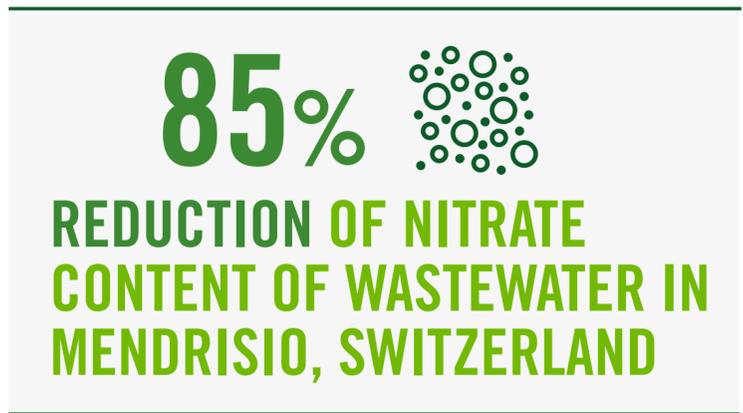
Water

Wastewater treatment

We maintain an overview of wastewater volumes and composition for all our facilities worldwide, which regularly sample and analyze their wastewater for impurities such as copper, nickel, zinc, lead, chromium, silver, mercury, and adsorbable organically bound halogens (AOX).

Depending on the amount and composition of wastewater, most of our sites have their own treatment units. Wastewater is treated in a settling tank by using chemicals to adjust its pH value and by adding flocculant, which causes precipitates to form and thus absorb fine solids and colloids. The precipitated substances settle to the bottom of the tank and are recycled. Ion exchangers are also used to treat wastewater. They absorb dissolved metallic contaminants and thus ensure that wastewater has no negative impact on the environment.

Where applicable we search for additional solutions. For example, we installed equipment at our production facility in Mendrisio, Switzerland that reduces the nitrate content of wastewater by more than 85%. This prevents the discharge of 4.5 metric tons of sodium nitrate each day. In addition, the reclaimed sodium nitrate is repurposed as a valuable raw material for the glass industry.



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Targets and KPIs

AT LEAST
40% WOMEN
IN GLOBAL MANAGEMENT TEAM
BY 2025

AT LEAST
50% NON-GERMAN
EMPLOYEES
IN GLOBAL MANAGEMENT TEAM
BY 2025

20% REDUCTION
OF LOST TIME INCIDENT RATE* IN 2023

* All incidents with lost time of 1 day or more.



Our people

GRI 2-7, 405-1

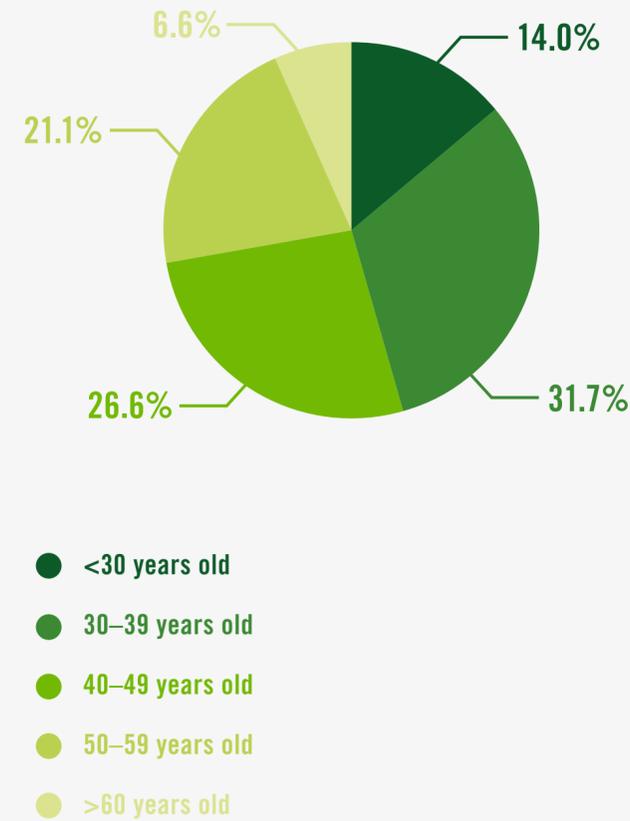
Our employees worldwide are our most important asset. Their skills, knowledge, and dedication—as well as their diverse experiences and personalities—enable Heraeus Precious Metals to hold leading positions in its markets and to be recognized as a responsible company.

This chapter reports on three topics that we have identified as material:

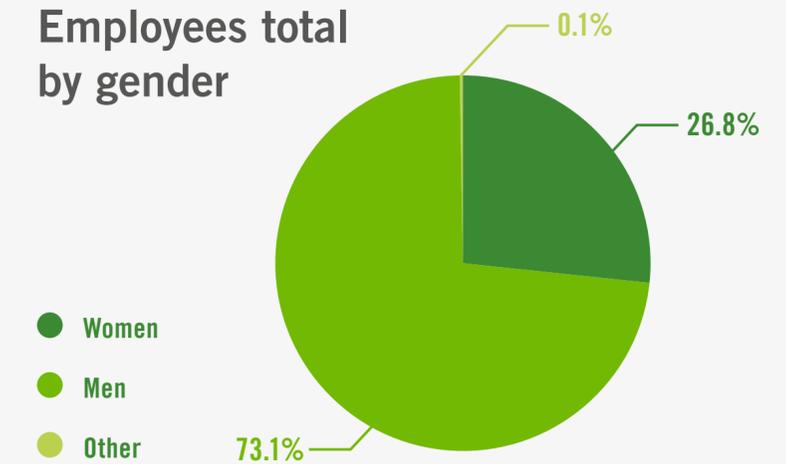
- Diversity, equity, and inclusion
- Working conditions
- Occupational health and safety.

For each of these topics, we refer to selected company policies and programs in the various countries where we operate. The aim is to provide examples of how we put our management approach into practice; however, these are not exhaustive.

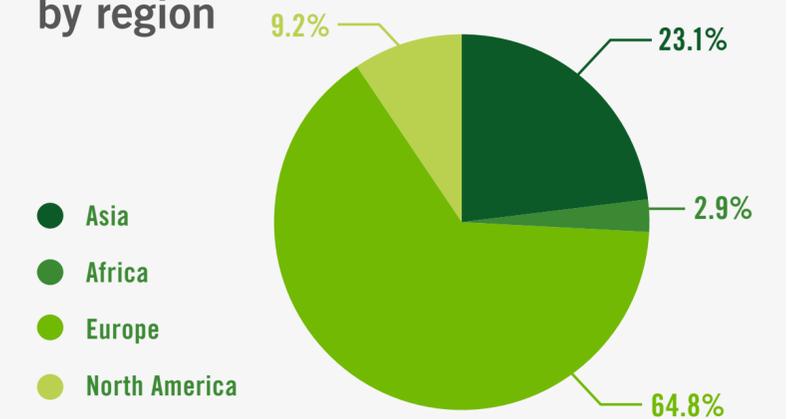
Employees total by age



Employees total by gender



Employees total by region



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Diversity, equity, and inclusion

GRI 405/3-3, GRI 406/3-3

Heraeus Precious Metals is committed to diversity, equity, and inclusion (DE&I). All three are vital parts of our identity and culture. We actively encourage different perspectives, put together diverse teams, and provide equal opportunity for everyone. We also insist on real cultural change toward a truly inclusive work environment. Moreover, we believe that DE&I is essential to our business success. Our diverse workforce can help us better understand our key markets and customers, generate more business opportunities, be more innovative, and enhance profitability. Consequently, we made DE&I one of our top strategic initiatives already in 2019.

Impacts

Equal opportunity and non-discrimination are enshrined in the constitutions and laws of many countries. Nevertheless, Heraeus Precious Metals is well aware that marginalized groups—such as people of color and specific ethnicities or gender, the LGBTQIA+ community, people with disabilities, people with certain religious beliefs, and people with specific socio-economic and educational backgrounds—are often still systematically discriminated against and disad-

vantaged. To name just a few examples, representatives of these groups are less likely to have political representation, accumulate wealth, or hold a leadership position.

We are very aware of this issue and therefore do everything we can to ensure that no inequalities or forms of discrimination that may exist in a country where we do business are replicated in our operations there. We view DE&I as an ongoing strategic initiative and work continually to become more inclusive. This starts at the top—with everyone in a leadership position. When we started our DE&I initiative in 2019, managers and executives at Heraeus Precious Metals formed a very homogeneous group. Most were German men. There are two reasons for this. First, our headquarters and the management for five of our six Business Lines are located in Germany. Second, men far outnumber women in leadership roles at most companies worldwide, and this was also true of our company. In 2019 our Lead Team therefore decided to begin a process of change with the goal of creating a diverse management team with a wide variety of perspectives.



Diversity, equity, and inclusion

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Ambitions

GRI 405-1, -2, 406-1

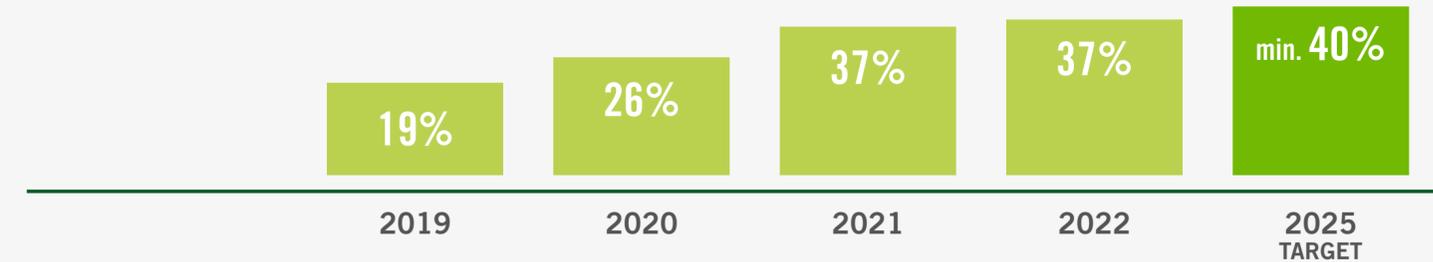
In 2019 Heraeus Precious Metals began placing particular emphasis on achieving greater gender balance. We also wanted more international leaders to better reflect the fact that 59% of our employees work and over 70% of our revenues are generated outside Germany.

By year-end 2025, we aim for our Global Management Team to consist of

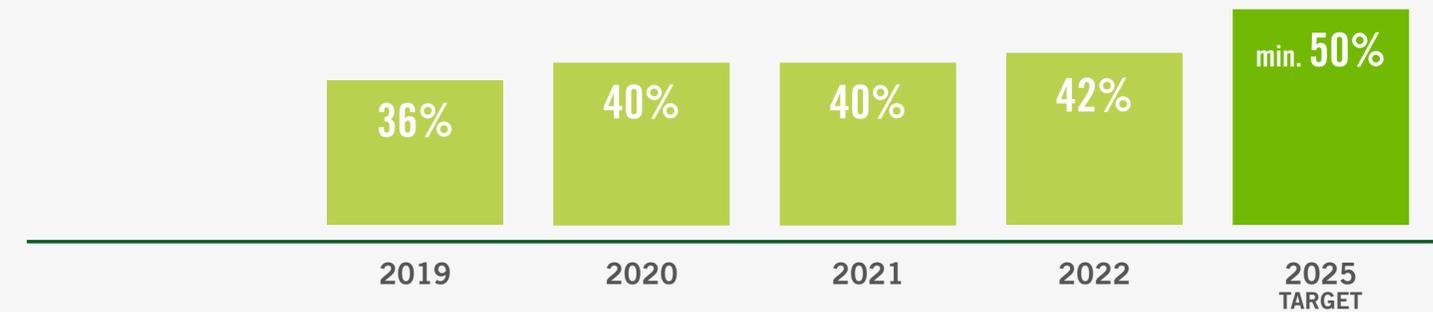
- at least 40% women and
- at least 50% non-Germans.

Our Global Management Team includes the Lead Team and the most senior leaders. The initial target for women in leadership positions was 35%. Having exceeded this target in 2021 and 2022 already, we increased it to 40% for year-end 2025. At year-end 2022, women accounted for 37% of our Global Management Team; 42% of this team were non-Germans.

Share of women within Global Management Team



Share of non-German employees within Global Management Team



Diversity, equity, and inclusion

Our company’s age structure, including executives and managers, is well balanced across all age cohorts. We therefore consider our company to be healthy in terms of age diversity. At year-end 2022, the average employee was 42 years old, and the age distribution across all levels was as shown on the right.

In the fourth quarter of 2022 we started a global gender pay gap analysis. If we discover gaps, we will identify measures by the end of 2023.

No cases of discrimination were formally reported at Heraeus Precious Metals in 2022. Nevertheless, in 2023 we will focus on anti-racism and anti-discrimination and take action to further improve.

Age distribution of employees



¹ Including CEO
² Including Lead Team and most senior leaders (in 2022: 113 people)

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Organization and responsibilities

Our DE&I strategy applies to all Heraeus Precious Metals Business Lines and sites worldwide. The Global Human Resources (HR) department takes the lead in developing a strategic roadmap and coordinating its operational implementation, which is typically carried out by HR managers in collaboration with leaders from the Business Lines.

Our DE&I strategy as well as new projects are overseen by the CEO and the Global Head of HR. The current status of our diversity KPIs—for Heraeus Precious Metals globally, for each Business Line, and for each facility—is reported to the CEO and the Global Head of HR on a quarterly basis. Where necessary, corrective measures are defined to support the Business Lines and facilities.

In addition, the current status of our DE&I strategic roadmap is discussed in Lead Team and management meetings on a regular basis.

Policies and regulations

Heraeus Precious Metals endorses the principles set out in the UN Universal Declaration of

Human Rights, the UN Guiding Principles on Business, and the International Labour Organization Core Conventions.

Diversity, equity, and inclusion are one of our six  **GUIDING PRINCIPLES** (company values) and thus a core value that shapes the corporate culture at Heraeus Precious Metals.

A company-wide equal opportunity policy and process will be developed by the end of 2023. This policy will aim to ensure that Heraeus Precious Metals recruits, trains, and develops employees who are best suited to their job's requirements regardless of their gender, age, religion or belief, marriage or civil partnership status, pregnancy or maternity, sexual orientation, gender identity, or disability.

We have country-specific policies as well. In the **United States**, for example, we have a local discrimination, harassment, and retaliation prevention policy and reporting procedure in place. In **South Africa**, we comply with Broad-Based Black Economic Empowerment (BBBEE) and disability learnerships, which are affirmative action programs for ethnic and other discriminated groups.

Progress and measures

Heraeus Precious Metals takes many measures to make its workforce and leadership team more diverse. While making progress toward quantifiable targets is important, diversity also has a qualitative aspect that cannot be measured by KPIs—*atmosphere and culture*. We therefore address the topic from different angles.

Recruitment and promotion

Gender and cultural diversity are essential factors in our recruiting and promotion processes. We implemented several measures to obtain a more diverse candidate pool. For example, we ensure that female and international applicants who meet the respective job requirements are represented in the candidate pool. These include placing less emphasis on the ability to speak the local language fluently (German in Germany, for example), using gender-neutral language in job advertisements, working to enhance our brand as a diverse employer, and requiring search firms to provide us with at least 50% female candidates. Similarly, our trainee and talent programs include 50% women and 50% non-Germans. Ultimately, we hire or promote the best candidate for a particular position.



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Job sharing and parental leave 401-3

Offering employees flexible work arrangements is essential for improving gender diversity. Heraeus Precious Metals therefore guarantees that after parental leave, management staff, regardless of gender, can return to the same or a comparable role, also in part time. This policy is mostly adopted in **Germany**, although we enable part-time leadership and job-sharing elsewhere too. We are also committed to promoting and hiring employees during pregnancy and/or parental leave and provide extra support to new parents (mothers, fathers, domestic partners, adoptive parents). In the **United States**, for example, we offer 10 days of additional parental leave beyond the number of days prescribed by law; in China, 10 or 15 days depending on the location.

GRI 401-3 PARENTAL LEAVE

Total number of employees who took parental leave	HC	80
Women	HC	41
Men	HC	39
Other	HC	0
Total number of employees who returned to work in the reporting period after parental leave ended	HC	58
Women	HC	21
Men	HC	37
Other	HC	0
Total number of employees who are still on parental leave (as of year-end 2022)	HC	21
Women	HC	19
Men	HC	2
Other	HC	0
Return to work rate	%	98.3
Ratio of the above for women	%	95.5
Ratio of the above for men	%	100.0
Ratio of the above for other	%	0.0
Total number of employees who returned to work after their parental leave ended in 2021	HC	56
Out of which were still employed 12 months after their return	HC	56



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Diversity, equity, and inclusion

Unconscious bias and inclusive leadership training

GRI 2-17

To help promote an inclusive corporate culture, our Global Management Team received six hours per person of unconscious bias and inclusive leadership training in 2022. This training was mandatory and involved six groups totaling 110 participants (97%). It conveyed the many benefits of diversity and reinforced awareness of unconscious bias and its adverse impact on leadership, team performance, and employee satisfaction. Participants also learned techniques for mitigating biases, putting inclusive leadership into practice, and promoting inclusion in order to foster an effective collaboration culture. From 2022 onwards, we will continue to provide training on unconscious bias.

Transparency

We believe that initiating real change toward more diversity requires a fact-based approach. In 2022 we therefore extended our diversity reporting to all levels of the company. The aim is to enhance transparency of the status quo and to identify areas for improvement on all levels: the company as a whole, Business Lines, regions, facilities, and teams. We also enhanced our diversity communication to raise visibility and promote commitment. Our company intranet has a DE&I channel where we regularly post insights, stories about role models, and other information about DE&I at Heraeus Precious Metals.



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Working conditions

GRI 401-1, 401/3-3, GRI 404/3-3

Heraeus Precious Metals is committed to providing a safe, respectful, and inclusive work environment in which all employees feel appreciated and can realize their potential. We comply with all relevant labor and **SAFETY** laws as a matter of course and offer competitive salaries and benefits worldwide. We do all this not only to show our appreciation for our employees' efforts but also to build loyalty and thus enhance retention. The numbers indicate that we are having success: The average employee has been with us for 11 years, and our global fluctuation rate was 9.6% in 2022. The rate is significantly lower in some countries; in Germany, for example, it was 4.7% in 2022.

**ON AVERAGE, OUR
EMPLOYEES STAY WITH US
FOR 11 YEARS**

Impacts

The potential negative impacts of employment include unregulated working hours, unfair compensation, discrimination, unsafe working conditions, and the complete absence of employee representation. For example, long working hours and overtime can be a potential risk with an adverse impact for employees, particularly in countries, where long working hours and overtime are typically not legally regulated. In addition, not all countries have a social security system that covers the basic needs of the entire population.

Heraeus Precious Metals has policies in place for all its Business Lines and facilities worldwide to address each of these issues, from providing a safe and fair work environment to enabling employees to maintain a healthy work-life balance. We ensure all our employees worldwide have access to their country's social security system. Globally, we strive to offer competitive and attractive salaries and benefits. We review our internal labor policies on a regular basis to make sure they are fit for purpose

and up to date. Under **BENEFITS** we describe several benefits that we added to support climate-friendly mobility and to promote a healthier work-life balance, among others.

Ambitions

We aim to attract and retain the best talent in a continually evolving labor market amid global challenges. One way we do this is by setting high standards for working conditions worldwide and adjusting them as necessary.

In 2022, for example, we evaluated new initiatives to be implemented in the years ahead to address issues like mental health, work-life balance, and inclusion. For this we include our workforce in the discussions about these issues.



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Organization and responsibilities

The Global Head of HR oversees the development of our employment and training/education strategies and coordinates the implementation of all related measures. Strategic developments are periodically communicated to and discussed with the CEO, the Lead Team, and business executives at the Business Lines. Depending on the project and location, the Business Lines’ executives and their HR managers together oversee operational implementation. The Business Lines and facilities also develop separate strategies, taking into account their particular business situation and thus enabling their employees to gain additional functional knowledge and acquire necessary skills.

Policies and regulations

Heraeus Precious Metals follows the Heraeus Group employment policies, standard processes, and systems. In addition, we have also adopted many policies specific to Heraeus Precious Metals’ own business needs. These policies are published internally in each region to provide guidance to both us as an employer and to our employees. Prior to policies being implemented, the feedback from local works

councils as well as employee representatives is taken into consideration and is an integral part of the policy development process.

In Germany, for example, we are a member of the Employers’ Association of the Chemical Industry [HESSEN-CHEMIE](#), which has 310 member companies with 105,000 employees. Its mission is to create competitive and flexible working and economic conditions, safeguarding Germany as an industrial location while offering attractive tariff conditions to employees.

Salary

Heraeus Precious Metals pays fair salaries that consider not only employees’ location but also their job profile, qualifications, and experience. We always meet or surpass the legal standards of the countries where we operate. Management staff’s base salary is supplemented by a global bonus scheme that enables participation in the company’s financial success.

We have a structured yearly merit increase process at all our sites to adapt salaries to market developments, such as rising inflation if applicable. Therefore, we perform local benchmarks

and conduct annual surveys on salaries and pay increases.

Where applicable, we establish a uniform salary and benefits scheme based on collective-bargaining agreements. In **Germany**, for example, all employees are covered by collective-bargaining agreements that reflect the chemical industry tariff. In 2022 our tariff-based employees received an inflation benefit; by company resolution, our non-tariff employees received this benefit as well. We work closely with works council representatives to ensure that compensation remains objective and equal.

In various countries, such as **Switzerland, Germany**, and the **United States**, our lowest wage is higher than the legally required minimum to ensure that we pay a fair living wage.



Working conditions

Benefits

GRI 401-2

Alongside competitive salaries, Heraeus Precious Metals offers a variety of benefits that differ by country. The objective is to provide the best possible work conditions in all our sites. Here are just a few examples:

- **China:** commercial insurance that covers term life, accident, critical illness, and medical insurance for employees' children; a housing fund to help employees save for the purchase of an apartment; fully paid sick leave
- **Germany:** subsidized public transport and fitness-club memberships; bike leasing arrangements; a Heraeus Family Center with integrated kindergarten and after-school care; free on-site medical advice and health maintenance measures
- **South Africa:** retirement funding; subsidized transportation; more annual leave than required by law; four months of paid maternity leave at 50% of salary although not required by law (we plan to increase this to 100% in 2023)
- **Switzerland:** subsidized public transport; 50% contribution of the non-occupational accident insurance; maximum contributions to the pension fund and risk and administrative costs fully paid by the company; fully paid sick leave during one month of absence
- **United States:** short-term or long-term disability (70% of salary for six months); leave for military service; one week of paid Covid-19 leave; additional paid parental leave for male employees; the option of working remotely whenever necessary

Part-time as well as full-time employees qualify for any benefits offered. Staff who work for us through a temporary employment agency receive the benefits offered by their employer.



Giving back to local communities and global charity organizations

Taking responsibility is important to us—not only to our customers and partners, but also to society and the environment. To live up to this, Heraeus Precious Metals supports the Giving Back Days, a Group-wide campaign. We organize various charity campaigns, in which employees at our sites around the world can participate to give back to communities.

In cooperation with Shanghai Zhuanqiao Town, our employees in Shanghai, China provide service and support for elderly people and poor families in need through holiday greetings and gifts, skills transfer, and communication or support with housework.



At our sites in the United States, we have several activities in place to collect food, hygiene products, toys as well as school supplies for families in need.

In Hanau, Germany we organize a typing campaign for stem cell donations in cooperation with DKMS to support the fight against blood cancer. During lunch breaks, employees can easily have themselves typed and registered as donors in our canteen. All this is supported by an extensive communication concept to raise awareness of blood cancer.

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Working conditions

Training and education

GRI 404-1, -2, -3

Heraeus Precious Metals is committed to offering professional development opportunities to all employees throughout their career. We provide leadership training for new as well as experienced managers worldwide.

Every employee is encouraged to take advantage of training offered on our online learning platform. All of our employees worldwide have free access to around 1,000 online training modules on a wide range of business topics. Our employees globally had an average of 4 hours of eLearning training in 2022.

In addition, 98% of employees worldwide regularly receive performance and development feedback as part of our annual performance management process. We also offer 360° feedback, a proven well-known method for giving employees feedback from different angles and from different groups of people, including supervisors, direct reports, colleagues, and customers.

Attracting and supporting talented employees

Globally, we attract talents and invest in our future workforce by offering many apprenticeship programs right after finishing school, a management trainee program for graduates, internships during university programs, work-study schemes, and scholarships. A wide range of degree programs are relevant to our business, from business administration to chemistry and physics.

For instance, we had 99 apprentices and work-study students in Germany at year-end 2022. 18 graduated in 2022, and we hired all of them as employees. We also support community initiatives to reduce unemployment and enhance job prospects in Germany—such as [JOBBLINGE](#).

Talent management

Heraeus Precious Metals has conducted global talent programs for many years. Its purpose is to identify talented employees throughout the company and enable them to take on more responsibility in senior roles and to fill key positions internally while providing attractive global development opportunities to our employees.

In 2022 we filled 86% of our vacant Global Management Team positions internally.

We have two global talent programs, one for developing high-potential junior employees and an advanced program for senior executive potentials worldwide. The nomination process includes an option for self-nominations to reduce biases in the selection process. Both talent programs include an individual development plan for participants based on 360° feedback, group learning activities in international teams as well as training in leadership and business topics.



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Supporting high potentials' development

Authentic leaders with an inclusive leadership style are essential to our company's current and future success. The "HPM Academy", consisting of our two global talent programs, provides individually tailored support for our high potentials. The "HPM Academy" helps participants become authentic leaders who bring our Guiding Principles to life and can perform successfully at the next hierarchical level. It also increases their visibility among senior management and enables them to widen their personal network within our organization.

Raising concerns and complaints

Heraeus Precious Metals employees at our sites may participate in all-hands meetings, during which they can ask questions (anonymously if they wish) that are answered by senior executives.

At sites with works councils, such as in **Germany**, employee representation is stipulated by Germany's Co-Determination Act. These councils and other employee-representation committees have long been an important feature of Heraeus Precious Metals' constructive and mutually trusting relationship with its employees. They provide a useful forum for employees to present their views to us.

In countries where there are no works councils, our employees can consult a third-party ombudsperson to receive support in addressing personal issues or to report certain grievances. Because neither federal nor state law establishes formal mechanisms for employee representation, there are no works councils at our sites for example in the **United States, South Africa, Switzerland** or **China**. However, several employee committees meet on a regular basis to discuss and propose possible ways to further improve the work environment, and we always consider these suggestions carefully. In addition, in 2023 we intend to work with the labor union representing our employees in China to explore options for further improving working conditions there.



Occupational health and safety

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GRI 403/3-3

The health and safety of our employees is our top priority. We want our people to start each workday healthy and to end it without having been harmed in any way. We take many steps to foster the former and do everything we can to ensure the latter.

Health and safety (H&S) at Heraeus Precious Metals starts at the top. The Lead Team expects the company’s safety performance to meet high standards and to continually improve. It operationalizes this expectation by setting ambitious targets, monitoring progress, and making H&S a regular topic at its meetings.

In addition, we have in place H&S management systems certified to internationally recognized standards. These, along with comprehensive policies, already give our organization a robust safety culture. Nevertheless, we continually re-view our policies and practices—and those of our industry peers—to look for ways to make our operating facilities and offices even safer.



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Impacts

Heraeus Precious Metals' processes could include potential harmful conditions like high pressures and temperatures, the handling of dangerous materials, or could create an explosive environment. Any type of injury adversely affects employees' health and quality of life; a severe injury could do so for a longer period of time (and possibly permanently) and may have an impact on employees' family members as well. For this reason, we are systematically working on ensuring proper precautions to provide a safe workplace with all our equipment. Moreover, workplace incidents may also cause production delays, make employees less motivated, or harm our reputation.

An occupational incident, particularly a severe one, is far less likely to happen in an office. But an office environment that is excessively stressful, not ergonomic, or not inclusive can have a negative impact on employees' health and well-being. This, in turn, could lead to more frequent absenteeism, lower job satisfaction, or other adverse consequences. A healthy, safe, and inclusive work environment can have a wide range of positive impacts, from increas-

ing employees' well-being and satisfaction to enhancing our reputation and employer brand. That is why we are committed to providing our people with precisely such a work environment.

Our products' positive impact on health

We have emphasized in the [ENVIRONMENT](#) chapter that numerous Heraeus Precious Metals products are essential for the transition to a low-carbon future.

Many have a positive impact on health as well. Our exhaust catalysts, for example, make the air cleaner. Our sensor wires are used in medical devices like respirators as well as implants and other medical devices that have a positive impact on human health and survival. The same is true of our highly potent active pharmaceutical ingredients (HPAPIs), which play a major role in chemotherapy (see info box).



Pharmaceutical Ingredients

Highly potent active pharmaceutical ingredients (HPAPIs) are the key compounds in chemotherapy, because they can accurately target cancer cells and other disease cells. Heraeus Precious Metals' Pharmaceutical Ingredients specializes in the production of generic HPAPIs and is the world's leading supplier of platinum HPAPIs.

Additionally, we provide contract development and manufacturing organization (CDMO) services to pharmaceutical companies developing new drugs. Our CDMO services are strictly confidential and cover all phases of a product's life cycle, from preclinical development and early clinical trials to small- to mid-scale commercial production. We have been FDA-approved in the United States for more than 30 years and have an excellent track record with all major health agencies worldwide.



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Ambitions

Our ultimate objective is zero harm; that is, for no employee to ever have a work-related incident or health issue. This journey will take time and a lot of effort. Our KPI for occupational safety is lost-time incident rate (LTIR). A lost-time incident prevents an employee from working for at least one day or one shift. LTIR measures the number of such incidents that occur per 1 million hours worked. We use LTIR to track our progress and identify areas where we need to make adjustments.

The journey to zero harm is supported by numerous measures. The section entitled **🔗 PROMOTION OF EMPLOYEE HEALTH** describes some of the programs that we already have in place. We also have targets for the upcoming years:

- continuously conduct detailed and transparent incident analyses, ensure complete transparency of the reasons for incidents among employees and the entire management, and define countermeasures as a result
- reduce work-related incidents by setting targets for each site in 2023 based on incident analyses until we finally reach zero incidents

- reduce lost days caused by incidents and High Potential Events¹ by at least 20% in 2023 as an interim target on the way to zero incidents
- implement an occupational exposure limit for Chloroplatinates (Pt sol.) of 100 ng/m³ by 2030, well below the regulatory limit of 2,000 ng/m³
- develop a company-wide communications campaign to further foster employee H&S behavior in 2024
- roll-out company-wide training sessions and workshops on H&S and social well-being for our leadership team and employees from 2023 onwards

Organization and responsibilities

The Global Head of EHS is responsible for defining our H&S strategy, establishing policies and procedures, overseeing its implementation, and monitoring progress. The Global Head of EHS reports directly to the CEO and is part of the Extended Lead Team, underscoring the importance we attach to H&S. Our CEO as well as the Lead Team have the overall responsibility for H&S performance and steering of progress.

The global EHS organization is deeply integrated into the workforce from top management down to operator level. There is at least one dedicated EHS manager at each site, supported by several dedicated safety champions on each shop floor. EHS managers and experts from all sites are engaged in a continuous process of communicating best practice sharing with each other. The further development of the initiatives and tools is constantly being driven forward by the global EHS organization.

The senior managers of our facilities in the Business Lines and sites are accountable for the operational execution of our strategy, maintaining a safe and healthy work environment for their employees. They are supported in this by their dedicated EHS managers.

Heraeus Precious Metals is governed and supported by the Heraeus Group's global EHS department. The global EHS department is responsible for developing and maintaining the Group-wide EHS management system.

¹ Any incident or near miss that might, in other circumstances, have resulted in a major or catastrophic event



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Policies and regulations

GRI 403-1, -8

Our [CODE OF CONDUCT](#) states that we preserve and promote our employees' health and aim to maintain a high level of occupational safety at all our production facilities. The Code also ensures that our employees, especially our executives, are committed to always upholding occupational safety.

The EHS Policy, which makes occupational H&S and health protection a top priority company-wide, is our main policy document for H&S. It tasks managers with identifying, assessing, and eliminating potential H&S hazards in all workplaces over which they have responsibility or, where this is not possible, putting in place appropriate mitigation measures. It requires all employees to fully understand the H&S requirements of the work they perform and carefully follow related instructions.

As of year-end 2022, the H&S management systems at Heraeus Precious Metals' production facilities in **Hanau, Gqeberha (Port Elizabeth), Shanghai, and Nanjing** were certified to ISO 45001. We are committed to maintaining this certification and steadily increasing the number of our facilities that obtain it.

In addition, 93.7% of our employees (2,384 in total) were covered by an occupational health and safety system in 2022. Of these systems, 71.8% (1,827 in total) were audited or certified by a third party.

GRI 403-8 OCCUPATIONAL HEALTH AND SAFETY SYSTEM¹

Employees covered by Health and Safety Systems

Number of internal employees who are covered by a occupational health & safety system	HC	2,384	%	93.7
Number of internal employees who are covered by an occupational health & safety system that has been audited or certified internally	HC	2,384	%	93.7
Number of internal employees who are covered by a occupational health & safety system that has been audited or certified by an external party	HC	1,827	%	71.8

¹ Deviation to 100% due to sales-only locations



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Occupational health and safety

Hazard identification, risk assessment, and incident investigation GRI 403-2, -3

Risk assessments

We conduct H&S risk assessments for each of our workplaces, processes, machines, and hazardous materials. These take routine and non-routine activities into account and encompass all applicable H&S hazards: mechanical and electrical hazards, hazardous substances, and fire and explosion risks, to name just a few. They also consider the special needs of certain employees, such as those who are pregnant or minors. The assessments are conducted by a team consisting of at least the responsible manager in charge and an EHS expert; employees are asked to provide input. The assessments' risk evaluation is used to define and implement preventive actions, whose effectiveness is monitored periodically. The aim of such actions is to eliminate hazards directly at their source. If this is not feasible, we put in place technical, organizational, and/or personal measures to effectively mitigate hazards. The findings and actions are also checked by the manager

in charge, who ensures that they are communicated to employees. Risk assessments are conducted at least every three years and more frequently in the case of relevant operational changes, major incidents, or High Potential Events.

Industrial hygiene matrix

All occupational health exposures are documented and managed in an industrial hygiene (IH) matrix, which documents compliance with statutory exposure thresholds for air contaminants, chemicals, biological agents, radiation, noise, and other parameters. H&S risk assessments define which exposures are relevant for each facility. We assess our compliance with statutory exposure thresholds in one of two ways. The first is by carrying out IH monitoring (such as measuring indoor air quality and noise). If exposure exceeds the applicable threshold in one area of a facility, IH monitoring is conducted in other similar locations. The second method is by making qualitative or similar estimates. These are based on a worst-case scenario; that is, all adverse parameters are assumed to be maximally unfavorable. If a worst-

case scenario indicates compliance with the applicable statutory threshold, we assume that IH monitoring is not necessary.



Occupational health and safety

Employee engagement in occupational health and safety

GRI 403-4, -5

We know that our workplaces can only be safe and healthy if our employees understand and embrace their responsibilities toward themselves and their colleagues. We therefore carry out systematic H&S communication measures to engage our employees. We communicate H&S policies and targets as well as the findings of air monitoring and risk assessments. We also provide employees with a wide variety of information aimed at reinforcing their H&S awareness and instilling safe practices.

We integrate health protection, occupational safety, and process safety into our daily routines and place emphasis on Behavior-Based Safety (BBS) to improve workplace safety. We are convinced that the motivation of our employees plays an integral part in reducing unsafe behavior and ultimately reduces work-related incidents. One example is our safety moments, which aim to provide a safety impulse on a specific topic.

Each facility maintains an up-to-date training plan to identify H&S training mandated by law or required by company policies, training frequency, training methods, and employees' qualifications. This enables us to plan employees' H&S training, monitor the steps along the way, and thus ensure transparency regarding what training has been completed and what remains to be done. Facilities provide H&S training to our employees and contractor employees. Employees who are new, are changing roles, or will work on new processes complete all necessary training prior to performing any new tasks.

Our H&S experts at each site are always up to date on the latest qualifications and are available to advise employees regarding questions as well as training programs and educational materials.

Every single day at a Heraeus Precious Metals facility begins with a team dialogue that specifically addresses the H&S issues involved in the tasks to be performed that day. Each facility has a Safety Committee that meets on a quarterly basis.

Promotion of employee health

GRI 403-6

Heraeus Precious Metals promotes its employees' health in each country where it operates. The specific programs vary according to need and a country's healthcare landscape. Here are some examples:

- **China:** annual physical checks for all employees and access to Employee Assistance Program (EAP)
- **Germany:** skin and colon cancer screening; back risk screening; smoking cessation workshops; various sports activities; reduced-fee gym memberships
- **South Africa:** annual wellness day, at which employees receive free tests (such as blood pressure and cholesterol levels) along with a lifestyle survey and advice on healthy choices for food and exercise
- **Switzerland:** internal sports group organizing sports and recreational activities; customized personal protective equipment (PPE); ergonomic campaign
- **United States:** access to a third-party health advocate service that provides employees and their families with up to eight counseling sessions per year for rehab or emotional issues

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Occupational health and safety

Work-related injuries 403-9

We use software to report, investigate, and address all H&S incidents. Reportable incidents include not only injuries, illnesses, and process safety incidents (such as spills, fires, explosions, or loss of primary containment), but also unsafe situations and near-miss incidents. The application is also used for environmental incidents, which are addressed in the [ENVIRONMENT](#) chapter. Investigations define preventive and corrective actions that are implemented using the respective action plan. Findings are shared with employees at the facility and with H&S managers at our other facilities.

GRI 403-9 WORK-RELATED INJURIES: LOST TIME INCIDENTS¹

		Total Number	Rate ³
Total recordable incidents	#	39	8.6
Total recordable incidents for internal employees	#	36	8.2
thereof incidents with serious consequences	#	0	0
thereof incidents with lost time	#	36	8.2
thereof fatalities	#	0	0
Total recordable incidents for external employees²	#	3	19.2
thereof incidents with serious consequences	#	0	0
thereof incidents with lost time	#	3	19.2
thereof fatalities	#	0	0
Number of hours worked total for employees	million hrs	4.5	
thereof hours worked for internal employees	million hrs	4.3	
thereof hours worked for external employees ²	million hrs	0.2	
Main type of incidents		Hand injuries	
Type of work incident categorized		All incidents with lost time of 1 day or more	

¹ Excluding Erbas SA

² Including temporary workers, excluding contractors

³ Calculated per 1,000,000 hrs worked

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05

PEOPLE IN OUR VALUE CHAIN



Targets and KPIs



100%

OF OUR MINING PARTNERS WITH TARGETS, MEASURES, AND PROGRESS

ZERO

TOLERANCE

FOR HUMAN RIGHTS ABUSES



100%

OF NEW PRECIOUS METAL SUPPLIERS CHECKED FOR SOCIAL AND ENVIRONMENTAL CRITERIA IN 2022



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People in our value chain

GRI 407/3-3, 408/3-3, 409/3-3, 411/3-3, 413/3-3, 414/3-3

One central and core element of our philosophy is to treat all of our employees with dignity and respect. However, our sphere of influence extends far beyond our direct workforce. We are aware of the significant impact our business has on many individuals along our value chain and recognize our responsibility for their welfare, and especially for the protection of their human rights. Therefore, our value chain management systematically assesses our precious metal suppliers' social and environmental performance. Even though we believe we are already an industry pacesetter in this area based on the feedback from our customers and the public at large, we want to constantly strengthen our governance processes and our due diligence practices in the years ahead.

The majority of our procurement comprises precious metals, derived either as recycled material from secondary sources or as primary material from mines. For this reason, their impact in particular is material for us. Consequently, our ambitions and measures described in this chapter focus closely on the impact that the

extraction, processing, and handling of precious metals has in our upstream value chain.

Impacts

GRI 2-6

Working conditions in extractive industries are particularly challenging. For example, artisanal and small-scale mining (ASM) in the gold sector remains largely informal. Its workers are therefore particularly vulnerable, and there is an increased risk of a lack of labor rights and social protection. But even at large-scale mines operated by corporations, working conditions, especially in conflict-affected and high-risk areas (CAHRA), may not comply with our standards. Gender equality and inclusion often remain difficult to address as well. A further major topic regarding mines is their impact on the surrounding environment. This is described in more detail in the [ENVIRONMENT](#) chapter. Therefore, we draw on all available information from all major vendors, apply strict standards in defining CAHRA countries, and derive responsible consequences for our business.

We understand that impacts from metal mining pose risks to the basic economic, social, en-

vironmental, and/or cultural rights and to the interests of affected communities. Such communities as well as indigenous people may be impacted by competition for access to local energy or water resources, air and water emissions, waste from operations, and strain on local health services, to name just some examples. Indigenous people are in some cases more vulnerable and face greater obstacles when defending their unique rights and interests. Mining activities often operate in zones of conflict in resource-rich areas which are under socially repressive regimes or where conflict or political instability subsequently emerges. Business activities in such areas have implications that in extreme cases could include violations of human rights.

We are fully aware of this and therefore have already had policies and procedures in place for many decades to avoid potential negative impacts as far as possible. We do not work with mines that are linked to child labor or violations of human rights. In line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from CAHRA, we suspend all business relationships at the first sign of suspicion.



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Afterwards, we seek for clarification of the situation and develop, if necessary, a corrective action and remediation plan with our mining partners. If there is neither the possibility nor the will to take corrective action, we terminate the business relationship with zero tolerance.

However, we know that terminating business relationships has a potentially adverse impact on people in the immediate surroundings. Mining often also comes with positive impacts for local and indigenous people by creating jobs, stimulating economic growth, supporting social development programs, and providing infrastructure development. Actively engaging with our stakeholders on the spot as well as implementing corrective measures in line with our zero-tolerance policies and practices is the only way to make a positive impact.

We continuously review our processes and adapt them to ensure that they meet our high standards. This demonstrates our ongoing commitment to improving the situation of the workforce in our value chain.

Ambitions

Heraeus Precious Metals applies the strictest industry standards for all metals, regions, mining partners, and customers worldwide. These go beyond regulatory requirements. Our aim is to promote the adoption of these rigorous standards worldwide in our supply chain and to help improve all ESG dimensions in countries of origin.

We have targets for expanding our activities to safeguard workers in our value chain. By year-end 2024:

- Where gaps still exist, we will conduct targeted risk analysis relevant to conflict materials in conformity with OECD due diligence requirements.
- In line with Germany’s Supply Chain Due Diligence Act, we will introduce a streamlined central system to compile, monitor, compare, and evaluate working conditions at all our suppliers on a global scale in order to have transparent information about intervention processes.



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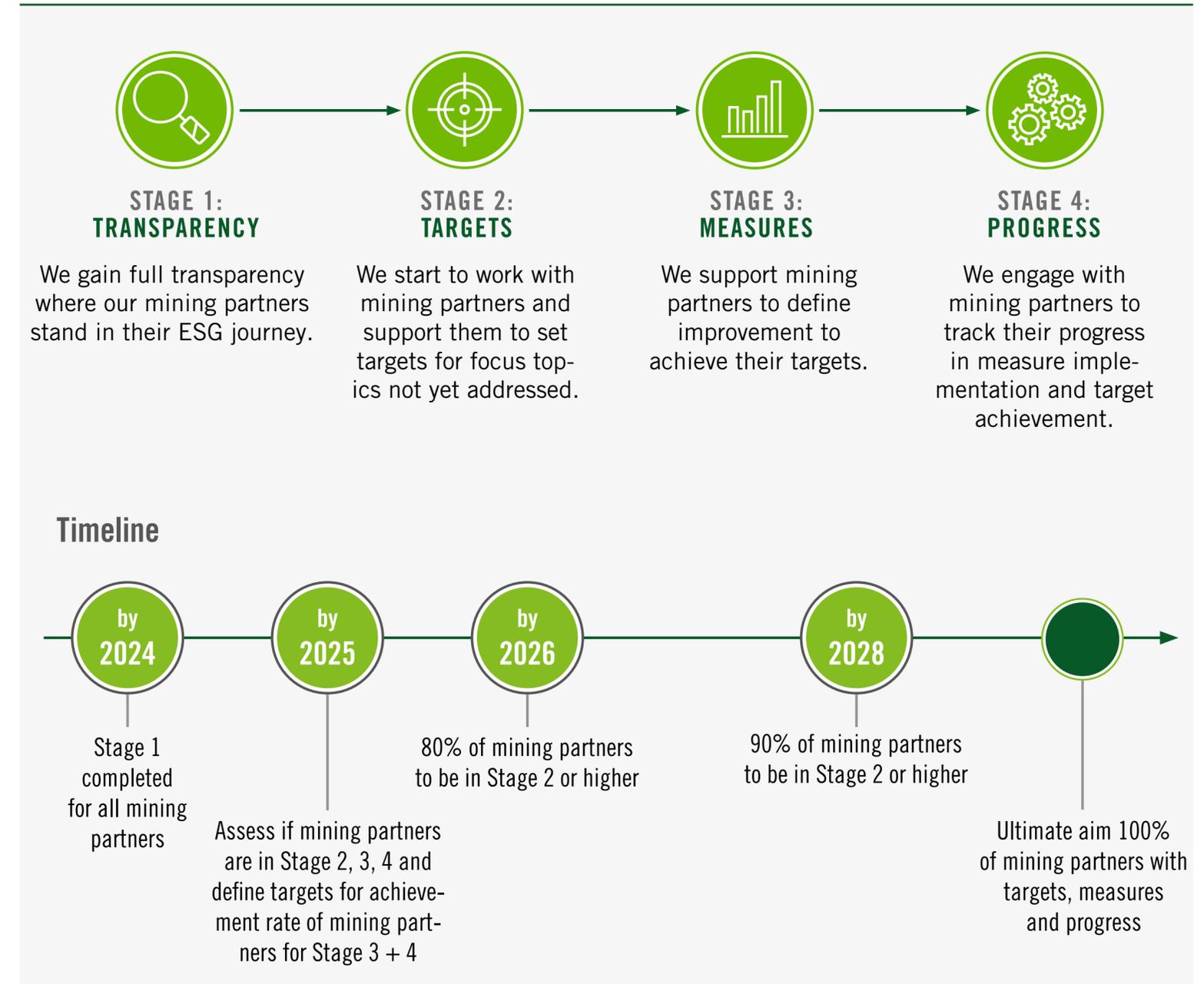
People in our value chain

Collaboration with mining partners

We know that engaging with our stakeholders has the greatest impact to improve the living conditions of the workers in our value chain. We are convinced that the impact of our due diligence processes goes even further. Therefore, we aim to expand our activities to other groups such as local communities, governmental structures, and the surrounding environment. We strongly believe that we can only create a positive impact by collaboration.

We actively engage with the most vulnerable part of the precious metal supply chain—artisanal small and medium-sized mines. Heraeus Precious Metals (through Argor-Heraeus) is a founding member of the [SWISS BETTER GOLD ASSOCIATION \(SBG\)](#), a non-profit foundation that seeks to bring together the different agents of the gold mining value chain in formalizing and supporting artisanal and small gold mining (ASM), thereby facilitating the creation of responsible and sustainable value chains. ASM represents about 20% of the mining dedicated to gold extraction worldwide, which is why ensuring responsible practices is crucial for secure and sustainable social development.

These considerations have resulted in the following roadmap to help protect workers in the value chain and affected communities:



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Policies and regulations

GRI 2-23, -24

Heraeus Group's [HUMAN RIGHTS POLICY](#) and [SUPPLY CHAIN DUE DILIGENCE POLICY](#), which apply to Heraeus Precious Metals, are based on the following:

- the Universal Declaration of Human Rights
- the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work
- the UN Guiding Principles on Business and Human Rights
- the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

In addition, our Sustainable Sourcing Guideline at a minimum meets and in most cases surpasses internationally recognized industry standards, including but not limited to: the [LONDON BULLION MARKET ASSOCIATION \(LBMA\)](#), the [LONDON PLATINUM AND PALLADIUM MARKET \(LPPM\)](#), the [RESPONSIBLE JEWELRY COUNCIL, \(RJC\)](#), the [RESPONSIBLE MINERALS INITIATIVE \(RMI\)](#), as well as [FAIRMINED](#) and [FAIRTRADE FOR ARTISANAL SMALL-SCALE MINING \(ASM\)](#) for gold, which audit the relevant businesses on an annual basis.

Organization and responsibilities

Our Compliance department is responsible for defining our compliance strategy, establishing policies and procedures for governance, and overseeing their implementation. It is independent of business functions like sales and reports any suspicions of non-compliance directly to the Sourcing Committee, which is composed of the CEO, the Lead Team members, and representatives of our Business Lines and regions. The responsibility for monitoring child, forced, and compulsory labor lies with the Precious Metals Compliance Experts (PMCE) department and the Compliance departments in the countries where we operate. The PMCE and Compliance departments report directly to the Global Head of Precious Metals Compliance. They make strategic sourcing decisions such as blacklisting market players and selectively accepting high-risk precious metal customers or partners, approve specific measures such as enhanced due diligence and incident mitigation, and oversee their implementation. High-risk topics or exceptions are always communicated to and approved by the Sourcing Committee. The [BUSINESS CONDUCT](#) chapter contains more information about our organizational setup.

Human rights due diligence

Heraeus Precious Metals takes all humanly and technically possible steps to ensure that the precious metals in its value chain originate from legal and responsible sources. We do the same to make sure that these metals are not associated with crime, armed conflict, or human rights abuses and that they are not connected with money laundering, terrorism financing, tax evasion, fraud, or any other crime. Therefore, we systematically adhere to the strictest standards in all jurisdictions for all metals and materials and also meet regulatory and industry standards for certain metals and materials. This includes, among others, the OECD Guidelines, the London Bullion Market Association (LBMA) Responsible Gold Guidance and the LBMA Responsible Silver Guidance, the Responsible Jewellery Council's Code of Practice and Chain of Custody, and the Conflict-Free Gold Standard of the World Gold Council. Centrally steered compliance and advanced software at all our sites worldwide put us in a unique position in our industry to ensure that these standards are met consistently wherever we do business. Industry and customer dialogues have underlined this leading position repeatedly.



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Objectives of human rights due diligence

Human rights due diligence is an integral part of Heraeus Precious Metals' general due diligence process. Its objectives are:

- to identify and assess the risk of human rights violations
- to manage the negative impact of identified risks by drawing consequences if the impact is a direct or indirect consequence of our activities, such as:
 - engaging in mitigation and correction measures or
 - as a last resort, terminating business relationships.

Monitoring observance of human rights

Heraeus Precious Metals has put in place a due diligence process to verify the observance of human rights by its precious metals suppliers, mining partners, and recycling business partners in the precious metal value chain.

This process consists of the following steps:

- documenting all business partners that deal with, buy, or supply precious metals in any way
- informing contracting partners of applicable Heraeus Precious Metals' human rights policies and updating information regularly and with increased scrutiny based on current developments (regularly updated CAHRA list)
- using document analysis to verify contracting partners' compliance with local human rights laws
- screening all information for irregularities regarding managers and owners, plausibility, listings of any kind, registration, type, form, and origin of metals and the expected quantity
- rating business partners according to their risk profile
- conducting on-site mine audits typically every three years, depending on risk assessment and, if possible, conducting interviews with employees to assess their work situation and workplace conditions unless independent third-party reports are available on

issues such as occupational safety, child labor, forced labor, payment of adequate wages, granting of freedom of association, sustainable resource management, anti-discrimination and equal opportunity, or compliance with applicable environmental laws and regulations

- verifying incidents with regard to human rights violations in connection with our mining partners, and working with these partners to define and implement local remediation measures in accordance with the OECD Guideline
- asking for third-party audit reports in line with industry standards for mines
- asking for customer and partner due diligence processes and policies such as CAHRA definitions, and assessing their appropriateness
- refusing to enter a new business relationship, or terminating an existing relationship, if violations are detected that cannot be resolved or corrected and that are inconsistent with the Heraeus Group's principles.



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Frequency of human rights and environmental due diligence checks

GRI 308-1, -2, 411-1, 414-1, -2

Heraeus Precious Metals conducts human rights due diligence, which is part of the aforementioned monitoring process, before entering into new business relationships. We repeat our due diligence checks and investigations over the course of a business relationship at intervals commensurate with the respective risks or whenever changes regarding the risk of human rights violations become known.

We used a questionnaire to screen 100% (808 in total) of our new precious metal suppliers on social and environmental criteria in 2022.

In our regular monitoring, we identified actual or potential negative social and environmental impacts for 68. They are all mining partners from which we sourced in 2022. We carried out additional desk research on these partners, engaged them in discussions about the potential impacts we had identified, and conducted on-site audits where necessary. These steps helped us work with them to define corrective measures, if any were needed, as well as targets

and timelines for their implementation. In cases where a supplier was unwilling to cooperate with us or did not endeavor to improve, we terminated our business relationship with them.

During 2022, we conducted internal clarifications on nine cases for active mining partners. The adopted measures, based on the individual cases, included contact with the relevant mining partner, internal analysis, research, contact with authorities and relevant stakeholders, as well as on-site visits with corrective action plans. The measures described above were implemented, followed, and registered. Those cases that have not yet been completed are subject to continuous monitoring. In two cases, engagement with the respective mining partner was terminated due to information acquired during our regular due diligence process. In both cases, the business relationships had already been blocked before 2022. In the reporting year, there were no known incidents of violations involving the rights of indigenous people. However, we are constantly working on improving data quality and reporting on this topic with the further integration of new platforms and sources.

In 2023, one case from previous years was highlighted when Human Rights Watch quoted reports on the mining company Midroc in Ethiopia. We stopped our business relationship with Midroc in 2018, on the day our monitoring systems first detected negative public reporting. At all times we have fully complied with the applicable due diligence requirements of the OECD, the Independent Precious Metals Authority LBMA, and the Responsible Jewellery Council (RJC). The studies quoted by Human Rights Watch were produced only after the situation became known and we had already ended our relationship with Midroc. Over the past years, several organizational and process changes were implemented to respond more directly to risks in our value chain.

Channels for value chain workers to raise concerns

Heraeus Precious Metals takes violations of human rights, criminal law, environmental law, and other laws and regulations very seriously. We therefore encourage whistle-blowers to report suspected violations and concerns. Our employees, contractors, business partners, and any third parties can contact the Heraeus Compliance Officer anytime. They can choose to



People in our value chain

remain anonymous if they prefer. They should reach out if they suspect human rights violations, criminal offences (such as corruption, antitrust violations, fraud, breach of trust, or money laundering), violations of company policies (for example the Heraeus Human Rights Policy or the Heraeus Supply Chain Due Diligence Policy), or any other violations of government-mandated or company regulations. Whistle-blowers' identity is not disclosed without their express written consent. The Heraeus Compliance Officer together with Corporate Audit investigates suspected violations confidentially and independently, without receiving instructions from management. Suspected violations may be reported to the Heraeus Compliance Officer by email in any language or by telephone in English, French, or German. Suspected violations may also be reported to an outside ombudsman, who then contacts the Heraeus Compliance Officer while maintaining the whistle-blower's anonymity. The ombudsman is also available to whistle-blowers to advise them on their concerns and how to handle a compliance-related situation. There is no charge for this service.

In addition to the established processes above, we will establish a web platform that all Heraeus Precious Metals employees, contractors, and workers along our value chain can use to report suspected violations of the kind described above. This platform is aimed at making it even easier for people to anonymously report concerns. It is planned to be available in all relevant languages. We expect to have the platform online in an initial set of languages by the end of 2023.

Special rules for the purchase of conflict minerals

There are special duties of care for the purchase of risk products, also known as conflict minerals. These are products whose extraction or trade is associated with a particularly high risk of violations of human rights and international trade rules, or crime. Risk products relevant to Heraeus Precious Metals are tin, tantalum, tungsten and their ores, and gold. The list of risk products is regularly reviewed by Heraeus Precious Metals' Compliance department and the Heraeus Group Responsibility Office. Any changes in the list of risk products are posted to the company-wide intranet.



Grievance mechanism at Heraeus Precious Metals

We take violations of human rights, criminal law and further regulations, internal guidelines, and especially the principles laid down in our [CODE OF CONDUCT](#) very seriously. For many decades, we have had a process in place to allow for any external stakeholder to anonymously voice concerns via a confidential grievance mechanism.

Both the employees of Heraeus and external third parties may contact the Heraeus Compliance Officer in confidence at any time by e-mail in any language. The Heraeus Compliance Officer can also be contacted by telephone in English, French or German.

There is also the possibility of reporting suspected violations on a confidential basis to an external ombudsman, who will transmit information disclosed by the informant only to the Heraeus Compliance Officer.

These contact details are always available on our [WEBSITE](#).

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Stakeholder engagement

Heraeus Precious Metals' gold business supports a number of initiatives and programs fostering a sustainable work environment, especially in artisanal and small-scale mining.

We:

- support the [FAIRMINED](#) and [FAIRTRADE](#) initiatives, which enhance certification
- are a founding member of the [SWISS BETTER GOLD INITIATIVE](#)
- support the [UNITED NATIONS ENVIRONMENT PROGRAM](#)
- are part of several working groups within the [PRECIOUS METALS IMPACT FORUM](#)
- are a member of the [WATCH AND JEWELLERY INITIATIVE 2030](#)
- are a member of the [RESPONSIBLE JEWELLERY COUNCIL](#), with a seat in the standards committee
- are a member of the [LONDON BULLION MARKET ASSOCIATION](#), with a seat in the refiners' committee, participating in the definition of the Responsible Gold Guidance
- recently joined the Processors Working Group of the [INITIATIVE FOR RESPONSIBLE MINING ASSURANCE \(IRMA\)](#)
- developed together with the ETH Zurich and Haelixa the [ARGOR-HERAEUS TRACEABILITY PROGRAM](#), which uses DNA markers to enhance the traceability of gold.



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Northam Platinum overhauls schools in rural communities in South Africa

The partnership between Northam and Heraeus Precious Metals goes back more than 35 years. Northam’s activities go from underground mining to concentrating, smelting and base metal removal. The remaining precious metal concentrate is then sent to Heraeus Precious Metals for refining. They are either returned in form of sponge or bars or purchased by Heraeus Precious Metals.

Northam is focusing on several areas to help improve conditions in local communities. One of their recent community projects was a contribution of 14.5 million rand to realize a community project involving the renovation of three local junior secondary schools in the rural Eastern Cape Province in South Africa. The Emnyezwini, Mbotyi, and Sichwe schools in Lusikisiki have undergone improvements to administration and teaching spaces, ablutions, playground, and security fencing. The project was launched based on a review of the Northam Zondereinde mine's labour-sending community development initiatives and a commitment to comply with legislation and the South African Mining Charter. The project focused on meeting the needs of the children attending these schools. It included the provision of water borne flushing toilets. These improvements, and that classrooms are now comfortable, warm and dust-free has significantly improved the dignity and general health of the students. School attendance and enrolment in the area have improved as a result of the project.



Promoting local enterprise in South Africa

South Africa seeks to redress past injustice and advance economic transformation through broad-based black economic empowerment (BBBEE). In line with this initiative, Heraeus Precious Metals engages with companies in Gqeberha (formerly Port Elizabeth) on the country’s southern coast, for example by providing them with financial support such as interest-free loans. In return, the companies must use these loans to grow and to take steps to enhance nearby communities by creating jobs, promoting education, and fostering empowerment in other ways. The aim is to classify previously supported suppliers as preferred suppliers for Heraeus Precious Metals in South Africa. A concrete example for a successful relationship is our preferred supplier Chumile, who provides transportation services on behalf of the company for our employees.



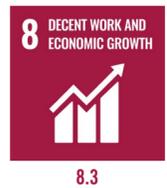
Students of Sichwe Junior Secondary School



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GRI 205/3-3

We know that the trust of our employees, customers, business partners, and other stakeholders is the basis for our success. We have zero tolerance of corruption and unethical business practices. Compliance with laws, regulations, and company policies is integrated into our business processes. The three main facets of our approach to compliance are prevention, detection, and response, with prevention being our top priority. We continually refine our compliance practices to ensure that they are effective and up to date.



Compliance and integrity

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The Heraeus Group has had a [CODE OF CONDUCT](#) in place since 2007, with the last update in October 2018. As a guideline that is binding for the entire Group, it also applies to everyone working for Heraeus Precious Metals. Its principles reflect our high standards of integrity, forthrightness, and responsibility, which we believe are essential for our long-term business success. Violations of the Code are taken very seriously and may result in disciplinary action, including termination.

Heraeus Precious Metals complies with all applicable national and international laws and regulations. This applies to all national, multinational, and supranational foreign trade regulations as well. All employees are obliged to comply with applicable export and import prohibitions, official approval requirements as well as relevant duty and tax requirements. In addition, we endorse the Universal Declaration of Human Rights and abide by the regulations of the organizations of which we are a member.

A large part of our business is the trading, processing, and recycling of precious metals. Therefore, our ambitions and measures de-

scribed in the following chapter focus strongly on the potential risks of misconduct that may be associated with precious metals.

Impacts

Procuring and processing precious metals brings with it the possibility of misconduct and negative impacts. In particular, conducting business with gold and silver mining companies that operate in conflict-affected and high-risk areas (CAHRA) poses several potential risks, such as corruption. In addition, precious metal transactions pose the risk of money laundering. Heraeus Precious Metals is aware of these hazards, does not tolerate such behavior, and has established policies and procedures to combat corruption as well as child labor and other unethical practices.

Organization and responsibilities

All management levels and employees of Heraeus Precious Metals are responsible for combating corruption and money laundering, safeguarding human rights, and ensuring fair competition. Internal communications, company guidelines, and periodic training reinforce employees' awareness of anti-corruption and

their responsibility to report suspected violations as well as concerns. We have two main reporting paths for compliance issues. In the first, the Compliance team at the site where a report was filed investigates it and, if necessary, forwards the matter to the Global Head of Precious Metals Compliance, who, in the case of particularly serious matters, informs the Heraeus Group Compliance Officer. There is also a parallel reporting path up the management hierarchy that extends from the management of individual facilities and Business Lines to the CEO and CFO of Heraeus Precious Metals. At each level of hierarchy, compliance officers and management work together closely.

Policies and regulations

GRI 2-23, -24

In addition to the Code of Conduct mentioned above, a number of further Heraeus Group policies apply. These were adopted by the Board of Managing Directors and introduced by the Heraeus Group Compliance Officer and the Global Heraeus Precious Metals Compliance Officer. They include a [HUMAN RIGHTS POLICY](#) and a [SUPPLY CHAIN DUE DILIGENCE POLICY](#) and reflect the Heraeus Group's and our own commitment to



Compliance and integrity

due diligence, the precautionary principle, and respect for human rights. We provide these policies to our business partners, to clearly outline our principles and expectations. They are also available on our website.

The following guidelines address anti-corruption:

- Guideline for the Prevention of Bribery (Entertainment and Gifts)
- Guideline for the Conclusion of Consultancy and Distribution Agreements
- Guideline for the Procurement of Products and Services
- Guideline for the Prevention of Money Laundering
- Guideline for the Prevention of Antitrust Violation.

These policies are binding for employees and managers at all levels and functions of Heraeus Precious Metals. They are a regular part of training, such as the general compliance eLearning module developed by the Responsibility Office or the annual Heraeus Precious Metals compliance training conducted by local compliance teams. Additional annual training

is offered to staff in functions with a higher risk of exposure to corruption, such as procurement, sales, or recycling.

The content of the policies is reflected in strategic targets and standard business conduct. All standard operating procedures (SOPs) for specific work or specific teams are formulated in line with the corresponding policy or policies and refer to them where appropriate.

In Germany, the Supply Chain Due Diligence Act (German: Lieferkettensorgfaltspflichtengesetz) will come into force in 2023. We will comply with the required standards for all materials and are already doing so in many areas, for example, precious metal sourcing.

Our precious metals business all around the world is governed by strict local and international legislation. For example, our gold and silver business in Switzerland is subject to the laws defined by the [STATE SECRETARIAT FOR ECONOMIC AFFAIRS](#) (SECO) and the [PRECIOUS METALS CONTROL OFFICE](#) (PMCO), which are the strictest in the world.

Precious metal supplier and mining partner monitoring

As stated in [PEOPLE IN OUR VALUE CHAIN](#), our engagement with partners in CAHRA countries requires even stricter supplier and mining partner onboarding that as a minimum meets and in most cases surpasses internationally recognized industry standards, such as the [LBMA](#), [LPPM](#), [RMI](#), or [RJC](#). After onboarding, precious metal suppliers are subject to continuous monitoring, periodic Know Your Customer (KYC) updates, and site inspections conducted by specialists from Heraeus Precious Metals or independent auditors.

In addition, Heraeus Precious Metals has set up a system for the continuous monitoring of our precious metal suppliers, which includes constant screening via platforms like [REFINITIV WORLD CHECK RISK INTELLIGENCE](#), [DOW JONES FACTIVA](#), or [REPRISK](#) as well as market intelligence and contacts with the relevant stakeholders.

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Compliance and integrity

Progress and measures

GRI 2-27

Heraeus Precious Metals has in place measures to ensure compliance with its policies and rules and to prevent adverse impacts. Heraeus Group, Heraeus Precious Metals, and their Compliance Officers train for and discuss all relevant topics on an ongoing basis and investigate potential incidents to prevent negative impacts. Specific anti-corruption measures include the use of checklists, which enable employees to ask the right questions. We have checklists to mitigate corruption risks relating to procurement, investments, the hiring of sales consultants, and other topics. All processes are documented in the compliance framework, and local and company-wide Compliance Officers can be involved early on. The aforementioned annual training on compliance policies is another measure.

There were no known significant instances of non-compliance with laws and regulations at our sites in 2022. Although we will of course remain vigilant, we believe this indicates that our efforts to ensure compliance are working.



A digital fingerprint: improving gold's traceability

Heraeus Precious Metals has worked for many years to make gold easier to trace. Physically segregated production lines are available for incoming materials. DNA labeling technology has been used since 2019, ensuring traceability of raw materials between the mine and our refinery.

In 2022 we entered into partnership with Alitheon, a U.S.-based company that specializes in using artificial intelligence (AI) to authenticate physical products. Its AI optical software generates a digital twin of gold bars based on more than 1,000 of their unique surface details. The result is a digital fingerprint that makes gold bars authenticatable, identifiable, and traceable even if their stamps or serial numbers are effaced or records of the numbers are lost. Buyers or investors can identify bars by photo and can receive additional information stored during authentication, such as the gold's place of origin or sustainability data like its carbon footprint.

Focus topics

Ensuring fair competition

Heraeus Precious Metals expects its employees to comply with all applicable laws aimed at ensuring fair and open competition. Such legislation strictly prohibits agreements or concerted actions with competitors regarding prices and terms, market and/or customer apportionment as well as unfair practices. Sharing sensitive market-related, in particular strategic information, with competitors is prohibited.

Combating corruption

GRI 205-1, -3

Heraeus Precious Metals prohibits all forms of direct or indirect bribery of, and undue favors to, business partners and public officials. The Heraeus Group Guideline for the Prevention of Bribery in Commercial Transactions and the Guideline for the Conclusion of Consultancy and Distribution Agreements articulate our rules for granting business courtesies and concluding consultancy and distribution agreements.

In 2022, all 15 of our sites were assessed for risks related to corruption. These assessments identified no known incidents.

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Compliance and integrity

Combating money laundering

Heraeus Precious Metals is determined to prevent itself from being exploited for illegal purposes, in particular for money laundering, criminal tax evasion, or other fiscal offenses. Our Guideline for the Prevention of Money Laundering and our Sustainable Sourcing Guideline set internal standards for the selection and monitoring of customers, suppliers, and mining partners, in part to prevent money laundering. We regularly engage independent auditors to confirm our compliance with the standards of the [LBMA RESPONSIBLE GOLD GUIDANCE](#) as well as the [LPPM](#), [RMI](#), and [RJC](#).

Freedom of association and collective bargaining

GRI 2-30, 407/3-3

All employees are free to set up or join trade unions or equivalent representative organizations and to exercise their right to collective bargaining as provided by the labor laws of their respective countries. The table below provides data on collective bargaining agreements. These exist for our sites in **Germany** and **Italy**, the two countries in which we are active where such agreements are common.

GRI 2-30 COLLECTIVE BARGAINING AGREEMENTS¹

Percentage of employees covered by a collective bargaining agreement ²	%	61.8
Percentage of employees in Germany covered by a collective bargaining agreement	%	98.0
Number of employees covered by a collective bargaining agreement	HC	1,572

¹ Including collective bargaining agreements on national, industry level or company level.
² Referring to all internal employees.



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Communication of critical concerns

GRI 2-16, -26

Employees can report suspected violations or concerns to their local, regional, or senior management or to the local Compliance Officer, the Global Heraeus Precious Metals Head of Compliance, or the Heraeus Group Compliance Officer. They can also contact an internal compliance hotline or an outside grievance hotline, which is run by a law firm we have engaged for this purpose. Depending on the nature of an issue, it may be addressed locally, regionally, or company-wide. In 2022, there were no critical concerns on business conduct reported through these channels, either from internal or external parties.

If serious concerns arise, for example regarding precious metals or human rights violations, they are discussed with senior management on an ad-hoc basis or at the Sourcing Committee’s quarterly meetings. The committee is also provided with an update on precious metals compliance covering the organization, its processes, and any non-conformities. Other standard agenda items at these meetings include supplier and mining partner approvals as well as information on local decisions and resolutions necessary at Group level, a review of sourcing activities and customer activities that indicate unusual behavior, and any other open issues.



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Stakeholder engagement

GRI 2-29

Engaging with our stakeholders provides us with valuable information on our business’s up-stream impact and our customers’ viewpoints. We draw on this information to design projects to address issues and/or to terminate business relationships with business partners that violate our policies. This approach aims to enhance the environmental, social, and governance (ESG) performance of current and potential business partners. It includes engaging with stakeholders, such as communities close to land-intensive mining partners. We of course do the same with communities near our own sites worldwide. Our customers value these efforts, which increase the demand for precious metals that are fairly mined and traded.

Many of our employees are organized in unions and are represented by works councils, which are consulted regarding major management decisions.

We also engage with government entities such as the European Commission or the U.S. State Department, as well as local authorities like law enforcement to coordinate on security. In addition, we engage in dialog with NGOs, industry associations, and academics at conferences, symposiums, and round tables (such as those run by the [IPA](#), [EMPF](#), and [FVEM](#)) as well as in joint projects, such as [FAIRMINED](#) and [FAIRTRADE](#); for more information on the latter, see the [PEOPLE IN OUR VALUE CHAIN](#) chapter.

Memberships in associations

GRI 2-28

Heraeus Precious Metals is a member of several industry associations and organizations:

- [INTERNATIONAL PLATINUM GROUP METALS ASSOCIATION \(IPA\)](#)
- [FACHVEREINIGUNG EDELMETALLE \(FVEM\)](#)
- [FAIRMINED](#)
- [FAIRTRADE](#)
- [EUROPEAN PRECIOUS METAL FEDERATION \(EPMF\)](#)
- [INTERNATIONAL RESPONSIBLE MINING ASSURANCE \(IRMA\): FABRICATORS WORKING GROUP](#)
- [INTERNATIONAL PRECIOUS METALS INSTITUTE \(IPMI\)](#)
- [LONDON BULLION MARKET ASSOCIATION \(LBMA\)](#)
- [LONDON PLATINUM AND PALLADIUM MARKET \(LPPM\)](#)
- [RESPONSIBLE MINERALS INITIATIVE \(RMI\)](#)
- [RESPONSIBLE JEWELLERY COUNCIL \(RJC\)](#)
- [SWISS BETTER GOLD INITIATIVE](#)
- [WATCH AND JEWELLERY INITIATIVE 2030](#)



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Reporting profile

GRI 2-1

This is Heraeus Precious Metals' first Sustainability Report. It makes good on our promise to report on our sustainability strategy, targets, and initiatives transparently and on a regular basis. The report is aimed at our various internal and external stakeholders, including our employees, customers, contractors, enterprise partners, and suppliers as well as policymakers, non-governmental organizations, and the public at large.

Structure and content

The report's purpose is to describe our most important sustainability topics, our approach to managing them, and the progress we made in the reporting period. It presents our sustainability targets and the key performance indicators (KPIs) and data points we use to measure progress toward them. In addition, we present our measures and actions that we will focus on in the current year and beyond.

We conducted a double materiality analysis to identify the topics covered in this report, which we prepared in reference to the Sustainability Reporting Standards of the Global Reporting Initiative (GRI). An overview of the GRI indicators covered can be found in the [GRI INDEX](#).

This Sustainability Report was commissioned by the CEO of Heraeus Precious Metals. The report is available as a PDF document in English.



Reporting profile

Reporting period and scope

GRI 2-2, -3

The reporting period is the 2022 financial year (January 1 to December 31). The editorial deadline was June 2023.

Unless otherwise indicated, the report includes data of Heraeus Precious Metals in all its subsidiaries listed below.

- Argor-Heraeus Deutschland GmbH
- Argor-Heraeus Italia S.p.A.
- Argor-Heraeus SA
- Heraeus Deutschland GmbH & Co. KG
- Heraeus Ltd.
- Heraeus Metal Processing Ltd.
- Heraeus Metals Germany GmbH & Co. KG
- Heraeus Metals Hong Kong Ltd.
- Heraeus Metals New York LLC
- Heraeus Precious Metal Technology (China) Co., Ltd.
- Heraeus Precious Metals North America LLC
- Heraeus Tokmak Kiyetli Madenler Sanayi A.S.
- Heraeus Metals (Shanghai) Co., Ltd.
- Heraeus South Africa (Pty.) Ltd.
- Heraeus PGM SA (Pty.) Ltd.
- Erbas SA¹

Sales offices, only included in employee KPIs

- Heraeus S.p.A.
- Heraeus S.A.S.
- Heraeus Materials Singapore Pte. Ltd.
- Heraeus Korea Corporation
- Heraeus Materials Technology Taiwan Ltd.
- Heraeus K.K.

Partially owned subsidiaries of Heraeus Precious Metals, not included in this report

- Choksi Heraeus Private Ltd. (50% shareholding)
- Ravindra Heraeus Private Ltd. (50% shareholding)
- BASF Heraeus Metal Resource Co., Ltd. (50% shareholding)
- Argor-Aljba SA (50% shareholding)
- Argor-Heraeus Latin America SpA (10% shareholding)

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¹ As of January 1, 2023, Erbas SA has been fully integrated into the legal entity Argor-Heraeus SA.

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2-1	Organizational details	<ul style="list-style-type: none"> ■ FACTS AND FIGURES > REPORTING PROFILE ■ FACTS AND FIGURES > DATA ■ ABOUT US > COMPANY PROFILE
2-2	Entities included in the organization’s sustainability reporting	<ul style="list-style-type: none"> ■ FACTS AND FIGURES > REPORTING PROFILE > REPORTING PERIOD AND SCOPE
2-3	Reporting period, frequency and contact point	<ul style="list-style-type: none"> ■ FACTS AND FIGURES > REPORTING PROFILE > REPORTING PERIOD AND SCOPE ■ FACTS AND FIGURES > CONTACT AND IMPRINT
2-6	Activities, value chain and other business relationships	<ul style="list-style-type: none"> ■ ABOUT US > COMPANY PROFILE > HERAEUS PRECIOUS METALS ■ OUR SUSTAINABILITY APPROACH > IMPACT AND MATERIALITY ANALYSIS ■ PEOPLE IN OUR VALUE CHAIN
2-7	Employees	<ul style="list-style-type: none"> ■ ABOUT US > COMPANY PROFILE > HERAEUS PRECIOUS METALS ■ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION ■ OUR PEOPLE ■ FACTS AND FIGURES > DATA
2-8	Workers who are not employees	<ul style="list-style-type: none"> ■ FACTS AND FIGURES > DATA ■ ABOUT US > COMPANY PROFILE > HERAEUS PRECIOUS METALS
2-9	Governance structure and composition	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION
2-11	Chair of the highest governance body	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION
2-12	Role of the highest governance body in overseeing the management of impacts	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION
2-13	Delegation of responsibility for managing impacts	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION



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2-16	Communication of critical concerns	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > COMMUNICATION OF CRITICAL CONCERNS
2-17	Collective knowledge of the highest governance body	<ul style="list-style-type: none"> ▪ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > GOVERNANCE BOARDS AND THEIR COMPOSITION ▪ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION > PROGRESS AND MEASURES > UNCONSCIOUS BIAS AND INCLUSIVE LEADERSHIP TRAINING
2-19	Remuneration policies	<ul style="list-style-type: none"> ▪ OUR SUSTAINABILITY APPROACH > SUSTAINABILITY GOVERNANCE > SENIOR EXECUTIVE COMPENSATION
2-22	Statement on sustainable development strategy	<ul style="list-style-type: none"> ▪ FOREWORD
2-23	Policy commitments	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > POLICIES AND REGULATIONS ▪ PEOPLE IN OUR VALUE CHAIN
2-24	Embedding policy commitments	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > POLICIES AND REGULATIONS ▪ PEOPLE IN OUR VALUE CHAIN
2-26	Mechanisms for seeking advice and raising concerns	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > COMMUNICATION OF CRITICAL CONCERNS
2-27	Compliance with laws and regulations	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > PROGRESS AND MEASURES ▪ FACTS AND FIGURES > DATA
2-28	Membership associations	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > STAKEHOLDER ENGAGEMENT > MEMBERSHIPS IN ASSOCIATIONS
2-29	Approach to stakeholder engagement	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > STAKEHOLDER ENGAGEMENT
2-30	Collective bargaining agreements	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > FOCUS TOPICS > FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING ▪ FACTS AND FIGURES > DATA



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	3-2 List of material topics	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > IMPACT AND MATERIALITY ANALYSIS > MATERIAL TOPICS



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GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT
	205-1 Operations assessed for risks related to corruption	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > FOCUS TOPICS ▪ FACTS AND FIGURES > DATA
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	<ul style="list-style-type: none"> ▪ FACTS AND FIGURES > DATA
	205-3 Confirmed incidents of corruption and actions taken	<ul style="list-style-type: none"> ▪ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > FOCUS TOPICS ▪ FACTS AND FIGURES > DATA



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GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ ENVIRONMENT > CIRCULAR ECONOMY
302 ENERGY		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION
GRI 302: Energy 2016	302-1 Energy consumption within the organization	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION > POLICIES AND REGULATIONS > REDUCING DIRECT EMISSIONS ■ FACTS & FIGURES > DATA
303 WATER AND EFFLUENTS		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ ENVIRONMENT > WATER
	303-3 Water withdrawal	<ul style="list-style-type: none"> ■ ENVIRONMENT > WATER > IMPACTS ■ FACTS AND FIGURES > DATA
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304 BIODIVERSITY		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ ENVIRONMENT > BIODIVERSITY
305 EMISSIONS		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION
	305-1 Direct (Scope 1) GHG emissions	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION > IMPACTS ■ FACTS & FIGURES > DATA
	305-2 Energy indirect (Scope 2) GHG emissions	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION > IMPACTS ■ FACTS & FIGURES > DATA
	305-3 Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION > IMPACTS ■ FACTS & FIGURES > DATA
GRI 305: Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<ul style="list-style-type: none"> ■ ENVIRONMENT > CLIMATE PROTECTION > IMPACTS ■ FACTS & FIGURES > DATA



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	306-2 Management of significant waste-related impacts	<ul style="list-style-type: none"> ■ ENVIRONMENT > CIRCULAR ECONOMY > PROGRESS AND MEASURES > WASTE MANAGEMENT
	306-3 Waste generated	<ul style="list-style-type: none"> ■ ENVIRONMENT > CIRCULAR ECONOMY > PROGRESS AND MEASURES > WASTE MANAGEMENT ■ FACTS AND FIGURES > DATA
308 SUPPLIER ENVIRONMENTAL ASSESSMENT		
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN > HUMAN RIGHTS DUE DILIGENCE > FREQUENCY OF HUMAN RIGHTS AND ENVIRONMENTAL DUE DILIGENCE CHECKS ■ FACTS AND FIGURES > DATA
	308-2 Negative environmental impacts in the supply chain and actions taken	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN > HUMAN RIGHTS DUE DILIGENCE > FREQUENCY OF HUMAN RIGHTS AND ENVIRONMENTAL DUE DILIGENCE CHECKS ■ FACTS AND FIGURES > DATA



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	401-1 New employee hires and employee turnover	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS ■ FACTS AND FIGURES > DATA
GRI 401: Employment 2016	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > BENEFITS
	401-3 Parental leave	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION > PROGRESS AND MEASURES > JOB SHARING AND PARENTAL LEAVE ■ FACTS AND FIGURES > DATA



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GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY
	403-1 Occupational health and safety management system	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > POLICIES AND REGULATIONS
	403-2 Hazard identification, risk assessment, and incident investigation	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > HAZARD IDENTIFICATION, RISK ASSESSMENT, AND INCIDENT INVESTIGATION
	403-3 Occupational health services	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > HAZARD IDENTIFICATION, RISK ASSESSMENT, AND INCIDENT INVESTIGATION
	403-4 Worker participation, consultation, and communication on occupational health and safety	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > EMPLOYEE ENGAGEMENT IN OCCUPATIONAL HEALTH AND SAFETY
	403-5 Worker training on occupational health and safety	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > EMPLOYEE ENGAGEMENT IN OCCUPATIONAL HEALTH AND SAFETY
	403-6 Promotion of worker health	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > PROMOTION OF EMPLOYEE HEALTH
	403-8 Workers covered by an occupational health and safety management system	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > POLICIES AND REGULATIONS ■ FACTS AND FIGURES > DATA
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	404-1	Average hours of training per year per employee	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > TRAINING AND EDUCATION ■ FACTS AND FIGURES > DATA
	404-2	Programs for upgrading employee skills and transition assistance programs	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > TRAINING AND EDUCATION
GRI 404: Training and Education 2016	404-3	Percentage of employees receiving regular performance and career development reviews	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > TRAINING AND EDUCATION ■ FACTS AND FIGURES > DATA
	405 DIVERSITY AND EQUAL OPPORTUNITY		
GRI 3: Material Topics 2021	3-3	Management of material topics	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION
	GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees
405-2		Ratio of basic salary and remuneration of women to men	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION > AMBITIONS



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GRI STANDARD	DISCLOSURE	REFERENCE INTO REPORT 
406 NON-DISCRIMINATION		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION > AMBITIONS ■ FACTS AND FIGURES > DATA
407 FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN ■ BUSINESS CONDUCT > COMPLIANCE AND INTEGRITY > FOCUS TOPICS > FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING
408 CHILD LABOR		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN
409 FORCED OR COMPULSORY LABOR		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN



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GRI STANDARD	DISCLOSURE	REFERENCE INTO REPORT 
411 RIGHTS OF INDIGENOUS PEOPLES		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN > HUMAN RIGHTS DUE DILIGENCE > FREQUENCY OF HUMAN RIGHTS DUE DILIGENCE CHECKS ■ FACTS AND FIGURES > DATA
413 LOCAL COMMUNITIES		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	<ul style="list-style-type: none"> ■ FACTS AND FIGURES > DATA
414 SUPPLIER SOCIAL ASSESSMENT		
GRI 3: Material Topics 2021	3-3 Management of material topics	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN > HUMAN RIGHTS DUE DILIGENCE > FREQUENCY OF HUMAN RIGHTS DUE DILIGENCE CHECKS ■ FACTS AND FIGURES > DATA
	414-2 Negative social impacts in the supply chain and actions taken	<ul style="list-style-type: none"> ■ PEOPLE IN OUR VALUE CHAIN > HUMAN RIGHTS DUE DILIGENCE > FREQUENCY OF HUMAN RIGHTS DUE DILIGENCE CHECKS ■ FACTS AND FIGURES > DATA



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In 2015, the United Nations Member States adopted the 2030 Agenda for Sustainable Development. It sets out 17 Goals, which aim to transform our world: They are the call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice, and prosperity.

We support the United Nations Sustainable Development Goals (SDGs) and continuously review, adapt, and examine our own contributions, actions, and measures toward achieving them. By thoroughly reviewing our value chain and business activities, we have identified areas where we can make a positive impact on the SDGs:

	SDG GOAL	REPORT CHAPTER 
	GOAL 3. Ensure healthy lives and promote well-being for all at all ages	
	3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	<ul style="list-style-type: none"> ■ OUR PEOPLE > OCCUPATIONAL HEALTH AND SAFETY > OUR PRODUCTS' POSITIVE IMPACT ON HEALTH
	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > IMPACTS ■ OUR PEOPLE > WORKING CONDITIONS > BENEFITS
	GOAL 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	
	4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	<ul style="list-style-type: none"> ■ OUR PEOPLE > WORKING CONDITIONS > TRAINING AND EDUCATION
	GOAL 5. Achieve gender equality and empower all women and girls	
	5.1 End all forms of discrimination against all women and girls everywhere	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > STRATEGY > SUSTAINABILITY ROADMAP ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION
	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	<ul style="list-style-type: none"> ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION
	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	<ul style="list-style-type: none"> ■ OUR SUSTAINABILITY APPROACH > STRATEGY > SUSTAINABILITY ROADMAP ■ OUR PEOPLE > DIVERSITY, EQUITY, AND INCLUSION
	GOAL 6. Ensure availability and sustainable management of water and sanitation for all	
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	<ul style="list-style-type: none"> ■ ENVIRONMENT > WATER > WATER REUSE AND CONSERVATION ■ ENVIRONMENT > WATER > WASTEWATER TREATMENT 	

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SDG GOAL	REPORT CHAPTER
<div style="background-color: #f9c94d; padding: 5px; display: flex; align-items: center;"> 7 AFFORDABLE AND CLEAN ENERGY </div>	<p>GOAL 7. Ensure access to affordable, reliable, sustainable and modern energy for all</p> <hr/> <p>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix</p> <hr/> <p>7.3 By 2030, double the global rate of improvement in energy efficiency</p>
<div style="background-color: #a63d4a; padding: 5px; display: flex; align-items: center;"> 8 DECENT WORK AND ECONOMIC GROWTH </div>	<p>GOAL 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> <hr/> <p>8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors</p> <hr/> <p>8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services</p> <hr/> <p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p>
<div style="background-color: #e67e22; padding: 5px; display: flex; align-items: center;"> 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE </div>	<p>GOAL 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p> <hr/> <p>9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets</p>



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SDG GOAL	REPORT CHAPTER
12 <small>RESPONSIBLE CONSUMPTION AND PRODUCTION</small> 	<p>GOAL 12. Ensure sustainable consumption and production patterns</p> <hr/> <p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources</p> <hr/> <p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p>
13 <small>CLIMATE ACTION</small> 	<p>GOAL 13. Take urgent action to combat climate change and its impacts</p> <hr/> <p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p> <hr/> <p>13.2 Integrate climate change measures into national policies, strategies and planning</p> <hr/> <p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>
17 <small>PARTNERSHIPS FOR THE GOALS</small> 	<p>GOAL 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development</p> <hr/> <p>17.6 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries</p>

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 - ENVIRONMENT > CLIMATE PROTECTION > HOW OUR PRODUCTS AND SERVICES PROMOTE DECARBONIZATION
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GRI 2-7/8 EMPLOYEE DATA		
Total number of employees¹	HC	2,984
thereof total number of internal employees	HC	2,543
thereof total number of external employees	HC	84
thereof total number of joint venture employees	HC	357

GRI 2-7, 405-1 EMPLOYEES TOTAL			
Employees total by gender			
Women	HC	681	% 26.8
Men	HC	1,860	% 73.1
Other	HC	2	% 0.1
Employees total by age			
< 30 years old	HC	357	% 14.0
30–39 years old	HC	805	% 31.7
40–49 years old	HC	677	% 26.6
50–59 years old	HC	537	% 21.1
> 60 years old	HC	167	% 6.6
Employees total by region			
Asia	HC	588	% 23.1
Africa	HC	74	% 2.9
Europe	HC	1,646	% 64.8
North America	HC	235	% 9.2



¹ All other figures in the report refer to the number of internal employees only

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GRI 405-1 NUMBER OF EMPLOYEES BY CATEGORY			
		Internal employees	Joint venture employees
CEO		1	
Lead Team¹		12	2
Global Management Team²	HC	113	2
<i>Share of total</i>	%	<i>4.4</i>	
Management	HC	284	
<i>Share of total</i>	%	<i>11.2</i>	
Employees below management level	HC	2,146	
<i>Share of total</i>	%	<i>84.4</i>	

GRI 2-7, 405-1 GOVERNANCE BODIES			
Lead Team members' average years of service	years	13	
Total number of CEO's	HC	1	% 100.0
Women	HC	0	% 0.0
Men	HC	1	% 100.0
Other	HC	0	% 0.0

GRI 2-7, 405-1 GOVERNANCE BODIES			
Lead Team total¹	HC	12	% 100.0
Women	HC	3	% 25.0
Men	HC	9	% 75.0
Other	HC	0	% 0.0
< 30 years old	HC	0	% 0.0
30–39 years old	HC	3	% 25.0
40–49 years old	HC	3	% 25.0
50–59 years old	HC	6	% 50.0
> 60 years old	HC	0	% 0.0
Global Management Team²	HC	113	% 100.0
Women	HC	42	% 37.2
Men	HC	71	% 62.8
Other	HC	0	% 0.0
< 30 years old	HC	3	% 2.7
30–39 years old	HC	27	% 23.9
40–49 years old	HC	49	% 43.4
50–59 years old	HC	23	% 20.3
> 60 years old	HC	11	% 9.7

1 Including CEO
2 Including Lead Team



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DIVERSITY IN GLOBAL MANAGEMENT TEAM

Share of women in Global Management Team ¹	%	37
Share of Internationality (non-German) in Global Management Team ¹	%	42

GRI 406-1 NON-DISCRIMINATION

Total number of incidents of discrimination during the reporting period ²	#	0
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GRI 2-30 COLLECTIVE BARGAINING AGREEMENTS³

Percentage of employees covered by a collective bargaining agreement ⁴	%	61.8
Percentage of employees in Germany covered by a collective bargaining agreement	%	98.0
Number of employees covered by a collective bargaining agreement	HC	1,572

GRI 2-7 EMPLOYEES BY EMPLOYMENT CONTRACT (BY REGION AND GENDER)

	Permanent contract	Fixed term contract
Total	HC 2,136	HC 407
Asia	HC 266	HC 322
<i>Share of total</i>	% 12.4	% 79.1
Africa	HC 72	HC 2
<i>Share of total</i>	% 3.4	% 0.5
Europe	HC 1,570	HC 76
<i>Share of total</i>	% 73.5	% 18.7
North America	HC 228	HC 7
<i>Share of total</i>	% 10.7	% 1.7
Total	HC 2,136	HC 407
Women	HC 582	HC 99
<i>Share of total</i>	% 27.2	% 24.3
Men	HC 1,552	HC 308
<i>Share of total</i>	% 72.7	% 75.7
Other	HC 2	HC 0
<i>Share of total</i>	% 0.1	% 0.0

1 Including Lead Team
 2 Formally, no cases have been reported. However, we are very aware of this issue and will extend our preventive measures against discrimination in 2023.
 3 Including collective bargaining agreements on national, industry level or company level.
 4 Referring to all internal employees.



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GRI 2-7 EMPLOYEES BY EMPLOYEE TYPE (BY REGION AND GENDER)		
	Full time contract	Part time contract
Total	HC 2,407	HC 136
Asia	HC 588	HC 0
<i>Share of total</i>	<i>% 24.4</i>	<i>% 0.0</i>
Africa	HC 74	HC 0
<i>Share of total</i>	<i>% 3.1</i>	<i>% 0.0</i>
Europe	HC 1,510	HC 136
<i>Share of total</i>	<i>% 62.7</i>	<i>% 100.0</i>
North America	HC 235	HC 0
<i>Share of total</i>	<i>% 9.8</i>	<i>% 0.0</i>
Total	HC 2,407	HC 136
Women	HC 571	HC 110
<i>Share of total</i>	<i>% 23.7</i>	<i>% 80.9</i>
Men	HC 1,834	HC 26
<i>Share of total</i>	<i>% 76.2</i>	<i>% 19.1</i>
Other	HC 2	HC 0
<i>Share of total</i>	<i>% 0.1</i>	<i>% 0.0</i>

GRI 2-8 EXTERNAL EMPLOYEES		
Number of external employees	HC	84
Most common type of employee	Production workers	
Contractual relationship Heraeus Precious Metals has with these employees	Staff leasing	
Type of work that is most commonly performed by these employees	Supporting activities in production	



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GRI 401-1 TURNOVER¹		
Turnover		
Employees who left the company	HC	245
Total turnover rate	%	9.6
Employees who left the company with a permanent contract total	HC	157
Turnover rate permanent	%	7.4
Employees who left the company with a fixed term contract total	HC	88
Turnover rate fixed term	%	21.6
Turnover by type		
Employees who left the company voluntarily	HC	196
Voluntary turnover rate	%	7.7
Employees who left the company mandated	HC	49
Mandated turnover rate	%	1.9

GRI 401-1 TURNOVER¹		
Turnover by age group		
< 30 years old	HC	59
<i>Share of total</i>	%	<i>24.1</i>
30–39 years old	HC	103
<i>Share of total</i>	%	<i>42.0</i>
40–49 years old	HC	41
<i>Share of total</i>	%	<i>16.7</i>
50–59 years old	HC	23
<i>Share of total</i>	%	<i>9.4</i>
> 60 years old	HC	19
<i>Share of total</i>	%	<i>7.8</i>

¹ Excluding Erbas SA



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GRI 401-1 TURNOVER¹		
Turnover by gender		
Women	HC	55
<i>Share of total</i>	%	<i>22.4</i>
Men	HC	190
<i>Share of total</i>	%	<i>77.6</i>
Other	HC	0
<i>Share of total</i>	%	<i>0.0</i>
Turnover by region		
Asia	HC	105
<i>Share of total</i>	%	<i>42.9</i>
Africa	HC	11
<i>Share of total</i>	%	<i>4.5</i>
Europe	HC	80
<i>Share of total</i>	%	<i>32.6</i>
North America	HC	49
<i>Share of total</i>	%	<i>20.0</i>

¹ Excluding Erbas SA



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GRI 401-1 NEW HIRES ¹		
New hires		
Total number of new hires	HC	425
New hires by age group		
< 30 years old	HC	141
<i>Share of total</i>	%	33.2
30–39 years old	HC	174
<i>Share of total</i>	%	40.9
40–49 years old	HC	77
<i>Share of total</i>	%	18.1
50–59 years old	HC	24
<i>Share of total</i>	%	5.7
> 60 years old	HC	9
<i>Share of total</i>	%	2.1

GRI 401-1 NEW HIRES ¹		
New hires by gender		
Women	HC	104
<i>Share of total</i>	%	24.5
Men	HC	320
<i>Share of total</i>	%	75.3
Other	HC	1
<i>Share of total</i>	%	0.2
New hires by region		
Asia	HC	129
<i>Share of total</i>	%	30.4
Africa	HC	12
<i>Share of total</i>	%	2.8
Europe	HC	207
<i>Share of total</i>	%	48.7
North America	HC	77
<i>Share of total</i>	%	18.1

¹ Excluding Erbas SA



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GRI 401-3 PARENTAL LEAVE		
Total number of employees who took parental leave	HC	80
Women	HC	41
Men	HC	39
Other	HC	0
Total number of employees who returned to work in the reporting period after parental leave ended	HC	58
Women	HC	21
Men	HC	37
Other	HC	0
Total number of employees who are still on parental leave (as of year-end 2022)	HC	21
Women	HC	19
Men	HC	2
Other	HC	0
Return to work rate	%	98.3
Ratio of the above for women	%	95.5
Ratio of the above for men	%	100.0
Ratio of the above for other	%	0.0

GRI 401-3 PARENTAL LEAVE		
Total number of employees who returned to work after their parental leave ended in 2021	HC	56
Out of which were still employed 12 months after their return	HC	56
Women	HC	16
Men	HC	40
Other	HC	0



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GRI 404-1 TRAINING HOURS¹		
Average hours of training	hrs	4
Average hours of training by gender		
Women	hrs	4
Men	hrs	4
Other	hrs	9
Average hours of training by employee category		
Global Management Team	hrs	9
Management	hrs	9
Employees below management level	hrs	3

GRI 404-3 PERFORMANCE REVIEWS²		
Percentage of employees who receive regular performance reviews	%	98
Regular performance review by gender		
Women	%	94
Men	%	99
Other	%	100
Regular performance review by employee category		
Global Management Team and Management	%	98
Employees below management level	%	98

¹ This data is limited to e-learning programs, excluding Erbas SA.
² Excluding Erbas SA.



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GRI 2-1 COMPANY DATA ¹		
Number of countries	#	8
Total number of operations	#	15

GRI 205-1 ANTI-CORRUPTION ¹		
Total number operations assessed for risks related to corruption	#	15
Percentage of operations assessed for risks related to corruption	%	100.0

GRI 205-2 COMMUNICATION ON ANTI-CORRUPTION		
Total number of governance body members that the organization's anticorruption policies and procedures have been communicated to	HC	113
<i>Share of total</i>	%	100.0
Total number of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee category	HC	2,543
<i>Share of total</i>	%	100.0
Global Management Team ²	HC	113
<i>Share of total</i>	%	100.0
Management	HC	284
<i>Share of total</i>	%	100.0
Employees below management level	HC	2,146
<i>Share of total</i>	%	100.0

GRI 205-3 ANTI-CORRUPTION		
Total number confirmed incidents of corruption	#	0
Total number of confirmed incidents in which employees were terminated or disciplined due to corruption	#	0
Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption	#	0

¹ Including joint ventures
² Including Lead Team



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GRI 2-27 COMPLIANCE WITH LAWS AND REGULATIONS		
Total number of significant instances of non-compliance with laws and regulations in 2022	#	0
A breakdown thereof by instances for which fines were incurred	#	0
A breakdown thereof by instances for which non-monetary sanctions were incurred	#	0
Total number of fines for instances of non-compliance with laws and regulations that were paid in 2022 for instances of non-compliance with laws and regulations that occurred in 2022	#	0
Total value of fines for instances of non-compliance with laws and regulations that were paid in 2022 for instances of non-compliance with laws and regulations that occurred in 2022	€	0
Total number of fines for instances of non-compliance with laws and regulations that were paid in 2022 and a breakdown of this total by fines for instances of non-compliance with laws and regulations that occurred in <u>previous</u> reporting periods	#	0
Total value of fines for instances of non-compliance with laws and regulations that were paid in 2022, and a breakdown of this total by fines for instances of non-compliance with laws and regulations that occurred in <u>previous</u> reporting periods	€	0

GRI 308-1, 414-1 ENVIRONMENTAL AND SOCIAL CRITERIA SCREENING		
Percentage of new precious metal suppliers, that were screened using environmental and social criteria	%	100.0

GRI 308-2, 414-2 NEGATIVE ENVIRONMENTAL AND SOCIAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN		
Total number of new precious metal suppliers assessed for environmental and social impacts	#	808
Number of precious metal suppliers identified as having significant actual and potential negative environmental and social impacts ¹	#	68

GRI 411-1 INCIDENTS OF VIOLATIONS INVOLVING RIGHTS OF INDIGENOUS PEOPLES		
Number of identified incidents of violations involving the rights of indigenous peoples during the reporting period ²	#	0

GRI 413-1 COMMUNITY ENGAGEMENT		
Percentage of operations with implemented local community engagement, impact assessments, and/or development programs	%	93.3

1 For further information on our policies and procedures, please check chapter People in our value chain
 2 We are constantly working on improving data quality and reporting on this topic with the further integration of new platforms and sources. Currently, we are not aware of any incidents. For further information, please check chapter People in our value chain.



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GRI 403-9 WORK-RELATED INJURIES: LOST TIME INCIDENTS¹			
		Total Number	Rate³
Total recordable incidents	#	39	8.6
Total recordable incidents for internal employees	#	36	8.2
thereof incidents with serious consequences	#	0	0
thereof incidents with lost time	#	36	8.2
thereof fatalities	#	0	0
Total recordable incidents for external employees²	#	3	19.2
thereof incidents with serious consequences	#	0	0
thereof incidents with lost time	#	3	19.2
thereof fatalities	#	0	0
Number of hours worked total for employees	million hrs	4.5	
thereof hours worked for internal employees	million hrs	4.3	
thereof hours worked for external employees ²	million hrs	0.2	
Main type of incidents		Hand injuries	
Type of work incident categorized		All incidents with lost time of 1 day or more	

GRI 403-8 OCCUPATIONAL HEALTH AND SAFETY SYSTEM⁴				
Employees covered by Health and Safety Systems				
Number of internal employees who are covered by a occupational health & safety system	HC	2,384	%	93.7
Number of internal employees who are covered by an occupational health & safety system that has been audited or certified internally	HC	2,384	%	93.7
Number of internal employees who are covered by a occupational health & safety system that has been audited or certified by an external party	HC	1,827	%	71.8

1 Excluding Erbas SA
 2 Including temporary workers, excluding contractors
 3 Calculated per 1,000,000 hrs worked
 4 Deviation to 100% due to sales-only locations



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GRI 306-3 NON-PRECIOUS METALS WASTE GENERATED¹

Waste generated total	met.tons	5,445
thereof hazardous	met.tons	2,946
thereof non-hazardous	met.tons	2,499

GRI 303-3/4 WATER WITHDRAWAL AND DISCHARGE¹

Water withdrawal total ²	m ³	360,521
Water discharge total ³	m ³	346,223

GRI 302-1 SCOPE 1 ENERGY CONSUMPTION

		2020	2021	2022
Natural gas	MWh	77,758	90,465	84,127
Propane	MWh	1,292	1,313	1,100
Diesel	MWh	169	160	240

GRI 302-1 SCOPE 2 ENERGY CONSUMPTION

		2020	2021	2022
Electricity consumption	MWh	77,448	80,154	78,525
District heating ⁴	MWh	21,375	20,720	13,898
Cooling ⁵	MWh	889	930	826
Steam	MWh	8,703	8,137	5,978
Compressed air	MWh	1,299	1,187	1,733

GRI 302-1 TOTAL ENERGY CONSUMPTION

		2020	2021	2022
Total Energy consumption	MWh	188,933	203,066	186,427
From renewable sources ⁶	MWh	27,178	39,582	44,456
From non-renewable sources	MWh	161,755	163,484	141,971

1 Excluding Argor-Heraeus Italy S.p.A., Argor-Heraeus Deutschland GmbH, Erbas SA
 2 Including water for sanitary installations
 3 Wastewater discharge from our internal wastewater treatment plants (without sanitary wastewater)
 4 District and thermal heat
 5 Process cooling and cooling water
 6 Only renewable sources in electric power including Heraeus Precious Metals' activities toward green energy, supplier and country mix



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GRI 305 1/2/3 CO ₂ EMISSIONS ¹				
		2020	2021	2022
Scope 1 Emissions²				
Total Scope 1 emissions	tCO ₂ e	18,453	21,628	19,875
Scope 2 Emissions³				
Total Scope 2 emissions (market-based) ⁴	tCO ₂ e	37,277	33,543	27,585
Total Scope 2 emissions (location-based)	tCO ₂ e	39,811	38,099	34,474
Scope 3 Emissions⁵				
Total Scope 3 emissions	tCO ₂ e	14,192,023	11,853,960	9,778,408
Purchased goods and services precious metals	tCO ₂ e	13,945,060	11,558,022	9,452,768
Purchased goods and services non-precious metals	tCO ₂ e	108,455	148,112	158,360
Capital goods	tCO ₂ e	42,770	42,797	76,856
Fuel and energy-related activities	tCO ₂ e	41,790	46,985	40,939
Upstream transportation and distribution	tCO ₂ e	35,934	39,148	29,296
Waste generated in operations	tCO ₂ e	3,333	4,748	4,474
Business travel	tCO ₂ e	1,032	827	2,779
Employee commuting	tCO ₂ e	2,873	2,830	3,781

GRI 305 1/2/3 CO ₂ EMISSIONS ¹				
Downstream transportation and distribution	tCO ₂ e	6,058	4,547	3,704
Processing of sold products	tCO ₂ e	4,718	5,944	5,451
Total Scope 3 upstream emissions	tCO ₂ e	14,181,247	11,843,469	9,769,253
Total Scope 3 downstream emissions	tCO ₂ e	10,776	10,491	9,155

GRI 305-7 NITROGEN OXIDES (NO _x), SULFUR OXIDES (SO _x), AND OTHER SIGNIFICANT AIR EMISSIONS				
		2021	2022	
NO _x Emissions ⁶	met.tons	72	75	
SO _x Emissions ⁷	met.tons	12	12	
Particulate matter (PM) Emissions ⁸	met.tons	1	1	

1 The calculations for Scope 1–3 are based on the Greenhouse Gas Protocol and follow the operational control approach.
 2 For Scope 1 emission calculations, the emission factors used are from the German Environment Agency (UBA) and the Federal Office of Economics and Export Control (BAFA).
 3 The methodology to calculate Scope 2 emissions includes different emission factors. Market-based emissions refer to emission factors of individual suppliers. Where these factors were unavailable, the supplier-based emission factors from the International Energy Agency (IEA) were used. Location-based emissions refer to the average emission factors of the grid, within which the electricity consumption takes place.
 4 We used the latest conversion factors available when calculating our 2022 emissions, as not all power suppliers have yet published new factors when this report was compiled.
 5 Scope 3 emission calculations are based on emission factors from the German Environment Agency (UBA), Federal Office of Economics and Export Control (BAFA), Ecoinvent database, International Copper Association, Nickel Institute, IPA Study, World Gold Council, UK Department for Environment, Food & Rural Affairs (DEFRA) as well as the Quantis Database.
 6 Excluding the United States
 7 Excluding the United States, Mendrisio (Switzerland), Shanghai (China)
 8 Excluding the United States, Hong Kong (China), Mendrisio (Switzerland)

Contact and imprint

GRI 2-3

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