

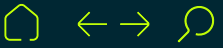
A close-up photograph of a tree trunk. A diagonal cut in the bark reveals a thick, white, resinous substance that is dripping down the side of the tree. The background is a soft-focus green, suggesting a forest setting.

# Responsible Raw Materials Report

2023

VOLKSWAGEN GROUP





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## Dear readers,

The Volkswagen Group pursues the vision of enabling sustainable mobility for future generations. As one of the world's largest automotive groups, we recognize our duty to make a difference – to generate meaningful value for both society and the environment.

Our legal, social and environmental responsibilities extend well beyond our Group across all our supply chains. These include more than 63,000 supplier locations in 96 countries around

the world. The holistic approach of our regenerate+ sustainability strategy provides the basis for advancing sustainability together with our partners and stakeholders. Focuses include environmental protection and human rights due diligence.

We take our responsibility for sustainable procurement of raw materials very seriously and are continuously working with indirect suppliers in upstream supply chains – where the challenge is greatest. We identify, assess and address

risks through our Responsible Supply Chain System, currently covering 18 priority raw materials and their respective supply chains.

We share information across our brands and regions through our Sustainability Procurement Network of more than 110 experts, which serves as a component in managing sustainability in our supply chains. To increase traceability, we work with our business partners and their respective suppliers, based on the requirements of our Code of Conduct. We also collaborate with like-minded stakeholders and companies via cross-industry initiatives to develop common standards and approaches to sustainability due diligence.

In this report, you will find information on our approach and methodology, the raw materials we have identified as our priority focus and our activities in 2023. It highlights not only our progress in terms of transparency and risk mitigation for raw materials procurement, but also outlines challenges we continue to face in our global, complex and fragmented supply chains.

In 2023, the first year in which the Supply Chain Due Diligence Act came into force, the Volkswagen Group's focus was on full and best possible compliance with the obligations imposed by the law. We have updated our procurement processes and keep monitoring new developments to include new regulations such as the EU Battery Regulation and the EU Deforestation Regulation, but also use our global impact to improve supply chain due diligence.

We hope you find this report informative and invite you to share your feedback through [✉ sustainability@vwgroupsupply.com](mailto:sustainability@vwgroupsupply.com)

### Dirk Große-Loheide

Member of the Extended Executive Committee,  
Group Procurement  
Member of the Board, Volkswagen Brand





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## Responsible Supply Chain (ReSC) System

In 2022, in preparation for the German Supply Chain Due Diligence Act (LkSG), we adapted our management approach in procurement and introduced extensive measures to facilitate compliance. We developed the Volkswagen Group Responsible Supply Chain (ReSC) System as an overarching due diligence approach for our supply chains and integrated the existing Raw Materials Due Diligence Management System into the ReSC System as a deep-dive measure for risks in our upstream supply chain.

The aim of the new holistic approach is to further enhance our management of risks occurring along the Volkswagen Group's supply chains. We aim to respect human rights and avoid and minimize social and environmental risks based on a systematic risk analysis and in close collaboration with our suppliers and business partners.

The approach also intends to help end breaches and continuously improve suppliers' sustainability performance. It includes controls and a disclosure system to ensure transparency. A grievance mechanism at Group level to provide an early-warning risk-awareness system is also in place.

Implementation of the management approach is mandatory and is enshrined in corresponding policies for the Group's brands and controlled companies.

The various procedures and measures that the ReSC System entails are described in detail in our [2023 Sustainability Report \(pages 121-127\)](#). The Responsible Raw Materials Report 2023 focuses on the Raw Materials Due Diligence Management System.

The Volkswagen Group is one of the largest automotive manufacturers globally. In this position we recognize our impact on people and the planet. In order to align our own activities and the activities of the suppliers in our supply chains with leading practice in respecting human rights and the environment, we continue to take proactive steps. Our efforts are part of our broader commitment to fulfilling our legal, social and environmental responsibilities, not only in the Volkswagen Group but also in our supply chains.

Our policy on sustainable materials – reflected in our Raw Materials Due Diligence Management System (RMDDMS) – is based on global normative guidelines including the [OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas](#) (OECD Minerals Guidance). This Guidance provides a five-step framework with detailed recommendations to ensure that the minerals we use are responsibly mined or sourced, respecting human rights and avoiding contributing to conflict.

In accordance with the fifth step of the framework, we therefore publicly report on our supply chain due diligence policies, processes and practices in this Responsible Raw Materials Report 2023.

The report details our approach and covers the raw material-specific human rights and environmental supply chain due diligence activities that were implemented in 2023. It provides an overview of the progress we made with our RMDDMS and lists our activities for 18 high-risk raw materials that

we have prioritized for more in-depth risk management. In addition to the 16 raw materials covered in previous years, we have expanded our scope to include cotton and magnesium.

While we continue to face challenges in sourcing raw materials responsibly, such as complex and sometimes opaque raw materials supply chains and varying legal requirements around the world for sustainability standards, we are also taking further steps to improve the effectiveness of our risk management. We know that we need to continue to engage with our suppliers, turn our focus increasingly to risk mitigation, and more effectively assess whether the actions we have taken are driving positive impacts for the people and environments affected by our raw material supply chains.

We are proud of our progress and the fact that this is our fourth time reporting publicly, although we recognize that, for some issues and raw materials, we are in the early stages.

The Responsible Raw Materials Report 2023 is structured as follows: We first present the Volkswagen Group's due diligence approach to supply chains in general and our raw material-specific management system in particular, including governance, scope and main tools used. We then describe the key activities and achievements for our 18 priority raw materials in 2023 and conclude with an outlook to 2024.

Further information on Environmental, Social and Governance (ESG) topics is available on the Group's corporate website and in the [2023 Sustainability Report](#).



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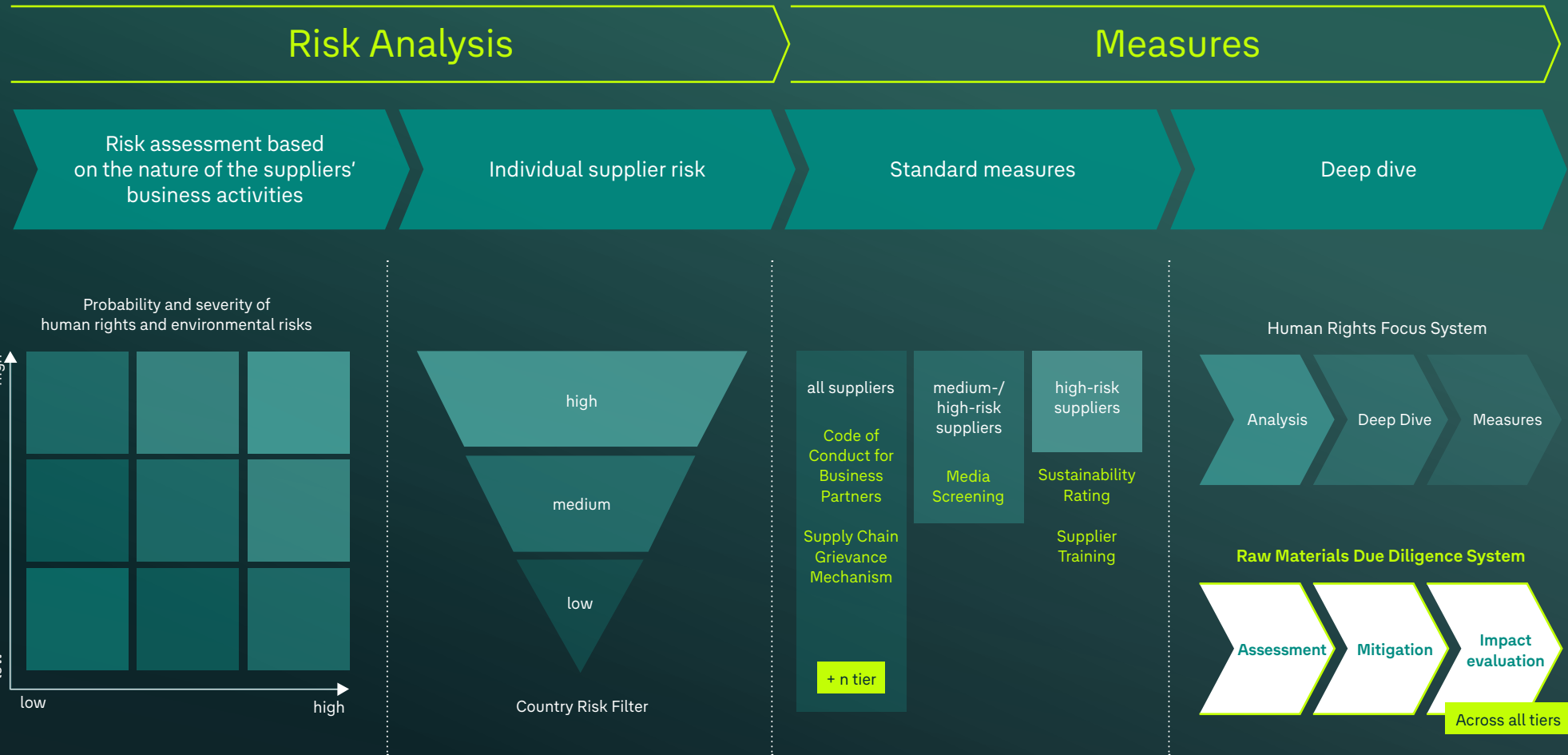
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# Raw Materials Due Diligence Management System (RMDDMS)

One deep-dive measure of the ReSC System, specifically used to manage risks along raw material supply chains, is the Volkswagen Group's Raw Materials Due Diligence Management System (RMDDMS). The RMDDMS covers the 18 raw materials identified as priority raw materials and their respective supply chains.

The Volkswagen Group's supply chain is extremely complex, globally distributed and subject to constant change. It includes more than 63,000 direct supplier sites in more than 96 countries involving thousands of parts made from a wide range of raw materials. One product supply chain can include as many as nine levels and one single car component can have more than 1,000 suppliers. It is therefore essential that we take a risk-based approach and prioritize areas of focus in our due diligence efforts.

The risk-based due diligence provides the steps we should take to identify, prevent and mitigate actual and potential adverse effects in the supply chain. It also ensures that we do not contribute to conflict in our purchasing activities through indirect support to non-state armed groups in the extraction, transport, trade, handling and export of raw materials.

Different supply chains tend to have different levels of risk. Raw material supply chains require special focus, as our abstract risk analysis as part of the ReSC System showed a high exposure to human and environmental risks which are often more systematic and prevalent with indirect suppliers. For prioritized raw materials, the RMDDMS includes further assessments which facilitate the deduction of mitigating and preventive measures for systematic risks as well as a review of the effectiveness of these measures.

Seeking alignment with the five-step framework of the OECD Minerals Guidance, we developed and implemented the RMDDMS in 2020. It is based on the Volkswagen Group

Policy on Sustainable Raw Materials which sets out our commitment to responsible and transparent business practices throughout our raw materials supply chains. The policy outlines our responsibility to respect human rights, the obligation to implement a human rights due diligence process and measures to remediate negative human rights impact.

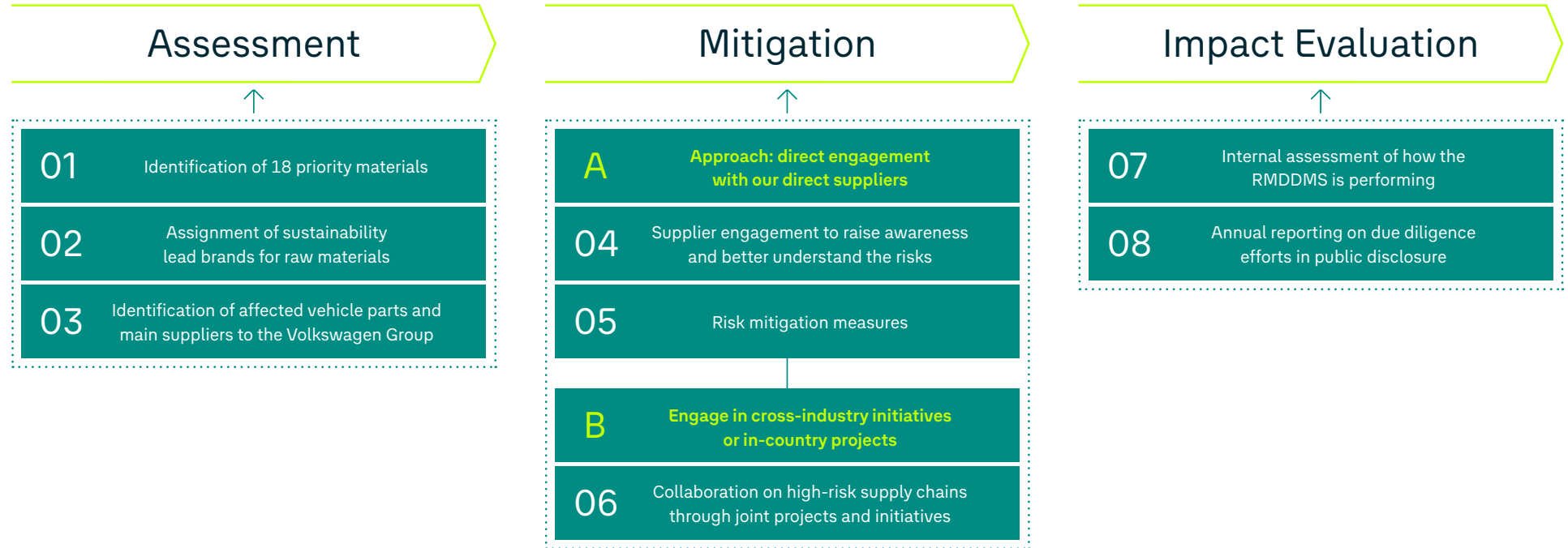
The Volkswagen Group Policy on Sustainable Raw Materials is being reviewed and will be updated in 2024.

Through the RMDDMS, we aim to improve transparency in our upstream supply chain, assess and identify risks, and engage with suppliers and stakeholders to prevent and mitigate potential negative impact on people and planet.

The graphic below provides a visual depiction of our step-by-step approach to raw material due diligence:



Step-by-step approach to raw material due diligence



**RMDDMS Governance**  
 In line with the OECD Minerals Guidance, the RMDDMS is overseen by a senior-level Steering Committee comprised of senior management of the Sustainability function from Procurement across all relevant brands and regions of the Volkswagen Group, including the Head of Global Supplier Risk and Sustainability Management of Volkswagen Group Procurement. The Steering Committee meets quarterly.

The due diligence activities are coordinated through a Working Group comprising representatives from Sustainability Manage-

ment in Procurement departments across the Volkswagen Group's brands. Each of the identified priority materials is assigned to a "Brand Lead" to ensure in-depth knowledge and ongoing engagement with relevant suppliers and stakeholders for each of the raw materials. This Brand Lead is a representative from one of the Volkswagen Group's brands and responsible for coordinating and implementing the RMDDMS activities. In the reporting period, the internal capacities for Sustainability functions in Procurement were strengthened, both in the Volkswagen Group as well as in the respective brands, and the frequency of Working Group meetings was increased.

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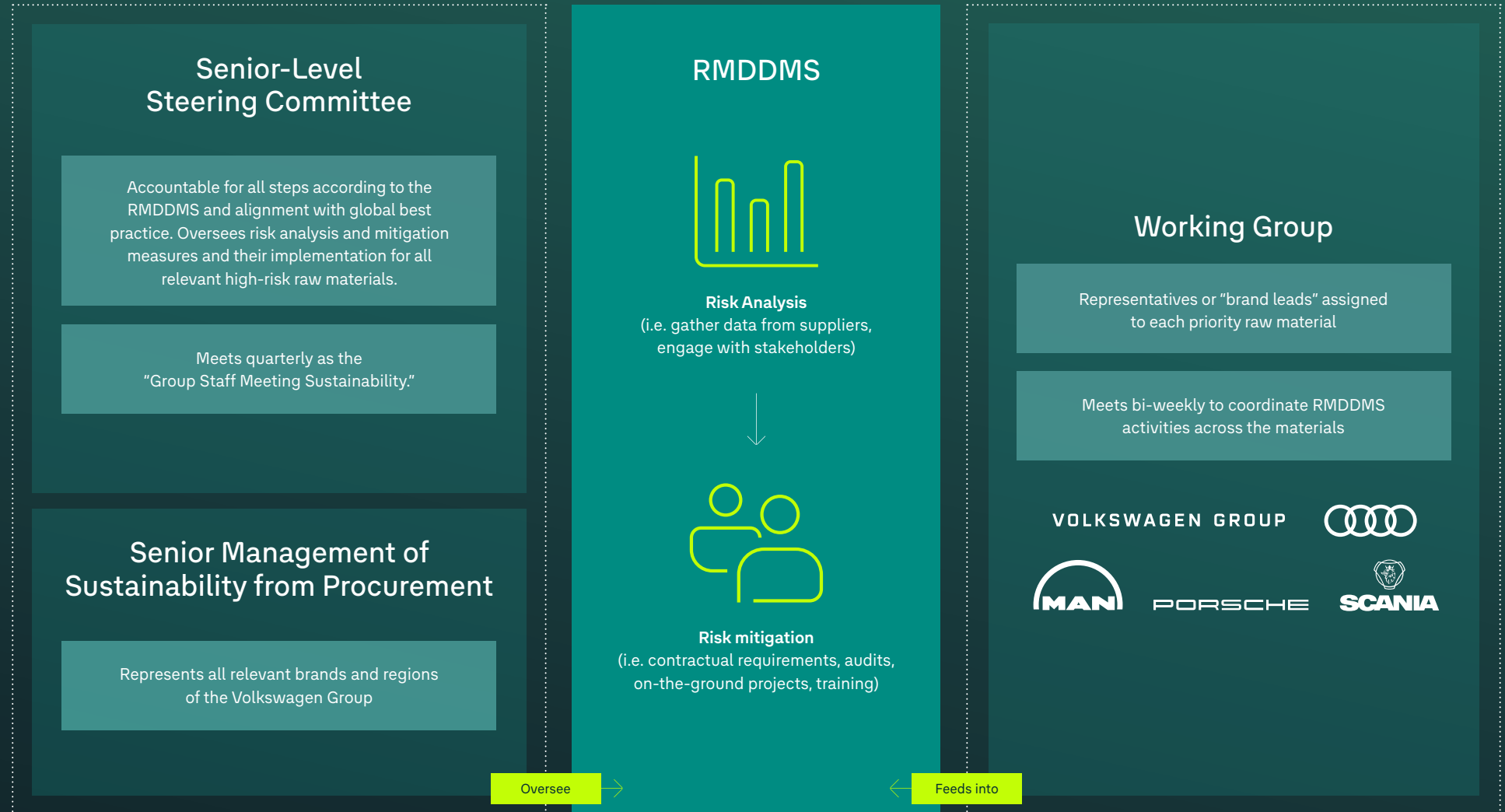
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For more information on the steering bodies see the detailed version in the [2022 Responsible Raw Materials Report \(page 6\)](#)



## Social, Human Rights and Environmental Risks in Scope

The risks categories used in our RMDDMS are reviewed regularly to reflect legal requirements and best practices. For this Responsible Raw Materials Report, we summarized the risks in scope in seven sub-categories aligned with the European Sustainability Reporting Standards (ESRS): Environmental risks are summarized in the sub-clusters pollution, waste, water and biodiversity. Social risks are covered by the sub-clusters human rights and working conditions. The impact of supply chain activities on local communities is comprised in the sub-cluster communities' rights.

Environmental	Social & Human Rights	Communities
<p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>— Destruction of forests and soils</li> <li>— Biodiversity, including damage to natural habitats, wildlife, plants and ecosystems, including ecosystem services</li> </ul>	<p><b>Human rights</b></p> <ul style="list-style-type: none"> <li>— Child labor</li> <li>— Forced or compulsory labor</li> <li>— Discrimination, incl. sexual harassment</li> <li>— Direct or indirect support to non-state armed groups and/or public or private security forces</li> <li>— Torture</li> </ul>	<p><b>Communities' rights</b></p> <ul style="list-style-type: none"> <li>— Causing harmful soil change, water and air pollution, noise emissions and excessive water consumption, which affect natural resources and health</li> <li>— Forced evictions and/or expropriations of land, forests, bodies of water</li> <li>— Protection of the rights of indigenous peoples</li> </ul>
<p><b>Pollution</b></p> <ul style="list-style-type: none"> <li>— Production and use of pollutants and hazardous chemicals</li> <li>— Air, including air pollution and greenhouse gas emissions</li> <li>— Noise and vibrations</li> </ul>	<p><b>Working conditions</b></p> <ul style="list-style-type: none"> <li>— Health and safety at work</li> <li>— Trade union freedoms and freedom of association</li> <li>— Payment of adequate wages/salaries</li> <li>— Safety of installations</li> </ul>	
<p><b>Waste</b></p> <ul style="list-style-type: none"> <li>— Handling, storage and disposal of waste</li> </ul>		
<p><b>Water</b></p> <ul style="list-style-type: none"> <li>— Water, including water pollution, water consumption, amount of water (flood or drought) and access to water and sanitation</li> </ul>		

The risk categories are listed in abbreviated form in Section 04 of this report for every raw material.

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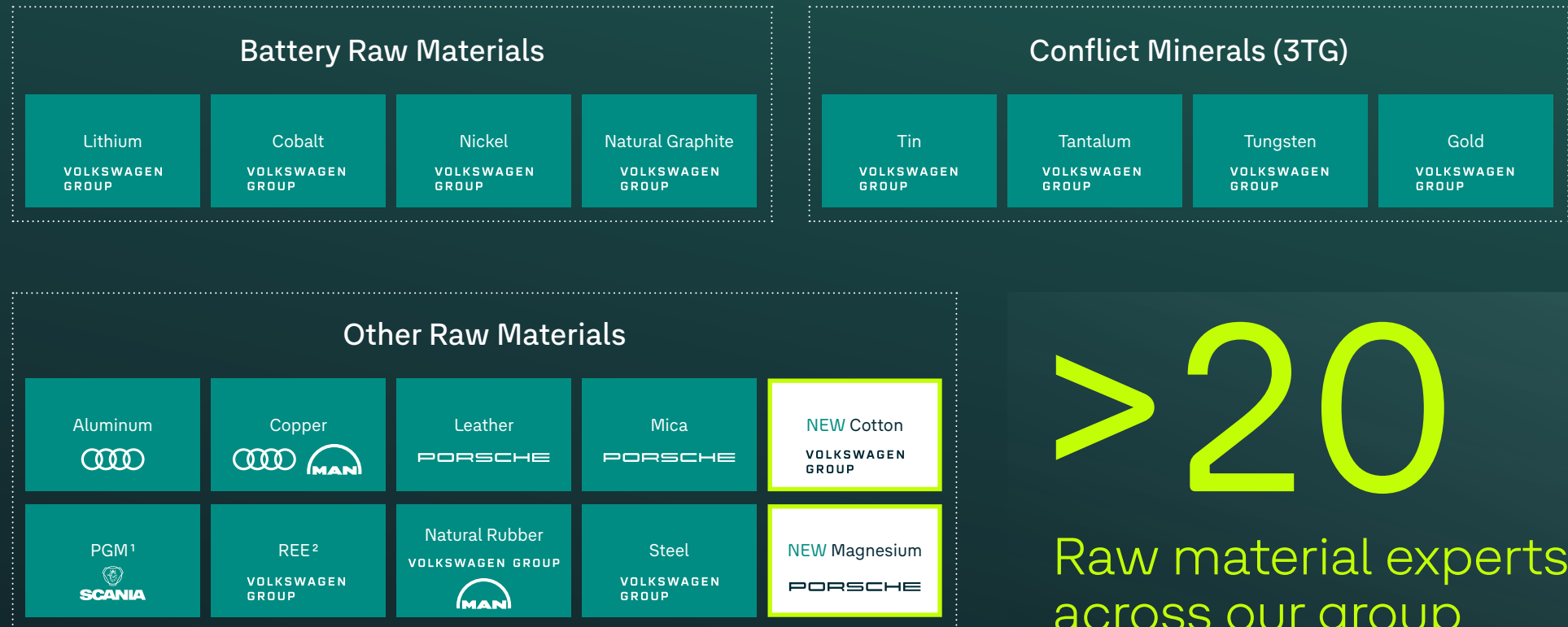
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## Priority Raw Materials

To address our due diligence obligations in light of the complexities and scale of our raw materials supply chains, we followed the OECD-compliant risk-based approach and developed a methodology to select priority raw materials based on the severity of potential human rights and environmental impacts. For the first risk assessment, we used databases such as Maplecroft’s global risk data, raw material-specific risk analyses and other reports that outline ESG risks in supply chains. In addition, we reviewed cases from our grievance mechanism and gathered relevant data through outreach to stakeholders such as NGOs and n-tier suppliers. We also considered our leverage in raw materials supply chains, and at times prioritized raw materials where we considered the risk less severe but where we had high leverage. In these cases, we saw a clear opportunity to make a positive impact. In the reporting period, we reassessed our raw material prioritization. We extended the scope of the RMDDMS and included two additional raw materials with particularly high levels of sustainability risks – cotton and magnesium – resulting in a total of 18 priority raw materials.



1 PGM – Platinum Group Metals  
2 REE – Rare Earth Elements

> 20

Raw material experts across our group

Raw Material Lead Brands in RMDDMS are Volkswagen | Audi | Porsche | MAN | Scania

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## Regulatory Frameworks and Guidelines

The Volkswagen Group is committed to adhering to all applicable national and international legislation. Beyond this, we confirm our commitment to major international agreements and declarations, which determine important cornerstones for our actions. These include in particular:

- The UN Universal Declaration of Human Rights, which is codified in the International Covenant on Civil and Political Rights and in the International Covenant on Economic, Social and Cultural Rights
- The Core Labour Standards of the International Labour Organization (ILO)
- The UN Guiding Principles on Business and Human Rights
- The OECD Guidelines for Multinational Enterprises
- The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
- The principles of the UN Global Compact

The Volkswagen Group continuously monitors and adapts its risk management approach in procurement to meet the requirements of new laws – such as the German Supply Chain Due Diligence Act (LkSG) which came into force on January 1, 2023 – and prepare for upcoming regulations at both national and international level. Relevant upcoming sustainability regulations on a European level include for example the EU Battery Regulation (EUBR) and the EU Deforestation Regulation (EUDR). Another focus topic is the Corporate Sustainability Reporting Directive (CSRD), and the associated European Sustainability Reporting Standards (ESRS) will be applied for 2024 reporting of the Volkswagen Group.

### Preparation for upcoming EU sustainability regulations

In 2023, we closely monitored proposals for new regulations. However, before final legislative texts are endorsed, the drafts

are altered, amended and fine-tuned. Therefore, preparation for the new legislation is a process which will be ongoing until the implementation guidelines and specifications have been defined, open questions resolved and new processes established.

In the reporting period, we undertook preparatory measures such as:

- Identify relevant aspects for the team working on responsible sourcing practices (based on the final version of the respective regulation).
- Establish Group-wide working group to coordinate all activities on new sustainability regulations, specifically EUBR and EUDR, across brands and regions.
- Create shared understanding on the scope of the due diligence requirements and specific legal terms; align with internal departments such as Legal, Customs, etc.
- Identify parts and suppliers in scope of the due diligence requirements.
- Conduct gap analysis to identify potential need for changes in internal processes and systems, agree on working packages and assign responsibilities.
- Identify necessary updates to contractual requirements such as the battery raw materials specification sheet.
- Determine suitable tools to support due diligence.

In addition, the Volkswagen Group also initiated discussions with suppliers to achieve a common understanding of the regulations. Alignment on expectations and tools is required in order to standardize audits and questionnaires and reduce the efforts for suppliers. Here, we also engaged with industry initiatives such as Drive Sustainability and the Responsible Minerals Initiative (RMI), with the aim of driving industry-wide good practice.

### EU Battery Regulation (EUBR)

The EU Regulation concerning batteries and waste batteries (EU Battery Regulation) was published on July 12, 2023, and will replace the existing Batteries Directive dating from 2006.

The EUBR aims to improve current regulations by making batteries used in the EU more environmentally friendly and increasing the lifespan of electronic devices used by consumers. The due diligence chapter of the regulation (chapter VII) will apply from August 18, 2025.

In view of the expected growth in battery demand, the EU puts battery due diligence obligations on economic operators that place batteries on the Union market or put them into service, going beyond the voluntary efforts from actors in the battery supply chain that are already in place. Annex X of the EUBR provides a list of raw materials and risk categories to focus on when designing and implementing battery due diligence policies. The list of social and environmental risk categories is far more extensive than existing due diligence legislation and will require a thorough review of our RMDMS.

While the Volkswagen Group prepared for the new regulation in the reporting period, sustainability was already a significant focus area in our battery supply chains and our responsible sourcing practices before that and a large part of our internal processes are already aligned with the EUBR due diligence requirements.

### EU Deforestation Regulation (EUDR)

The EU Regulation on deforestation-free products (EU Deforestation Regulation) came into force on June 29, 2023. It impacts seven specific commodities, including leather and natural rubber as well as derived products. The new EUDR regulation will require any company importing or exporting these commodities and products into or out of the EU as well as placing them on the EU market to prove that the products are not linked to deforestation and have been produced in accordance with the relevant legislation of the country of production.

The provisions will enter into application from December 30, 2024. The Volkswagen Group has started analyzing the EUDR and is taking steps to align its due diligence approach, particularly for leather and natural rubber, with the legislative requirements.



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## Main Tools of the RMDDMS

While the challenges and solution approaches can vary greatly depending on the high-risk raw material in focus, there are a number of tools that are considered particularly useful in the context of the RMDDMS. These are presented below.

### Raw Material Specification Sheets

The Volkswagen Group uses a [Code of Conduct for Business Partners](#) (CoC BP) as a mandatory component of all contracts with direct suppliers. It sets out our expectations of business partners with respect to key human rights, environmental, social and compliance standards, based on international standards, as well as objectives, rules and policies of the Volkswagen Group. We also call on our tier-1 suppliers to pass these requirements down along the supply chain.

As a key component of our raw materials due diligence, we work on developing and implementing contractually binding specification sheets for our high-risk raw materials.

The use of the specification sheets defines our raw material-specific human rights and environmental expectations towards our suppliers and ensures that they are fulfilled. For example, specification sheets can include requirements on supply chain transparency and the implementation of certain industry-specific sustainability standards at important pinch points in the supply chain.

To date, we have developed specification sheets for the following priority raw materials:

- **Battery raw materials – lithium, cobalt, nickel and natural graphite:** rolled out across the Volkswagen Group in 2020. Preparing for compliance with the new EU Battery Regulation, the specification sheet for our battery raw materials was updated in 2023
- **Aluminum:** piloted by AUDI AG and Volkswagen in 2022, rolled out across the Volkswagen Group in 2023
- **Mica:** piloted by Porsche, AUDI AG and Scania in 2022, rolled out across the Volkswagen Group in 2023
- **Leather:** rolled out across the Volkswagen Group in 2023
- **Natural rubber:** specification sheet developed in 2023

Direct business partners who supply a product that contains any of the raw materials in scope are requested to comply with the specification sheets for all new contracts. However, when rolling out the sustainability specification sheets across the Volkswagen Group for the materials in scope, we strongly encouraged our suppliers with existing contracts to also comply with the specified requirements. We expect our direct suppliers to pass on these requirements to their respective suppliers and into the upstream supply chain alongside the CoC BP.

### Audits

Audits are one of the key tools for assessing risks in our upstream supply chains and consequently identifying mitigation measures. They tie in with other tools used for our raw material due diligence and help promote transparency, compliance and a culture of continuous improvement and dialogue throughout the supply chain.

Due to the complexity and the large number of suppliers, particularly in our battery supply chain, the Volkswagen Group has established a tiered assessment system with different types of audits to systematically review the sustainability performance of our suppliers.

**Second-party audits** are used to verify, at regular intervals or on a case-by-case basis, that our suppliers are complying with our requirements. They are carried out by qualified auditors (internal or contracted consultants).

The Volkswagen Group also carries out audits of selected direct suppliers as part of the Sustainability Rating (S-Rating)<sup>1</sup>. Other audits are performed ad hoc, for example in response to a grievance case, and focus on human rights risks and social standards.

The on-site audits can identify gaps in supplier performance, but also risks at indirect suppliers' sites that need to be mitigated through the direct supplier. All audits of direct suppliers carried out on behalf of the Volkswagen Group are accompanied by a Corrective Action Plan (CAP), and the effectiveness of the implemented measures is verified by the auditor in re-audits (as part of a desktop review or a further on-site audit).

1. Find more information on audits related to the Sustainability Rating in the [2023 Sustainability Report, page 129](#).



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Initially, the Volkswagen Group's battery audit program focused on cobalt due to the severity of the human rights risks associated with this mineral. From there, we covered other battery raw materials and have worked our way up the supply chain, moving from our battery suppliers to precursors, refiners, treatment units and mine sites.

As human rights-related risks are often greatest at the beginning of the supply chain and can be most effectively addressed there, **third-party audits and certifications** are another part of our strategy. These independent audits are

conducted by certification bodies according to a standard set of requirements and verify that the suppliers meet all the requirements of the chosen standard.

The Volkswagen Group also uses **databases** with audits conducted by global initiatives. One example is RMI's "list of RMI-conformant smelters." Several global initiatives offer voluntary audit-based certifications for suppliers, among them IRMA, ASI and LWG. We also work directly with mine operators to certify mines through international associations.

By employing a combination of these approaches, the Volkswagen Group can more effectively oversee its supply chains, ensuring that they live up to rigorous environmental and human rights standards.

This table provides an overview of how we use audits across various raw materials in our supply chains:

**Audits**

	Tin   Tantalum   Tungsten   Gold	Cobalt	Leather	Aluminum	Mica
Audit standard	Responsible Minerals Assurance Process (RMAP) (Responsible Minerals Initiative)	Customized standard developed by the Volkswagen Group with an external audit company. Draws on the OECD Minerals Guidance	Standard developed by the Leather Working Group (LWG)	ASI Performance and ASI Chain of Custody (CoC) Standard developed by the Aluminium Stewardship Initiative (ASI)	Global Workplace Standard for Mica Processors
Scope of risks assessed in the audit	Annex II risks as defined by the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas	Annex II risks (see column to the left), as well as occupational health and safety, and child labor	Business and operations management, environmental and social impact, occupational health and safety, compliance	ASI Performance Standard: 62 environmental, social and governance principles such as business integrity and transparency, water and biodiversity and human and labor rights ASI CoC standard: requirements for a CoC material, including supply chain due diligence and material accounting	Environmental management system, occupational health and safety, fair labor practices
Tier(s) that have been audited	Smelters and refiners	From battery cell supplier to treatment unit level	Tanneries	All stages of the aluminum supply chain	Mica processors

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## Supplier Dialogues

To help us establish and strengthen alignment around expectations with respect to our raw materials supply chains, we continue to engage directly with key suppliers.

## Sustainability training and workshops

One key component is systematic training of suppliers as well as our own employees. Sustainability is an integral part of the skills profile for all procurement employees. Sustainability training – delivered in web-based, online or face-to-face formats – covers topics such as: (i) corporate responsibility; (ii) legal frameworks and requirements; (iii) our internal processes, such as the Volkswagen Group's sustainability rating and (iv) our management systems, such as the RMDDMS. Part of this training was dedicated to the topic of sustainability in raw materials. The training course on sustainability for procurement was held more than 3,700 times worldwide in 2023.

In order to support the continuous development of our suppliers, the Volkswagen Group Procurement Sustainability Management also offered sustainability training courses and workshops with our suppliers at selected locations or online. We also offered web-based on-demand training. 7,791 suppliers received such training in 2023.

We continued to offer our voluntary human rights training for suppliers, which has been available since 2020. In addition to the training, we created an e-learning module on sustainability which is available to current suppliers in eight languages.

## Collaboration with external partners and international initiatives

The Volkswagen Group also aims to address human rights risks in the upstream supply chain beyond its contractual relationships. To this end, we engage with various stakeholders as an exercise to increase our leverage while at the same time benefit from the learning and knowledge sharing.

We take part in conferences and workshops and meet with NGOs, associations, local partners and media representatives. We see value in engaging with NGOs and community representatives, both on a national and international level. In 2023, our Working Group members met with nearly 20 different stakeholders to exchange views on human rights, social and environmental issues. These meetings took place both virtually and in person, included follow-up meetings, and some evolved into recurring working groups.

In 2023, we attended over 15 events of relevance to our responsible sourcing of raw materials and spoke at seven events, including conferences related to the automotive industry and its impact on human rights and the environment. During the OECD Forum on Responsible Mineral Supply Chains in April 2023, the Volkswagen Group took part in the DRIVE and the RMI Partner Session and spoke about the EUBR, challenges of implementation and opportunities for an industry-wide alignment.

The Volkswagen Group and its brands are also active members in a number of global initiatives – both cross-industry and raw material-specific. Together with our partners, we pursue the following objectives: knowledge transfer, development of standardized risk assessment tools and the introduction of standards for responsible raw material supply chains with respect to human rights, the environment and compliance. We believe that these activities are helping us make progress on our path to transparent and sustainable supply chains and advance more responsible business practices worldwide.

For a description of selected initiatives of which the Volkswagen Group is a member, see the section on participation in international initiatives → [on pages 20-21](#).



## Supply Chain Grievance Mechanism

The supply chain grievance mechanism is used to process information on breaches of the Code of Conduct for Business Partners by the Volkswagen Group's direct or indirect suppliers. We believe that grievance mechanisms are important for managing human rights and environmental risks in our supply chains. Through this mechanism, we process concerns others have raised regarding negative human rights and environmental impacts. Hints can be placed anonymously. When a hint is brought to our attention, we investigate incidents relating to breaches or suspected violations by business partners of the Code of Conduct for Business Partners of the Volkswagen Group, including abuses of human rights and environmental impacts.

More information about our grievance mechanism and KPIs for 2023 can be found in our [2023 Sustainability Report \(pages 123 and 128\)](#).



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## Limitations

2023 marks the fourth year since introducing the RMDDMS at the Volkswagen Group. Over the course of the reporting period, we made improvements across the individual raw materials and undertook steps to strengthen the management system itself. While we are pleased with our progress, we also encountered obstacles along the way.

### Challenges of multi-tier global supply chains

In the reporting year, we continued our efforts to work towards greater transparency in our supply chains. It is a particular challenge to identify upstream actors in our supply chains that impede the flow of sustainability and compliance information, as well as risk assessment and mitigation activities in the more remote tiers of the supply chain where the Volkswagen Group does not have a direct contractual relationship with the supplier. For example, we found that, in some cases, suppliers were unwilling to disclose the identities of their suppliers because of antitrust and competition concerns.

### Limited responsible sourcing maturity among supplier groups

Through our battery materials mapping and auditing program we continued to conduct supplier audits against the five-step framework of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals. While many of our suppliers and sub-suppliers are open to adopting the OECD framework, some are reluctant to conduct external audits or are struggling to identify and mitigate risks in their supply chains. Midstream companies in particular are often unable to identify the existing human rights and environmental risks associated with the mineral commodities they process and are not familiar with international standards.

### Lack of a level international playing field

While due diligence expectations at the EU and European national level have increased, legal requirements for businesses in many other geographies are not developing at the same speed. This creates a challenge for downstream companies which are unable to address risks much further up their global and fragmented supply chains by themselves. This regulatory imbalance can only be addressed through close collaboration between businesses in various jurisdictions, as well as measures aimed at creating an international level playing field.

Another example is that in some cases, national legislation is not in line with, or even contradicts, international best practice (for example, the stakeholder consultation processes required at mine sites). Upstream companies then face the challenge that while they implement national legislation, it may not be perceived as sufficient by downstream industry actors who expect them to implement international best-practice requirements.

### Limits of corporate influence and the role of governments

Some of the issues we face are beyond our sole control. As set out in the UN Guiding Principles on Business and Human Rights, states have a duty to protect human rights, while business enterprises have a responsibility to respect human rights. To create an enabling environment for responsible business conduct, governments play a key role in issues such as ensuring good governance (for example, combating bribery and corruption), enacting and enforcing relevant legal frameworks, and ensuring that human rights are not violated through the deployment of state security forces. However, we recognize the complexities for governments in ensuring human rights and environmental protection.

One example of such complexities relevant to the downstream sector is the protection and respect of human rights in regions with artisanal and small-scale mining (ASM). While ASM is associated with poor health and safety standards and child labor and may operate outside the formal economy with little or no regulation, it is an important source of income for a large number of people in the countries concerned. It is therefore a balancing act to exclude poor working and environmental conditions from global supply chains, while at the same time not excluding the most vulnerable groups in society from improving their livelihoods.

### Evolving legislation and management systems

Due diligence management systems require significant resource investment and learning for all businesses, including ours. This is particularly the case with systems trying to address risks across multiple tiers of long and complex supply chains.

In the reporting period, we were able to increase the internal capacities working on the RMDDMS. This required internal capacity development and training. Due to the LkSG and other upcoming legislations, documentation and internal procedures became a higher priority in our work. In addition, supply chain compliance obligations continue to grow in complexity. Evolving laws and regulations in different jurisdictions add to the challenge and need to be communicated and implemented in our due diligence processes and tools, as well as rolled out to our supply chains. This is especially challenging when legislation is not harmonized, differs from international guidelines or uses undefined legal terms.

We are constantly learning along the way and are achieving milestones and measurable positive results for human rights and the environment through longer-term initiatives and engagement.

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The Volkswagen Group is involved in various initiatives with a focus on sustainability along the supply chain, some of which are cross-industry initiatives and relevant across a range of raw materials while others are raw material-specific. By participating in these initiatives, we are able to collaborate with other industry actors and increase our leverage across all tiers of the supply chain and within the broader industry sector.

In 2023, we continued to be involved in several broader initiatives and took part in several of their activities:

### DRIVE Sustainability

The Volkswagen Group is a founding member of the industry-led initiative [DRIVE Sustainability](#) under the umbrella of CSR Europe. DRIVE Sustainability is a partnership of 16 leading automotive companies that are leading the transformation to a circular and sustainable automotive value chain by using a common voice in their engagement with suppliers, stakeholders and related sectors.

As active members, we participate in the Raw Materials Working Group, through which we contributed to further developing the [Raw Material Outlook](#). The platform is a key initiative within DRIVE Sustainability and provides a tool for automotive companies to analyze critical raw materials value chains by mapping stages and actors and identifying salient ESG risks along the supply chain. In 2023, we worked on updating the ten initial raw material profiles of the platform and added five new risk profiles.

Another tool developed by the working group is the **Sustainability Assessment Questionnaire (SAQ)** which is also used by the Volkswagen Group as a basis for our Sustainability Rating (S-Rating) assessment. The common questionnaire standard for auditing sustainability aspects of suppliers is currently used by 13 of the member companies and intends to improve efficiency through a standardized approach. In SAQ version 5.0, revised in 2022, relevant topics were added to prepare for the German Supply Chain Due Diligence Act (LkSG).

**Drive+** is the sustainable supply chain platform for automotive tier-1 suppliers and supplier associations. Members can engage in a systematic dialogue with Drive Sustainability partners about common sustainability challenges and find joint solutions. In 2023, we took part in two workshops with Drive+ members on ESG risks of Rare Earth Elements (REE) and Nickel value chains.

Together with DRIVE Sustainability, we also participated in several external events in the reporting period – 2023 EU-LATAM Convention on Raw Materials, 2023 OECD Minerals Forum, the final RE-SOURCING conference – and engaged with 50+ stakeholders across NGOs, trade unions, industry associations and suppliers.

Drive Sustainability and CSR Europe also work locally with a focus on setting up sustainability networks to strengthen responsible sourcing and due diligence practices in the battery value chain. The **project “Extractives for Sustainability,”** carried out with the support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), addresses ESG issues related to the production of copper and cobalt in the DR Congo and manganese and iron ore in South Africa. The project, finalized in 2023, helped build local business networks among local mines for collaborative action and dialogue with the downstream part of their supply chains. In 2023, we continued to participate in the project through online meetings and webinars.

Other on-the-ground activities in the reporting period included engagement sessions on rare earth elements in Myanmar with NGO Global Witness and on aluminum with Human Rights Watch and Inclusive Development International. We also kicked off a project with global union IndustriALL on human rights due diligence in the Indonesian battery supply chain.

DRIVE Sustainability is an associate member of several material-specific initiatives to join forces for more sustainable material-specific supply chains, among them the Global Platform for Sustainable Natural Rubber (GPSNR) and ResponsibleSteel.

### German sector dialogues on the implementation of the National Action Plan for Business and Human Rights (NAP)

Since 2020, the Federal Ministry of Labour and Social Affairs (BMAS) has organized Sector Dialogues to help implement Germany's National Action Plan for Business and Human Rights (NAP). These dialogues offer guidance to enterprises and support their efforts to implement the NAP's human rights due diligence requirements. One of the sectors is the automotive sector. The [Sector Dialogue](#) is a forum comprising representatives of the automotive industry and business associations, trade unions, NGOs and several other initiatives. The members have developed a series of guidelines for integrating due diligence requirements into business processes, covering both the NAP requirements and the obligations set out in the German Supply Chain Due Diligence Act (LkSG). Focus materials are copper and lithium. In the reporting period, we actively participated in the Lithium Working Group, mainly through Porsche's representation. Find more information on the Lithium Working Group in → [section 04](#) of this report.

## Initiative for Responsible Mining Assurance (IRMA)

The Volkswagen Group continues to be an active and committed member of the [Initiative for Responsible Mining Assurance \(IRMA\)](#) and is also a member of the IRMA Buyers Group and the Mining Engagement Team. IRMA is a multi-stakeholder alliance that advocates for more socially and environmentally responsible mining. IRMA offers an independent assessment of mines against comprehensive standards. The IRMA standards encompass the protection of human rights including the rights of local communities, the exclusion of corruption, health protection measures, occupational safety and environmental protection. In 2023, public consultation began on two draft updated standards: the Standard for Responsible Mining and Mineral Processing 2.0 and the Chain of Custody Standard for Responsible Mined Minerals.

The Volkswagen Group has committed to gradually applying the IRMA Standard for Responsible Mining in its battery supply chains, ensuring that, in high-risk regions, sourcing battery raw materials is restricted to material originating from mines that are audited against the IRMA Standard.

The continued scaling of IRMA across the mining industry and raw material supply chains remains critical to unlocking the ability of the Volkswagen Group and other downstream brands to achieve their responsible sourcing goals. We fully support IRMA's efforts to engage with mining-affected communities, civil society and trade unions on how the IRMA system can serve as a tool for meaningful engagement to improve mining practices worldwide.

## Responsible Minerals Initiative (RMI)

[The Responsible Minerals Initiative \(RMI\)](#) of the Responsible Business Alliance (RBA) is a global multi-stakeholder effort to promote responsible sourcing of minerals from conflict-affected and high-risk areas.

RMI's **Responsible Minerals Assurance Process (RMAP)** enables companies and their suppliers to determine which smelters and refiners have systems in place to responsibly source minerals in accordance with current global standards. The evaluation is done through an independent third-party audit.

Through the RMI, the Volkswagen Group joins forces with other partners, either along the supply chain or from other industries, to promote dialogue and build a common understanding of sustainability expectations and harmonized upstream and downstream due diligence tools. We help drive industry-wide solutions and collaborative efforts to collectively leverage and standardize tools and adopt standardized data points for data exchange that enable downstream and upstream companies to map their supply chains while maintaining business confidentiality.

In the reporting period, the Volkswagen Group used Material Insights as a risk radar tool to start the risk identification and due diligence process and continued to encourage suppliers to be assessed against RMI standards.

We also played a key role in reviewing the RBA and RMI's Practical Guide to EU Battery Regulation and Battery Materials Due Diligence and supporting documents, working with suppliers to ensure the accurate completion of the information. In addition, we participate in the RMI's Emerging Minerals Working Group, which brings together more than 40 companies to map global value chains for sustainable transition, encourage suppliers to be assessed against a standard and use collective leverage where necessary to drive responsible business practices upstream.

For more details on our participation in raw material-specific initiatives please see the respective Raw Material Snapshots → [in section 04](#) of this report.

A full list of our membership and participation in industry groups and initiatives can be found → [in Annex II](#) at the end of this report.

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### The Leather Working Group (LWG)

All of the Volkswagen Group's brands joined the Leather Working Group, following Bentley which became the first automotive member of the LWG in

2021

→ See also Raw Material Snapshot on leather, page 43

### PGM

Scania started supporting the Marikana Youth Centre, a multi-stakeholder project working to provide brighter futures for children in the platinum mining town of Marikana.

→ See also Raw Material Snapshot on PGM, page 48

### Mica

Porsche joined the Responsible Mica Initiative pilot project to establish responsible supply chains in Madagascar on behalf of the Volkswagen Group and took part into a field trip to Mica Mines in Anôsy, Madagascar.



→ See also Raw Material Snapshot on mica, page 45

### Lithium

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Technical workshops by the "Responsible Lithium Partnership" on water-related challenges in Chile

→ See also Raw Material Snapshot on lithium, page 24

### Aluminium Stewardship Initiative (ASI)

Aluminum specification sheets with ASI requirements rolled out across the Volkswagen Group.

→ See also Raw Material Snapshot on aluminum, page 38

### DRIVE Sustainability

5 2

new risk profiles have been added to the Raw Material Outlook platform

workshops with Drive+ members on ESG risks in REE and nickel value chains

### Global Platform for Sustainable Natural Rubber (GPSNR)

Capacity-building projects in Indonesia coached 380 smallholders on disease fighting and trained 7,000 smallholders on Good Agricultural Practices. Projects in Thailand educated 100 smallholders on agroforestry and 85 smallholders took part in training workshops on agroforestry in Cote D'Ivoire and Indonesia.

→ See also Raw Material Snapshot on natural rubber, page 51

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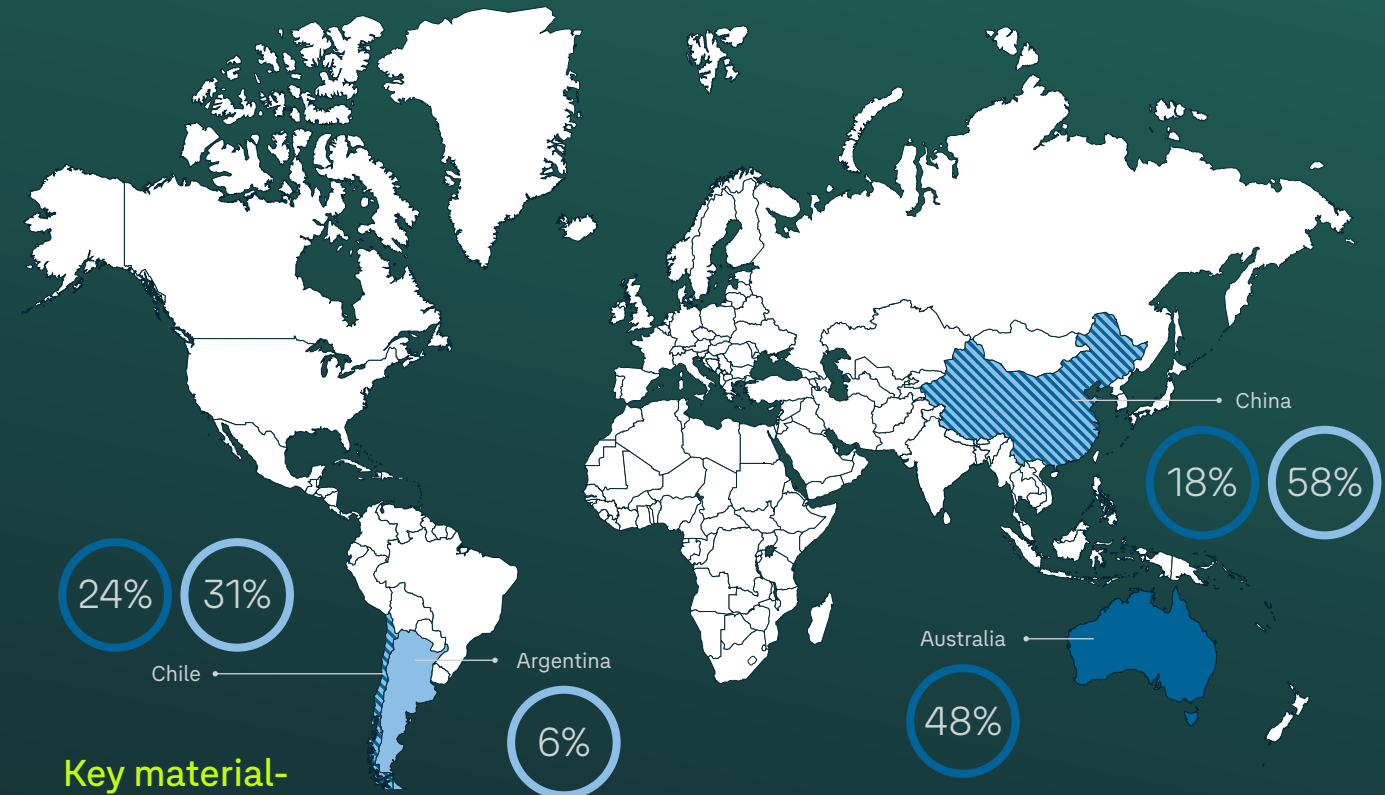
# → Lithium

Lithium is a soft and light, silvery-white alkali metal found in mineral and brine deposits. The metal is best known for its high energy storage density and its use in rechargeable batteries. Further industrial applications are metallurgy, glass and ceramics, lubricants and drugs.



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ■ Both Source: USGS, 2023 estimates.



## Key material-specific risks

### Environmental

- Pollution, water consumption
- Loss of biodiversity
- Destruction of forests and soils

### Social & Human Rights

- Forced or compulsory labor

### Communities

- Protection of the rights of indigenous peoples

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## Lithium in our supply chain

Lithium hydroxide and lithium carbonate are the most important lithium products, also for the Volkswagen Group. They are used as raw material for cathodes for battery manufacturing. Owing to the expansion of e-mobility, our demand for lithium as a key material for batteries is expected to grow in the coming years.

In 2023, the Volkswagen Group did not directly source any battery raw materials, including lithium. Instead, we buy battery cells from suppliers which are themselves up to several supply chain steps away from the raw material origin. We collaborated with our main battery suppliers, for which we use a mandatory EV battery raw materials specification sheet. The main lithium producing countries are Australia, Chile, China, Argentina and Brazil. In the reporting period, PowerCo entered into purchasing agreements with suppliers of battery raw materials that will begin supplying PowerCo in 2025.

PowerCo, founded in 2022, vertically integrates the development and production of battery cells within the Volkswagen Group and is expected to start manufacturing in 2025. More information is available in the [2023 Sustainability Report](#) (pages 54-55).

## Risk Assessment

The systemic and salient risk area identified for lithium is related to water. The water consumption for mining and processing, which is particularly relevant in high water stress areas, can be related to adverse environmental impacts on soil and biodiversity as well as adverse impacts on neighboring communities. However, the water-related challenges

### KEY APPLICATION

— EV batteries

are manifold and vary depending on the lithium deposit (hard rock or brine) and the extraction process and the technologies used. Another important risk in the context of lithium extraction relates to the protection of indigenous peoples' rights. Many lithium deposits are located on or near indigenous territories and operations affect indigenous livelihoods in different ways. Forced labor was added as a newly identified risk area in 2023 as a result of a grievance case (see below).

For all battery raw materials, we engage closely with our battery suppliers in order to collect supply chain data and conduct thorough risk assessments. During the reporting period, we continued to collect data through our lithium **supply chain mapping questionnaire**, which we analyzed and assessed to identify any responsible sourcing risks. In addition, publicly available information such as news articles or ESG reports provided useful insights.

In 2023, two lithium mine sites in Chile successfully underwent assessments according to IRMA standards and achieved IRMA50 and IRMA75 respectively. Both reports were thoroughly reviewed to confirm our previous risk assessments.

## Risk Mitigation

Our strategy for risk mitigation in the lithium supply chain is multi-faceted. Through cross-industry initiatives such as the Initiative for Responsible Mining Assurance (IRMA) and the activities of the Responsible Lithium Partnership in Chile, we continue to advocate for more responsible mining, positive impact in mining affected regions and an increased share of IRMA-certified material.

Contractual requirements for transparency and due diligence – set out in our **battery raw materials specification sheets** – are one key element of risk mitigation. The first requirement established in the specification sheet is providing transparency on the supply chain which allows us to conduct a

## Stakeholder Engagement

- Collaboration with local stakeholders participating in the Responsible Lithium Partnership in Chile
- Participation in lithium working groups of the German Sector Dialogue and the RMI
- Continued dialogue with direct and indirect suppliers

comprehensive social and environmental risk analysis, conduct **mapping audits** and define and implement risk mitigation measures, if necessary.

We use the IRMA reports for our risk assessment, and the **IRMA standard** is a prerequisite for direct lithium procurement. In the reporting period, we continued to promote the IRMA standard among tier-n suppliers and conducted meetings with two lithium mining companies and two mid-stream companies to follow up regarding their progress with IRMA assessment. We also seek a contractual commitment to continuous improvement to increase the IRMA performance level over time.

In preparation for the start of the battery production, the Volkswagen Group's procurement team is supporting **PowerCo** in social and environmental risk assessments of potential direct suppliers of battery raw materials. These so-called "ESG pre-checks" are conducted during the initial dialogue with potential suppliers, with a particular focus on mine sites located in high-risk countries. In the reporting period, we conducted one pre-check for lithium. During contract negotiations, we also performed comprehensive on-site human rights due diligence facilitated by industry expert consultants.



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### Initiatives and dialogue

The Volkswagen Group is a founding member of the **Responsible Lithium Partnership** in Chile which is coordinated by the German Agency for International Cooperation (GIZ). The partnership focuses on the responsible use of resources and sustainable lithium production in Chile's Salar de Atacama region through local multi-stakeholder partnerships. The platform seeks to promote collaboration among stakeholders in the Salar de Atacama watershed to improve long-term natural resource management.

In 2023, we contributed to several activities, among them a hydrological study which also covered the potential impacts on biodiversity. We also continued to support the "Responsible Lithium Partnership," a multi-stakeholder partnership (see highlight box on → [page 27](#)).

In 2023, we continued to participate in the **Lithium Working Group of the German Automotive Sector Dialogue**, mainly through our representative from Porsche. The working group has developed [recommendations for the lithium industry](#) on how to effectively manage the lithium supply chain risks. These were finalized in alignment with national experts and local organizations and mining companies and published in July 2023. The project also aims to support the cascading of sustainability requirements in the supply chain.

Through the German Automotive Sector Dialogue, we are also engaged with the International Lithium Association in a dialogue with mining companies (hard rock and brine).

The Volkswagen Group also participates in the **RMI Working Group on Lithium** to foster the uptake of due diligence activities and responsible sourcing across the supply chain. In the reporting period, as a result of collective supply chain mapping and industry engagement efforts, 41 lithium facilities were mapped, one facility was successfully assessed against the RMAP standard and three facilities are preparing for assessment in 2024.

### Research and direct stakeholder engagement

In the reporting period, the Volkswagen Group funded research on social risks associated with lithium in the so-called "lithium triangle" in South America (Argentina, Bolivia, Chile); a potential second phase of the project with academia in Australia and Chile is currently being discussed.

We also continued to engage with **NGOs** in order to deepen our understanding of the situation of local stakeholders in Chile. During the German-Chilean Raw Materials Forum 2023, we met representatives of the Atacameña Women Alliance to learn about their actions to strengthen the role of the Lickanantay women in the Salar de Atacama and understand their priorities while facing increasing lithium extraction in Northern Chile.

### Grievance case on forced labor

Forced labor was identified as a new salient risk area for lithium in 2023. A grievance case was opened to address the alleged relationship to the allegations through one of the Volkswagen Group's suppliers. As a consequence, we commissioned a series of audits in the lithium supply chain. Following the audits, the grievance case was closed since the auditors did not confirm the alleged supply chain connections. For more information, see the [Volkswagen Group website on ESG controversies](#).

## Outlook 2024

We plan to:

- Further promote the IRMA standard for responsible lithium mining and gather feedback from stakeholders around IRMA-certified lithium mines
- Engage with our suppliers to develop and roll out tools to support compliance with the EUBR
- Continue supporting local stakeholders in Chile through the Responsible Lithium Partnership
- Continue expanding our lithium supply chain mapping in close collaboration with our major battery suppliers
- Engage in dialogue with relevant internal and external stakeholders on newly identified risks in the lithium supply chain and emerging lithium producing countries

For more information on the EU Battery Regulation (EUBR) → [see page 13](#) of this report.





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## The Responsible Lithium Partnership – on the ground in Chile

In the reporting period, we continued to support the  **Responsible Lithium Partnership**, a multi-stakeholder partnership in Chile, facilitated by GIZ in the context of the Responsible Lithium Partnership.

The Responsible Lithium Partnership enables dialogue between organizations, indigenous communities and institutions that carry out productive, social and/or cultural activities in the Salar de Atacama basin. The members seek to collaboratively resolve information gaps on the basin and reach agreement on priority issues related to the sustainability of the region, mainly focused on water-related issues.

Participation is very broad and the format is unique in the region since it brings together representatives from local tourism and agriculture associations, lithium mining companies, indigenous communities and local authority representatives.

Several activities have been implemented by the roundtable on two major focus areas:

- Technical data: A project to source technical data on lithium production as well as water use and demand in the region, in order to reduce potential scientific uncertainties. Furthermore, 11 technical workshops on water-related challenges and potential solutions were held throughout 2023.
- Water resources: One of the first focus areas of the roundtable, resulting in a series of measures, including a cadastre of water rights on the river basin; geological and hydrological mapping of the Vilama River; awareness campaigns and capacity-building program; providing access to data and resources through website and social media; irrigation pilot; monitoring of streams; grey water use; plan for sustainable tourism; support to stakeholders for public funding for water-related projects; and investment in upgrading a freshwater plant.

HIGHLIGHT



11 technical workshops on water-related challenges in 2023.



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# → Cobalt

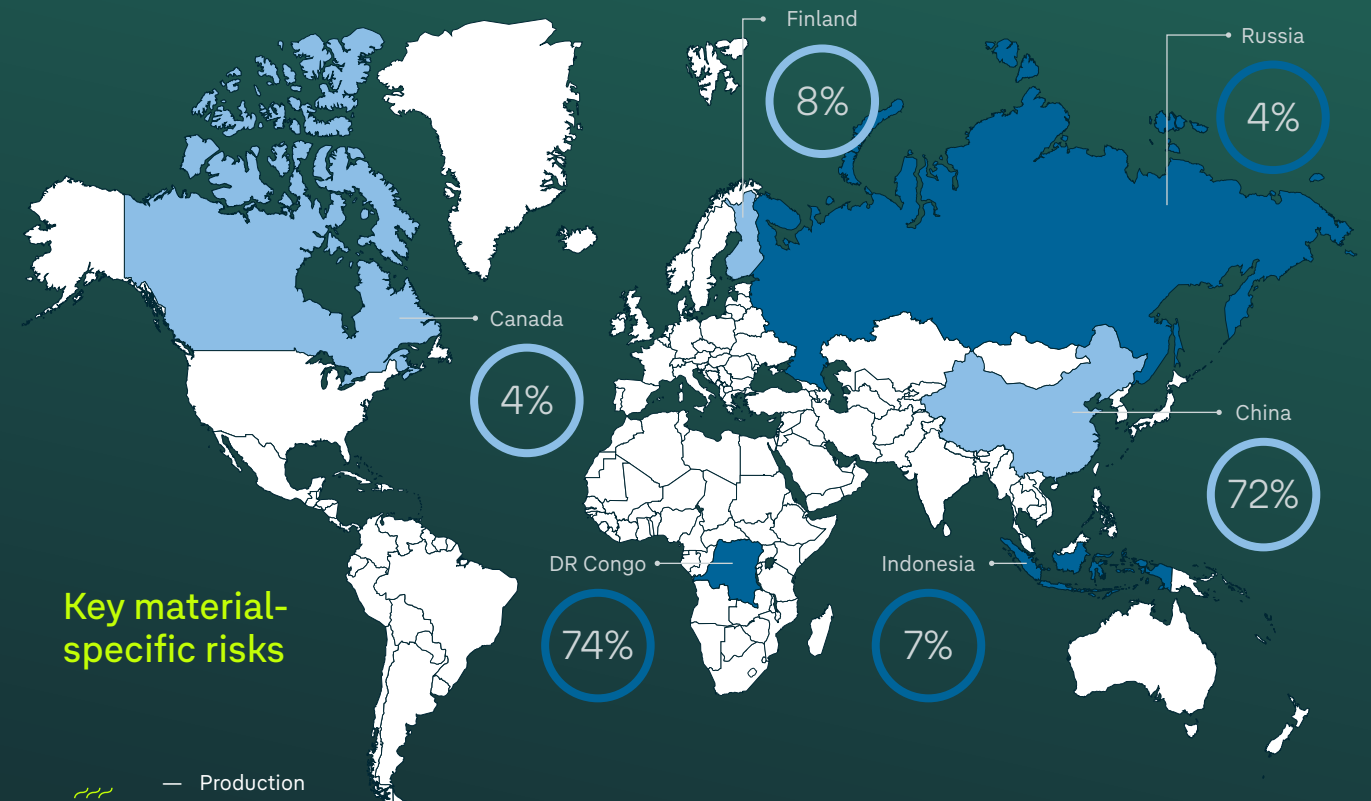
Cobalt is a hard, lustrous, silvery metal, found in rocks only in a chemically combined form. The vast majority of cobalt is extracted as a by-product of existing nickel and copper mining. Cobalt is primarily used in lithium-ion batteries and in the manufacture of magnetic high-strength alloys.



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries

Source: USGS, Cobalt Institute, 2023 estimates.



## Key material-specific risks

- Production and use of pollutants
  - Pollution, water consumption
  - Handling and disposal of waste
  - Loss of biodiversity
  - Destruction of forests and soils
- ### Social & Human Rights

  - Forced or compulsory labor
  - Child labor
  - Discrimination
  - Health and safety
  - Trade union freedoms
  - Payment of adequate wages

### Communities

  - Causing harmful change
  - Protection of the rights of indigenous people



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## Cobalt in our supply chain

Cobalt hydroxide, cobalt sulphate and cobalt metal are the main inputs for EV battery cell production. Cobalt plays an essential role in batteries, improving vehicle range and safety by providing thermal stability in cathode chemistry.

In 2023, the Volkswagen Group did not directly source any battery raw materials, including cobalt. Instead, the Volkswagen Group buys its battery cells from suppliers which are themselves up to nine supply chain steps away from the raw material origin. Our main sourcing countries for cobalt are DR Congo, Turkey, Indonesia and New Caledonia (France). In the reporting period, PowerCo entered into purchasing agreements with suppliers of battery raw materials that will begin supplying PowerCo in 2025.

PowerCo, founded in 2022, vertically integrates the development and production of battery cells within the Volkswagen Group and is expected to start manufacturing in 2025. More information is available in the [2023 Sustainability Report](#) (pages 54-55).

## Risk Assessment

The Volkswagen Group has identified human rights and adverse environmental impacts as the systemic and salient risks for cobalt. This is due to the majority of the world's cobalt being mined in the southern area of the DR Congo. While mining is a primary source of income for the region, cobalt

### KEY APPLICATION

#### — EV batteries

is partially mined in labor-intensive artisanal and small-scale mining (ASM) with low wages, poor working conditions and little to no safety. The lack of law enforcement is also related to adverse environmental impact on the neighboring communities. Supply chain traceability is low due to the many actors involved.

In 2023, the Volkswagen Group continued to engage with battery cell producers and collected data through our cobalt supply chain mapping questionnaire, which we analyzed and assessed to identify any responsible sourcing risks. Working closely with our battery suppliers through our cobalt **supply chain mapping and audit program**, we have identified and prioritized certain suppliers.

## Risk Mitigation

While cobalt supply chains are complex, we continued to focus on working with our battery suppliers on securing sustainability in the supply chain. The Volkswagen Group strictly avoids sourcing cobalt from artisanal mining operations, a strategic decision aimed at mitigating the inherent risks associated with such activities in the DR Congo. Through our **battery raw materials specification sheets**, we request our suppliers to adhere to internationally recognized responsible sourcing practices such as the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

We seek contractual commitment to international **standards** such as those developed by **IRMA** or **RMI (RMAP)**. By incorporating the IRMA standard into its supplier requirements, the Volkswagen Group/PowerCo reaffirms its commitment to responsible sourcing practices and underscores the importance of maintaining ethical standards in the cobalt supply

## Stakeholder Engagement

- Ongoing engagement with on-the-ground projects such as Cobalt for Development (C4D)
- Dialogue with direct suppliers of cobalt through PowerCo
- Participation in RMI Working Groups on cobalt and emerging minerals
- OECD Forum on Responsible Mineral Supply Chains

chain. Following a supplier's commitment, we continuously monitor the supplier's progress towards its IRMA certification. While it remains the responsibility of the supplier to achieve IRMA certification, we remain closely involved. As part of this ongoing supplier engagement, one priority topic has been the safe management of hazardous substances, including mining tailings.

However, compared to lithium, the cobalt supply chain contains additional challenges regarding standards: Cobalt is often mined as a by-product of large-scale copper (mainly in DR Congo) or nickel mines (e.g. Indonesia). The respective copper-cobalt mining companies are new to the IRMA standard and sometimes favor alternative standards.

In the reporting period, the Volkswagen Group also remained on the advisory board of a responsible mining standard, known as **CERA 4in1 Performance standard**, which was piloted in 2021. The CERA 4in1 pilot project was completed in 2023 but is now on hold due to the roll out of IRMA.



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In preparation for the start of the battery production, the Volkswagen Group's procurement team is supporting **PowerCo** in social and environmental risk assessments of potential direct suppliers of battery raw materials, including cobalt. These so-called "ESG pre-checks" are conducted during the initial dialogue with potential suppliers to assess the situation on the ground. In the reporting period, we conducted one pre-check for cobalt.

In high-risk contexts, the checks are complemented by on-site due diligence facilitated by industry expert consultants, to ensure that suppliers comply with recognized standards on a range of human rights and environmental topics.

We also leverage media screening and supply chain monitoring solutions to actively monitor media hints of any issues occurring at our cobalt suppliers. For any issues, we seek responses and remediation plans when relevant, which are then monitored by the company.

#### Initiatives and dialogue

In 2023, we continued to engage with  **Cobalt for Development (C4D)**, a cross-industry initiative implemented by GIZ that works to support communities dependent on artisanal cobalt mining in the DR Congo's Lualaba Province. In C4D, we work together with partners for improved working and living conditions for small-scale cobalt miners and their communities. The pilot project aims to strengthen compliance with laws and improve health and safety conditions and social well-being for people locally.

## Outlook 2024

We plan to:

- Further promote the IRMA standard for responsible cobalt mining
- Continue expanding our cobalt supply chain mapping in close collaboration with our major battery suppliers, implementing new digital tools to improve the management of the collected supply chain information
- Engage with our suppliers to develop and roll out tools to support compliance with the EUBR

For more information on the EU Battery Regulation (EUBR) → [see page 13](#) of this report.



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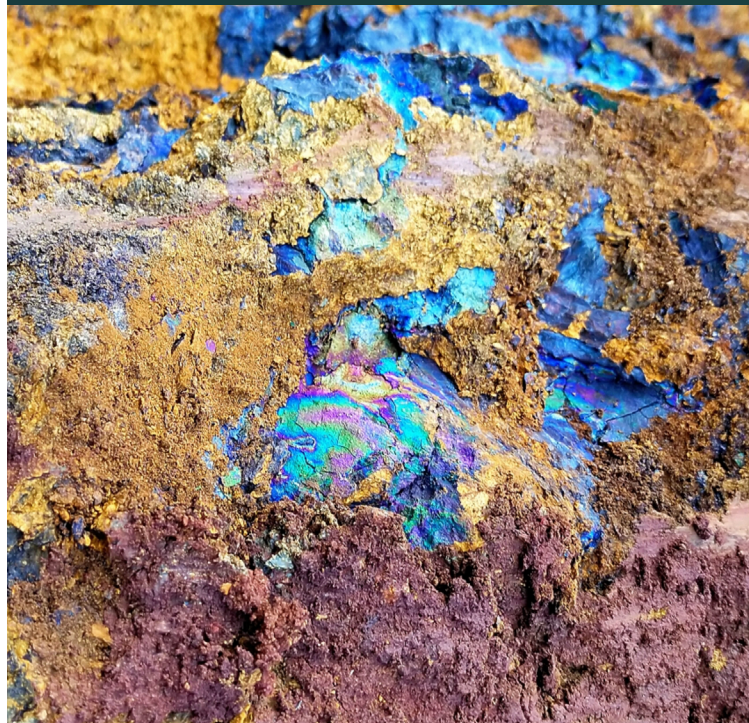
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# Nickel

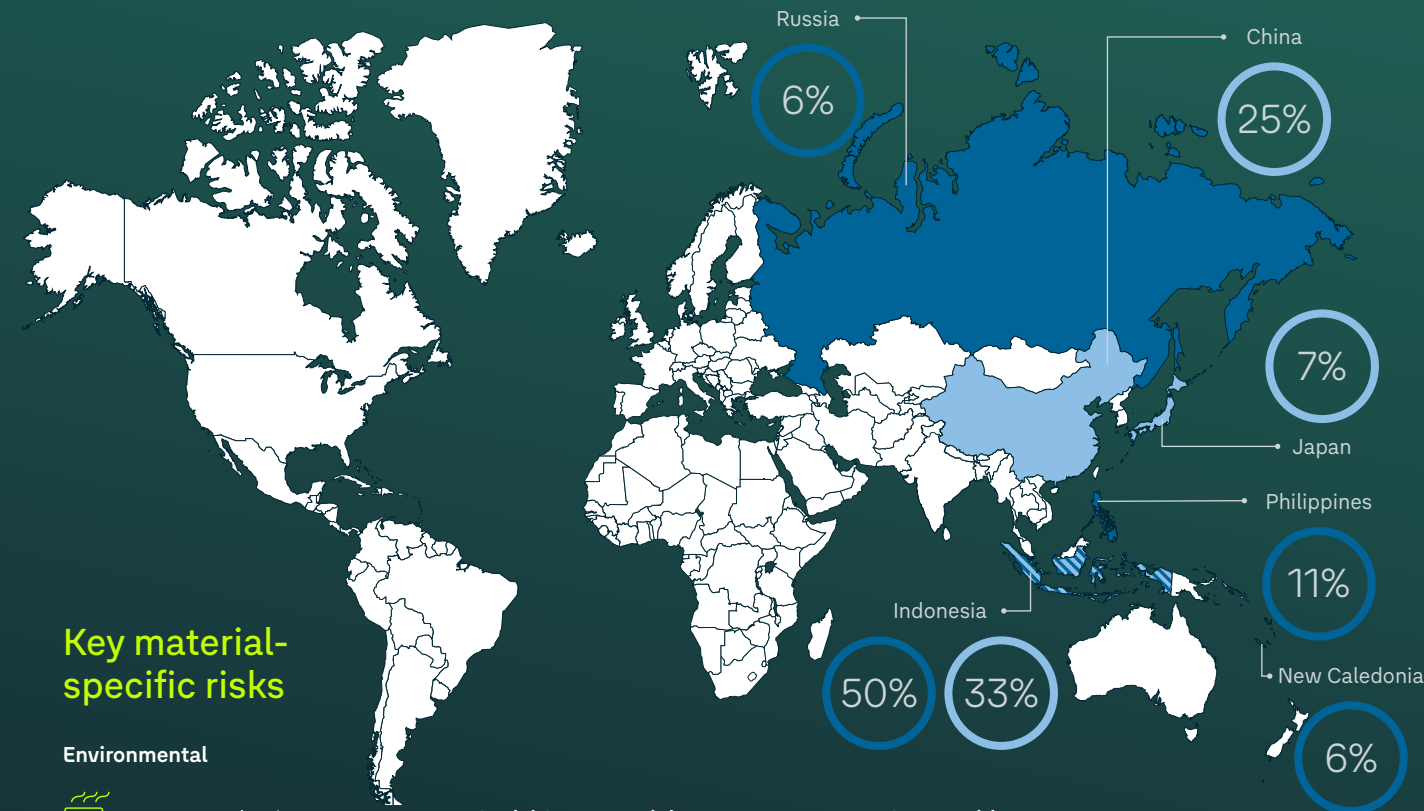
Nickel is a metallic element with a silvery appearance which occurs naturally in soil and water. Primary nickel is produced and used as ferro-nickel, nickel oxides and other chemicals. Stainless steel is by far the most important use of nickel, but it is also used in other alloys, plating and batteries.



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ▨ Both

Source: USGS, EU RMIS, 2023 estimates.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Pollution, water consumption
- Handling and disposal of waste
- Destruction of forests and soils

### Social & Human Rights

- Forced or compulsory labor
- Child labor
- Direct or indirect support to armed groups
- Discrimination
- Health and safety
- Payment of adequate wages
- Trade union freedoms

### Communities

- Causing harmful change
- Forced evictions and/or expropriations
- Protection of rights of indigenous people



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## Nickel in our supply chain

Nickel sulfate provides a source of nickel ions for the cathode material of lithium-ion batteries, such as Nickel-Cobalt-Aluminum (NCA) and Nickel-Cobalt-Manganese (NCM) batteries, contributing to the battery's overall performance, energy density and stability. In EV batteries, nickel-rich cathodes improve energy density and stability while reducing costs. Thus, nickel is a strategically important raw material in the electrification of transportation, in addition to its other uses in stainless steel, alloys and plating.

For the Volkswagen Group, EV batteries are by far the largest field where nickel is required, and we did not directly source any nickel for this use in 2023. Our main sourcing countries for nickel are Australia, China, Papua New Guinea, Indonesia and New Caledonia (France). In the reporting period, PowerCo entered purchasing agreements with suppliers of battery raw materials that will begin supplying PowerCo in 2025.

PowerCo, founded in 2022, vertically integrates the development and production of battery cells within the Volkswagen Group and is expected to start manufacturing in 2025. More information is available in the [2023 Sustainability Report](#) (pages 54-55).

## Risk Assessment

The most serious risk areas associated with nickel are environmental impacts of open pit mining such as destruction of forests and soils, water pollution and waste handling, particularly in seismically active areas such as Indonesia.

### KEY APPLICATION

— EV batteries

Additionally, nickel production is a greenhouse-gas and energy-intensive process. For locations of a number of nickel mines as well as smelting and refining companies, human rights risks have been identified, including working conditions, health and safety, and forced labor.

## Risk Mitigation

Contractual requirements for transparency and due diligence – set out in **our battery specification sheets** – are one key element of risk mitigation. Furthermore, the Volkswagen Group has undertaken a broad sectoral analysis of the nickel supply chain and is continuing its **supply chain mapping and auditing** program.

The Volkswagen Group joined IRMA in 2022 and has since rolled out **the IRMA standard** across the battery supply chains through contractual obligations.

However, regarding standards, the nickel supply chain contains additional challenges compared to lithium, as nickel mining companies are new to the IRMA standard and sometimes favor alternative standards.

In preparation for the start of the battery production, the Volkswagen Group's procurement team is supporting **PowerCo** in social and environmental risk assessments of potential direct suppliers of battery raw materials. These so-called "ESG pre-checks" are conducted during the initial dialogue with potential suppliers, with a particular focus on mine sites located in high-risk countries. In the reporting period, we conducted six pre-checks for nickel.

In high-risk contexts, during contract negotiations, we also perform comprehensive on-site human rights and environmental due diligence facilitated by industry expert consultants.

## Stakeholder Engagement

- Participation in the nickel working group of RMI
- Ongoing dialogue with industry peers and direct and indirect suppliers
- Dialogue with affected stakeholders and NGOs
- Dialogue with direct suppliers of nickel through PowerCo

## Outlook 2024

We plan to:

- Continue expanding our nickel supply chain mapping and audit program in close collaboration with our major battery suppliers
- Progressively apply the IRMA standard for responsible nickel mining and promote IRMA audits in the nickel supply chain
- Plan and engage in an on-the-ground partnership project in Indonesia to mitigate environmental and social risks and raise industry standards on sustainable management of nickel mining and refining
- Engage with our suppliers to develop and roll out tools to support compliance with the EUBR

For more information on the EU Battery Regulation (EUBR) → [see page 13](#) of this report.



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# → Graphite

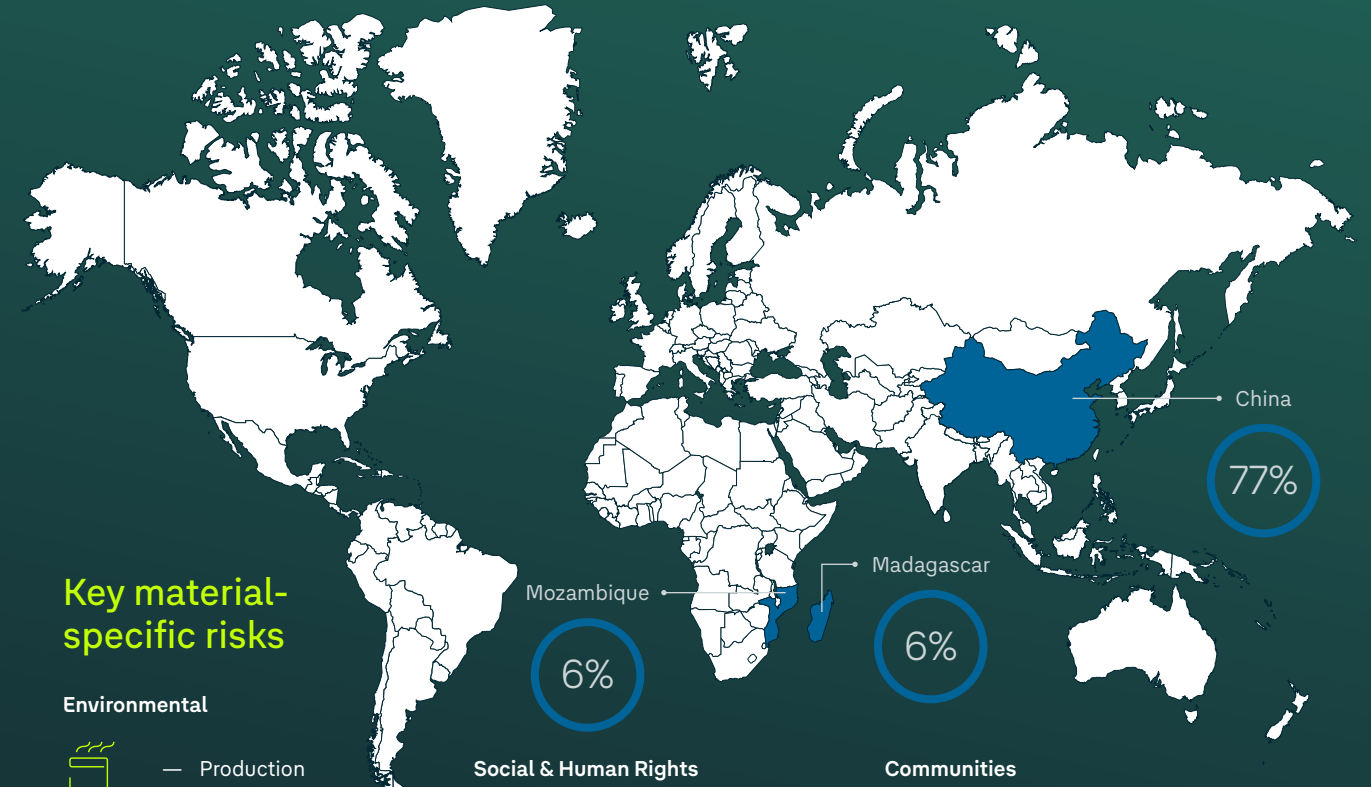
Graphite is a soft, crystalline form of carbon with a metallic luster and a dark grey color. With its thermal and electrical conductivity, it is suitable for many industrial applications. Synthetic and natural graphite are used on a large scale in pencils, lubricants and electrodes.



## Countries of origin (Share of global mining)

● Top 3 mining countries

Source: USGS, 2023 estimates.





## Key material-specific risks


### Environmental

-  — Production and use of pollutants
-  — Pollution, water consumption
-  — Handling and disposal of waste
-  — Destruction of forests and soils

### Social & Human Rights

-  — Forced or compulsory labor
- Child labor
- Direct or indirect support to armed groups
- Discrimination
-  — Health and safety
- Payment of adequate wages
- Trade union freedoms

### Communities

-  — Causing harmful change
- Forced evictions and/or expropriations
- Protection of rights of indigenous people



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## Graphite in our supply chain

Natural graphite is contained in a vast number of vehicle parts, most importantly in the anodes of EV batteries, but also in brake discs and precision parts, graphite powders, etc. EV batteries are by far the largest field where graphite is required, and the Volkswagen Group did not source any graphite for this use in 2023.

With more electric vehicles being produced, we expect the demand for graphite to keep rising. China is the world's leading supplier of natural graphite. Given its strategic importance for the energy transition and its high supply risk, natural graphite is listed by the EU as a critical raw material.

## Risk Assessment

The Volkswagen Group has identified human rights and adverse environmental impacts as the main systemic and salient risks, particularly occupational health and safety, air pollution and negative impacts to local communities.

### KEY APPLICATION

— EV batteries

## Risk Mitigation

We take a multi-layered approach to risk mitigation, focusing on our six battery suppliers as well as the future direct suppliers of natural graphite to PowerCo. Contractual requirements for transparency and due diligence – set out in **our battery specification sheets** – are one key element of risk mitigation.

In the reporting period, the Volkswagen Group has undertaken a broad sectoral analysis of the graphite supply chain and has continued its **supply chain mapping and auditing** program.

The Volkswagen Group joined IRMA in 2022 and is committed to rolling out **the IRMA standard** across the battery supply chains through contractual obligations. This applies to both our current battery suppliers and the new suppliers for PowerCo.

## Stakeholder Engagement

- Ongoing engagement in industry initiatives
- Dialogue with direct suppliers of graphite through PowerCo

## Outlook 2024

We plan to:

- Continue expanding our graphite supply chain mapping and audit program with our battery suppliers
- Engage with our suppliers to develop and roll out tools to support compliance with the EUBR

For more information on the EU Battery Regulation (EUBR) → [see page 13](#) of this report.



# → 3TG


TIN, TANTALUM, TUNGSTEN AND GOLD

Tin, tantalum, tungsten and gold (3TG) are referred to as “conflict minerals” due to their role in violent conflicts in the Democratic Republic of the Congo (DRC) and neighboring countries, where their extraction and trade are used to fund armed groups while fueling human rights abuses, corruption and money laundering. 3TG metals are used in a wide range of everyday electronic products.


## Key material-specific risks


### Environmental

-  — Production and use of pollutants
- Air pollution
- Safety of installations
-  — Handling and disposal of waste
-  — Pollution, water consumption


-  — Destruction of forests and soils
- Loss of biodiversity
- Noise and vibrations

### Social & Human Rights

-  — Child labor
- Direct or indirect support to armed groups
- Discrimination
- Forced or compulsory labor

-  — Health and safety
- Payment of adequate wages

### Communities

-  — Forced evictions and/or expropriations
- Protection of the rights of indigenous peoples

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Because 3TG are four different raw materials with a large total number of countries of origin, we decided against visualizing them on a world map. Instead, the 3TG smelters and the countries and territories of origin we identified are listed in Annexes III and IV of this report.



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## 3TG in our supply chain

3TG metals (tin, tantalum, tungsten and gold, collectively called 3TG or also conflict minerals) are used in tiny quantities in a wide array of automotive parts and components. This lack of focal parts to concentrate on creates a key challenge for 3TG due diligence in automotive supply chains. Tracing the upstream supply chains becomes even more challenging considering that the raw materials are typically added to our supply chains several levels upstream where we have no direct contractual relations.

The Volkswagen Group does not directly purchase 3TG metals. However, we request our suppliers to ensure that only responsibly sourced conflict minerals are part of their supply chains. As stated in our contractually binding Code of Conduct for Business Partners (CoC BP), business partners may only use 3TG from smelters or refiners that meet the requirements of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, as assessed by the Responsible Minerals Initiative (RMI) or similar organizations. These assessments are carried out according to the RMI's Responsible Minerals Assurance Process (RMAP).

### KEY APPLICATIONS

- Various automotive parts
- Electronics

We expect our suppliers to avoid all minerals from conflict affected smelters. Nevertheless, in line with OECD Guidance, the aim is not to ban the procurement of conflict minerals that originate in conflict-affected and high-risk areas, but to promote sourcing from responsible sources within those regions.

## Risk Assessment

As part of the annual general risk assessment, the Volkswagen Group identified human rights risks including child labor and support to non-state armed groups and/or public or private security forces as outstanding systemic social risks. Salient environmental risks are pollutants and hazardous chemicals. However, almost all risk categories according to our RMDDMS apply to these conflict minerals.

As with most other minerals, the highest risks occur at the mining level. For 3TG due diligence, the "choke-point approach" in alignment with the OECD Minerals Guidance is best practice. The approach aims to first identify smelters and refiners (choke points) and then ensure that those smelters and refiners source responsibly.

In 2023, we continued working towards transparency along our 3TG supply chain by collecting relevant supplier data. We used the RMI's Conflict Minerals Reporting Template (CMRT). The CMRT is a standardized reporting template that facilitates the transfer of information through the supply chain regarding mineral country of origin and the smelters and refiners used. The template also supports identifying which smelters and refiners should undergo an audit according to RMI's RMAP standard.

## Stakeholder Engagement

- Member of RMI's smelter engagement and gold team
- Ongoing dialogue with NGOs
- Enhanced due-diligence outreach to tier-1 suppliers
- Encouraging smelters to undergo RMAP audits

In addition, we continued partnering with Assent, a supply chain management solution which includes a third-party database, to manage and improve the quality of the transparency data we receive from suppliers delivering nearly 200,000 different parts. The response rate increased to above 70%, a significant improvement compared to last year's campaign.

We expanded our supplier outreach in line with our ongoing due diligence process. Through collective industry outreach, including our partner Assent and using the CMRT, we identified and engaged with a greater number of relevant tier-1 suppliers compared with previous years – around 4,000 suppliers delivering nearly 200,000 different parts. The response rate increased to above 70%, a significant improvement compared to last year's campaign.

We have determined country of origin data for the majority of the smelters in our supply chain. Lists identifying our smelters and countries of origin can be found in → [Annexes III and IV](#) of this report.



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## Risk Mitigation

Besides our work on increasing transparency in our 3TG supply chains, we are focusing on increasing the number of RMAP-compliant smelters through our participation in the RMI.

In the reporting period, the Volkswagen Group continued to participate in the smelter engagement team and the gold team of the **Responsible Minerals Initiative (RMI)**. Together with other RMI members, we worked with a number of our smelters to encourage them to undergo the RMI's **Responsible Minerals Assurance Process (RMAP)**. Smelters and refiners who face challenges meeting requirements of the RMAP standard can participate in the Extended Corrective Action Plan (CAP) Process of the RMI. This process helps smelters and refiners pursue risk mitigation and continuous improvement.

Together with our partner Assent, we launched an enhanced due diligence program for 3TG in 2023 to ensure that the

requirement from our CoC BP is enforced. To determine if the suppliers comply with our requirements, we assess whether the smelters are RMAP-conformant and also check for any negative media coverage of the smelter. Through this additional outreach activity 1,500 direct suppliers were requested to ensure that only RMAP-conformant smelters contribute to their supply chains.

Of the smelters identified in our supply chain, nearly 63% were RMAP-conformant as of the end of 2023. The slight decrease in RMAP conformance compared to the previous reporting year is due to a reduced number of globally available conformant smelters.

We continue to look for red flags in accordance with the OECD Guidance that may help identify suppliers from conflict-affected and high-risk areas prone to issues of human rights violations.

## Outlook 2024

We plan to:

- Continue to work on increasing transparency along our 3TG supply chain by collecting data and engaging with our most critical tier-1 suppliers (based on the smelter risk profile and/or the quantity of 3TG materials used in their products)
- Increase the percentage of RMAP-conformant 3TG smelters in our supply chain



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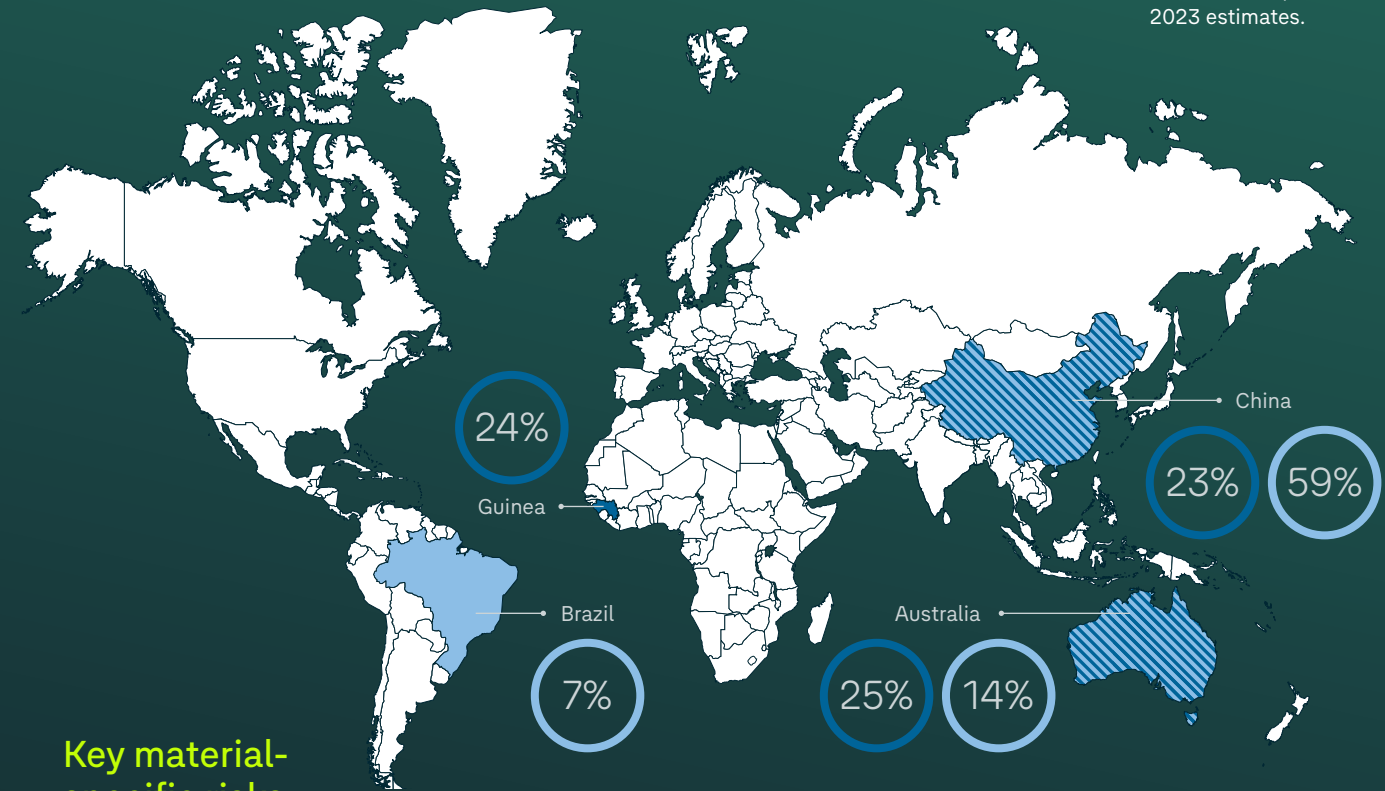
# → Aluminum

Aluminum is extremely versatile and is therefore used in a variety of applications, often replacing steel due to its light weight. It is strong, nonmagnetic, and conducts heat and electricity. Aluminum is an abundant element in the earth's crust but does not occur in its pure form. It has to be extracted from bauxite in a resource-intensive process.

## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ■ Both

Source: USGS, 2023 estimates.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Air pollution

- Pollution, water consumption

- Handling and disposal of waste

- Loss of biodiversity
- Destruction of forests and soils

### Social & Human Rights

- Forced or compulsory labor

### Communities

- Protection of the rights of indigenous peoples





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## Aluminum in our supply chain

Aluminum is used in several key parts of our brands' vehicles – from engines, chassis, frames and body sheets to wheels. Aluminum is also used in battery compartments, cooling plates and many other smaller components. The most important advantage of aluminum for the automotive industry is its excellent strength-to-weight ratio which helps reduce the weight of vehicles and therefore their energy efficiency/ battery range. Thus, the demand for aluminum is expected to further increase in the coming years with the continuing trend towards lightweight construction and electrification of vehicles.

The Volkswagen Group sources aluminum alloys both directly and mainly indirectly. As only a few aluminum producers are vertically integrated, i.e. operate their own mines, refineries and aluminum smelters, it is difficult to mitigate the risks in deeper supply chain levels.

### Risk Assessment

The increasing importance of aluminum makes it essential to assess and tackle the risks associated with its upstream supply chain. For aluminum, we have identified three systemic and salient risk areas associated with high risk: the adverse environmental impacts of mining, refining and smelting, adverse impacts on local and indigenous communities, and

#### KEY APPLICATIONS

- Body sheets
- Die casting & extrusion parts

the occurrence of forced labor in smelting in a certain region. The first two risk areas are interrelated, as the extensive use of land and the resulting environmental damage can negatively affect both the livelihood and human rights of the neighboring communities.


To enhance our understanding of potential risks associated with smelting, refining and the raw material origin, we engaged with our direct suppliers and a range of external stakeholders, including several NGOs. We are also in continuous and close contact with the Aluminium Stewardship Initiative (ASI), a global initiative and certification scheme fostering the responsible production, sourcing and stewardship of alu-

minum. In addition, the risk analysis for aluminum is based on internal sources, a review of external publications that focus on human rights and environmental risks and dialogue with stakeholders. In 2023, we updated our risk assessment for aluminum based on input from various stakeholders.

### Stakeholder Engagement

- Ongoing dialogue with tier-1 and tier-2 suppliers
- Continued work with NGOs and with the ASI
- We actively encourage direct and indirect suppliers to become a member of the ASI

## Aluminium Stewardship Initiative (ASI)

The  **Aluminium Stewardship Initiative (ASI)**, a global multi-stakeholder standard-setting and certification organization, is focused on promoting the responsible production, sourcing and stewardship of aluminum. ASI's standards apply globally and cover all stages of the aluminum chain, from primary aluminum production (bauxite mining, alumina refining and aluminum smelting), semi-fabrication and material conversion processes, to recycling and use in final products.

The combination of the ASI Performance Standard and the ASI Chain of Custody standard provides

recognizable assurance that work is being done responsibly at each stage of the supply chain and across all stages. The ASI uses third-party audits to assess companies against its standards, including human rights and environmental factors.

Audi, as a member of the Volkswagen Group, was the first car manufacturer to be awarded the ASI Chain of Custody Standard certificate in 2020. The Volkswagen Group aims to have more brands ASI certified themselves and to increase demand for certified material.

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## Risk Mitigation

A central pillar of our risk mitigation approach in the aluminum supply chain is the continuous engagement with the **Aluminium Stewardship Initiative (ASI)**. Although more entities are joining ASI and getting certified against its standards, many of our suppliers are still not ASI certified and do not supply ASI-certified material. The Volkswagen Group continues to encourage aluminum producers to join ASI and expand the amount of purchased ASI-certified material.

AUDI AG developed and piloted a **specification sheet** for aluminum body sheet house parts in 2022 which was rolled out across the entire Volkswagen Group in 2023. We started asking all of our tier-1 suppliers in selected material groups to fulfill the requirements including ASI certification and supply of ASI Chain of Custody certified material. The ASI specification sheet is now a mandatory requirement for all sourcing in the respective material groups.

### Decarbonization

Aluminum is one of the Volkswagen Group's focus materials for the decarbonization of its supply chain. The goal is to increase the share of recycled materials as well as the share of low-carb aluminum in our supply chain. An Aluminum Closed Loop project was introduced at AUDI AG in 2017 and subsequently rolled out across press shops of the Volkswagen Group which process a relevant amount of aluminum. The project achieved a closed loop for aluminum waste scraps from the press shops which are delivered directly back to the suppliers for use in new material. Compared with using primary aluminum, recycling aluminum can save up to 95%

of energy. With the project, AUDI AG reduces CO<sub>2</sub> emissions and the quantity of primary raw materials needed. Although the project is not covered by the RMDDMS, the initiative also has a positive impact on other environmental, social and human rights aspects of the aluminum supply chain, because recycled aluminum does not contribute to adverse impacts in mining and processing countries. More information is available in our [Sustainability report \(pages 88-89\)](#).

## Outlook 2024

We plan to:

- Continue collaboration in our ASI working group to obtain ASI certification for more brands of the Volkswagen Group
- Develop a rollout plan for ASI sourcing requirements to additional aluminum material groups, e.g. alloy rims, based on sourcing volume and material availability
- Obtain re-certification and expand the scope of ASI CoC certification



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# → Copper

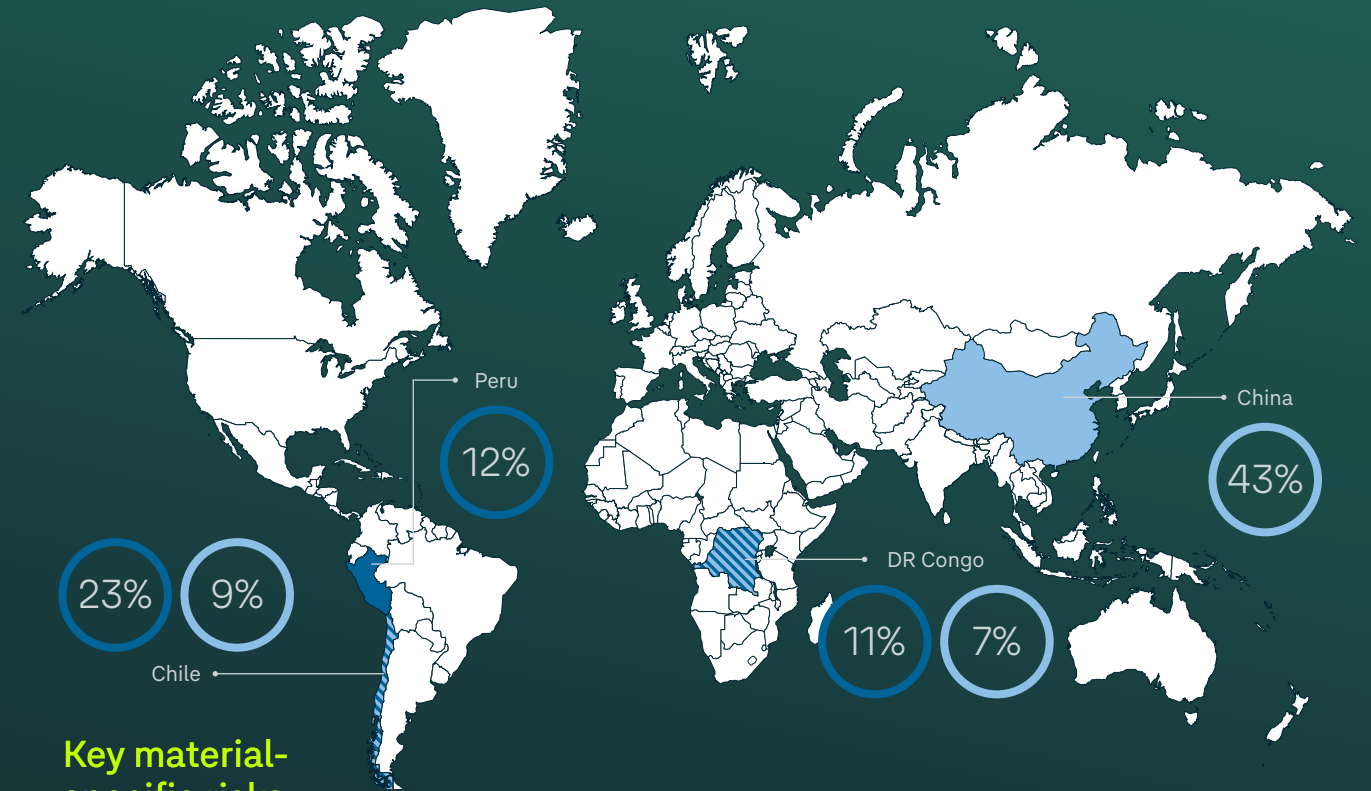
Copper, with its high thermal and electrical conductivity, is an indispensable mineral with a critical role in the electrical grid, electricity generation and consumption. Copper is highly abundant but found only in certain geological conditions in sulfide and oxide ores. Global demand for copper is rising, due to the transition to renewable energy (wind and solar energy).



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ▨ Both

Source: USGS, 2023/2022 estimates.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Air pollution
- Handling and disposal of waste

- Pollution, water consumption
- Destruction of forests and soils
- Loss of biodiversity

### Social & Human Rights

- Forced or compulsory labor
- Child labor

### Communities

- Causing harmful change
- Protection of the rights of indigenous peoples

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## Copper in our supply chain

Copper is a key metal for the automotive industry, used widely in wiring harnesses. Automotive demand for copper is set to grow, as copper has become the material of choice to increase energy efficiency in electric vehicles. To assess the risks of copper, we analyzed the parts which contain copper and engage with our main tier-1 suppliers. Wiring harnesses is the largest material group where copper is required. The Volkswagen Group did not source any copper directly in 2023.

## Risk Assessment

Copper has a number of environmental, social and governance challenges in its supply chain. The Volkswagen Group has identified adverse environmental impacts and threats to indigenous people and local communities as the systemic and salient risks associated with the copper supply chain. The scale of open-pit mining requires significant land use, entailing deforestation, loss of wildlife habitat and biodiversity as well as adverse impact on neighboring and indigenous communities associated with high energy and water intensity and pollution. Extraction and processing of copper are chemically intensive and several copper mines are located in areas with high water stress. In the past, some protests by local communities led to unrest and production halts, also involving public and private security forces.

### KEY APPLICATIONS

- Wiring harnesses
- EV engines
- Starters, generators

The key element of the Volkswagen Group's risk assessment approach for copper continues to be its active involvement in The Copper Mark and dialogue with other stakeholders. At the end of 2023, we started the risk analysis for copper also taking into account the grievance cases and the current developments in 2023. As demand for copper increases, new potential supply chain risks emerge. For example, tensions between formal mining (mostly large-scale) and informal, artisanal and small-scale mining (ASM) in Peru have intensified.

## Risk Mitigation

Considering the complexity of copper supply chains and the wide use of copper by many value chain actors, the Volkswagen Group recognizes that complete supply chain transparency and addressing the risk areas all the way up to mining activities is not always possible.

We engage with  **The Copper Mark**, an assurance framework aiming for sustainable processes across copper value chains. The initiative seeks to increase transparency in copper supply chains and to bring responsibly sourced copper to the market. Currently, 30% of the world copper mine output is produced from The Copper Mark sites. The country which mines the most copper globally is Chile where almost 80% of the mined copper is produced by The Copper Mark sites. In October 2023, The Copper Mark launched the Risk Readiness Assessment (RRA) v3.0 together with the Responsible Minerals Initiative (RMI).

On behalf of the Volkswagen Group, AUDI AG (since 2023) and MAN Truck & Bus SE (since 2022) are partners of The Copper Mark, including AUDI AG's seat on the advisory council. We participate in regular meetings, providing a downstream perspective on The Copper Mark assurance process and the Chain of Custody Standard.

## Stakeholder Engagement

- Ongoing dialogue with the top suppliers of wiring harnesses to the Volkswagen Group
- Ongoing and active participation in The Copper Mark

## Outlook 2024

We plan to:

- Create a sustainability specification sheet for copper
- Intensify our work with The Copper Mark and participate in The Copper Mark working group on due diligence
- Participate in the RMI Working Group for Copper
- Continue our collaboration with focus suppliers and give them a deeper understanding of our expectations regarding responsible copper sourcing



# → Leather

## Key material-specific risks

Leather is a versatile material that has been used for centuries in various applications from clothing, footwear and accessories to upholstered furniture and vehicle interiors. It is stable and firm, flexible and durable.

### Environmental



— Pollution, water consumption



— Destruction of forests and soils  
— Loss of biodiversity

### Social & Human Rights



— Health and safety



The available data on global leather production and tanning do not exclusively represent figures for the automotive industry. Not every cowhide is suitable and used for leather production and not every cowhide is used in the automotive sector. For these reasons, we decided not to report any data on leather production or tanning.

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## Leather in our supply chain

Leather is used for vehicle interiors due to its strength, flexibility, durability and aesthetic features. The animal hides and skins are sourced as a by-product of the meat or dairy industry. The hides undergo a series of processes, including pre-treatment, tanning and finishing, to transform them into leather and then into the final product. Some automotive interior leather companies are vertically integrated and own both tanneries and e.g. auto seat companies.

## Risk Assessment

For the area of leather, we have identified adverse environmental impacts and threats to workers' occupational health and safety as well as animal welfare as the systemic and salient risk areas. Besides the health and safety risks associated with the use of chemicals in the tanning process, leather production is associated with environmental risks such as deforestation due to livestock farming, and air and water pollution due to the use of chemicals in the production process. Such adverse environmental impacts can also cause risks for local and indigenous communities.

The majority of the Volkswagen Group's direct leather suppliers are based in Europe and source their skins and hides from the region. If raw hides or upstream materials are sourced from high-risk countries, the supplier must implement enhanced due diligence measures such as sub-supplier audits, sourcing from certified sources or the deployment of suitable geo-fencing systems.

### KEY APPLICATIONS

- Seats
- Steering wheels
- Interior components

In addition to supply chain transparency data we gather through direct supplier outreach, the Volkswagen Group regularly reviews sector studies including from sources such as Drive Sustainability's Raw Material Outlook, the World Wide Fund for Nature (WWF) and the Leather Working Group (LWG).

## Risk Mitigation

The Volkswagen Group works towards traceability in the leather supply chain through direct contact with its suppliers and contractual requirements. Before becoming a member of the Leather Working Group (LWG) with all brands of the Group, most of our leather supplier sites were already certified according to the standard of LWG.

In 2023, all brands of the Volkswagen Group joined the [Leather Working Group \(LWG\)](#), following Bentley, which became the first automotive member of the LWG in 2021. The LWG is a non-profit organization comprised of leather manufacturers, traders, suppliers, technical experts, as well as brands and retailers, representing a range of industries including automotive. Members represent more than one quarter of global finished leather production. The LWG works to ensure transparency and common environmental and social standards for leather supply chains around the world and provides certification for leather manufacturers.

**Specification sheets** for leather were introduced in early 2022 and rolled out throughout the Volkswagen Group. For example, the Group requires all companies and locations where tanning, re-tanning and finishing process steps are carried out, as well as the countries of origin of the raw hide (provenance) to be specified. Moreover, a leather-specific sustainability audit of at least LWG bronze level is requested. This audit entails strict criteria, for example regarding water usage and avoidance of water pollution in the tanning process, and workers health and safety measures that must be adhered to.

## Stakeholder Engagement

- Ongoing dialogue in the [Leather Working Group](#)
- Engagement with NGOs such as [WWF](#) to use their expertise to further our sustainability requirements

As a matter of principle, Volkswagen brands do not accept any leather that contributes to illegal deforestation. Only raw hides from food production (by-products) may be used; inhumane treatment (violation of the five freedoms defined by the animal welfare committee) of animals in the production is not accepted.

## Outlook 2024

We plan to:

- Finalize and roll out the updated leather specification sheet across the brands
- Continue to enhance transparency in our leather supply chain and work towards traceability in close collaboration with our suppliers
- Continue our engagement with LWG



# → Mica

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Mica is a group of 37 silicate minerals with a layered or plate-like texture. Mica minerals occur as flake and scrap mica as well as sheet mica. Mica is used in a variety of consumer goods, from paints and cosmetics for its shimmering effect to electronic devices for its heat resistance and low thermal and electrical conductivity.

### Key material-specific risks

#### Environmental



- Destruction of forests and soils
- Loss of biodiversity

#### Social & Human Rights



- Child labor
- Forced or compulsory labor
- Discrimination



- Health and safety
- Payment of adequate wages



Due to the complex data situation for mica including the lack of transparency in the mica supply chain as well as reliable reports, we decided not to list any mining and processing countries for mica.

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## Mica in our supply chain

Muscovite and phlogopite are the commercially most relevant types of mica; both of them are used in the automotive industry. The Volkswagen Group uses mica in various parts of the vehicle. Specific focus parts are paints and thermal isolation for battery materials. We currently do not source mica directly.

## Risk Assessment

To assess the risks in our mica supply chains, we continue to focus on direct engagement with our tier-1 and tier-2 suppliers in order to map the upstream mica supply chain. As supply chains are complex, we also engage with further sub-tier suppliers to get a better understanding of our supply chain. In 2023, we continued monitoring and analyzing media reports and research publications to help identify wide-scale human rights risks in mica supply chains.

Mica mining is an important livelihood for many people in the mining countries. It is mined in a labor-intensive process, in large-scale as well as artisanal and small-scale mining. Due to the large number of small mines, traceability is low and there is a high risk of illegal and unregulated mining operations. If mining is illegal, the risks related to working conditions, health and safety and pollution are all likely to increase, as well as the risk of labor abuse, including forced and child labor.

### KEY APPLICATIONS

- Paint
- Thermal isolation material for batteries

## Risk Mitigation

Lack of transparency in mica supply chains is a known issue and direct stakeholder engagement is key to mitigating the upstream risks. The Volkswagen Group is in close contact with its direct and indirect suppliers of paints and battery isolation. Together with international initiatives and NGOs, our approach aims to support positive change in the mining countries and increased transparency along the entire supply chain.

## Stakeholder Engagement

- Continued direct dialogue with tier-1 and tier-2 suppliers
- Continued work with international initiatives and with NGOs to deepen our understanding of upstream social and environmental challenges
- Encourage n-tier suppliers to become a member of the Responsible Mica Initiative in order to foster sustainable mica supply

## Local engagement in Madagascar

In 2023, Porsche took part in a field trip to Madagascar with the Responsible Mica Initiative to visit mica mines and processors and meet with local stakeholders and government authorities. The visit allowed us to further deepen our understanding of the industry's impact on affected communities and the environment. The trip also provided an opportunity to engage with workers and local communities at the mines and the processing site in the impoverished Anôsy region in southern Madagascar.

The visit was part of an RMI pilot project in Madagascar which was kicked off in 2023. After the trip, Porsche joined the pilot project on behalf of the Volkswagen Group. This pilot project aims to establish responsible supply chains in Madagascar.

Overall, the activities of the Responsible Mica Initiative in Madagascar aim to contribute to the formalization of mica artisanal and small-scale mining in the country, raise awareness, help to improve the working conditions of mica workers and engage in community empowerment.



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In 2020, on behalf of the Volkswagen Group, Porsche joined the [Responsible Mica Initiative \(RMI\)](#), a multi-stakeholder initiative promoting transparency and better working conditions in mica mining and processing in India and Madagascar. In particular, the initiative aims to empower local villages to eradicate child labor and improve their livelihood within a compliant and legal mica supply chain.

As a RMI member and representative of the Board of Directors, we actively engage in multiple working groups. In the reporting period, we also continued to participate in RMI's Community Empowerment programs, which included working with 180 villages in the "mica belt" in Jharkhand and Bihar, India. The Volkswagen Group also joined a new pilot project in Madagascar (see highlight box on [page 46](#)). Local communities in both countries are highly dependent on mica for their livelihoods, have higher rates of illiteracy and are located close to the mines and processing units that supply mica.

In addition, we continued to support the development of RMI's **traceability system** by providing feedback and ideas from an automotive OEM perspective. This traceability tool collects data from various points in the supply chain and is designed to simplify and increase mica supply chain traceability. Using blockchain technology, the tool facilitates the establishment of complete traceability data from end to end, while maintaining the confidentiality of individual member data. In 2023, we entered our mica supply chain data into this joint system.

With the introduction of our **mica specification sheet** in 2022, we finalized our contractual terms for mica suppliers that now include binding responsible sourcing requirements across our battery as well as our paint supply chains. The mica specification sheet was piloted with Porsche, AUDI AG and Scania in 2022 and extended to the Volkswagen Group in the reporting period. The specification sheet has already been implemented for major battery projects and, going forward, it will be applied to all new sourcing of paints and thermal isolation for battery materials containing mica.

The mica specification sheet implements RMI's requirements from the Global Workplace Standard for Mica Processors, transparency requirements and further due diligence measures, such as unannounced audits and capacity building at mine sites in cases where mica is sourced from a high-risk region.

Within the **Responsible Minerals Initiative (RMI)**, we joined the working group "RMI Emerging Minerals Group - Mica Team" in 2023 and actively participated in monthly sessions to align and promote risk mitigation measures and audit strategies for responsibly sourcing mica.

Outlook 2024

We plan to:

- Continuously implement our mica specification sheet across the Volkswagen Group for upcoming projects
- Further support the development and launch of the Responsible Mica Initiative's traceability system
- Expand our engagement with stakeholders in Madagascar and India and continue to raise awareness about the Responsible Mica Initiative
- Continue our active engagement in the Responsible Mica Initiative and the Responsible Minerals Initiative



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# PGM

PLATINUM GROUP METALS

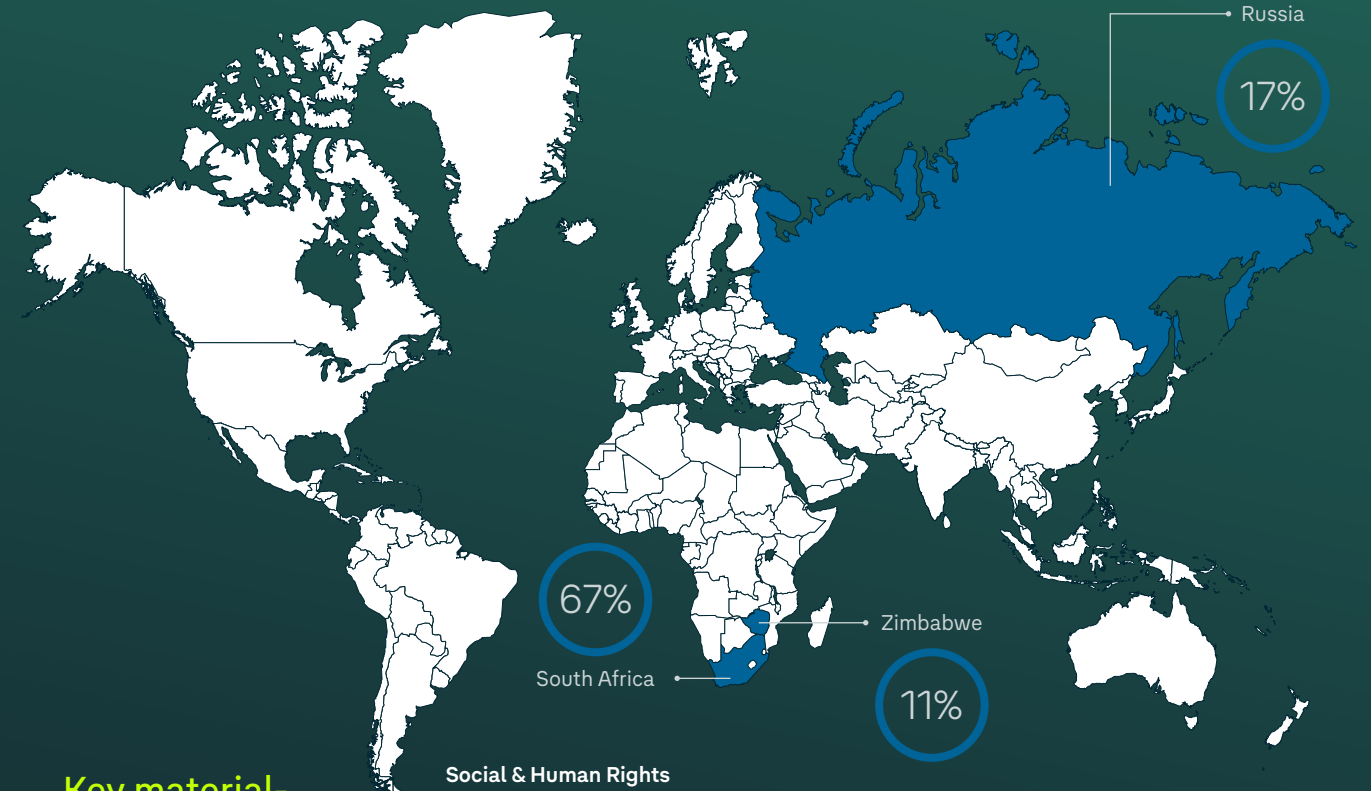
Platinum Group Metals (PGM) – platinum, palladium, rhodium, ruthenium, iridium and osmium – are precious metals that occur together in nature and are produced from the same ore. PGMs are the densest known metal elements with high corrosion resistance and high durability. They are sought after for various applications and, due to their high value, are often recycled.



## Countries of origin (Share of global mining/production)

● Top 3 mining countries of platinum

Source: USGS, 2023 estimates.



## Key material-specific risks

### Environmental

- Air pollution
- Pollution, water consumption

### Social & Human Rights

- Direct or indirect support to armed groups
- Discrimination
- Health and safety
- Destruction of forests and soils

### Communities

- Protection of the rights of indigenous peoples

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## PGM in our supply chain

The automotive industry is the principal consumer of platinum group metals. They are mainly used in catalytic converters to treat exhaust emissions. Global demand for PGM is expected to decrease in the coming years due to the phase-out of conventional vehicles and therefore catalytic converters. The Volkswagen Group does not directly source PGM but buys focus parts from manufacturers. The supply chain of PGM is complex, particularly at the refiner and processor level. We have not yet been able to ensure full traceability up to the mine.

## Risk Assessment

While PGM are mined in several countries, the main production is concentrated in South Africa where the sector is historically associated with poor working conditions, low wages and reoccurring cycles of violence at the sites and in the local communities. These issues are rooted in a multifactorial and complex scenario connected to several historical, social and economic developments and conflicts, from apartheid to informal settlements of migrant workers, lack of education, high unemployment and poverty. PGM mining is not the origin of these problems; however, a sustainable PGM supply chain means that we need to ensure that PGM mining does not contribute to these adverse impacts on social and human rights.

The risk assessment of the PGM supply chain is conducted annually and currently focuses on collecting traceability data through media monitoring and direct supplier engagement. We have identified and prioritized impact on human rights and local communities as the salient risk areas.

### KEY APPLICATION

#### — Catalytic converters

## Risk Mitigation

Striving to mitigate upstream risks, the Volkswagen Group is enhancing its engagement with various supply chain actors, such as traders and intermediaries, as well as global initiatives, focusing specifically on the PGM sector in South Africa. One example is the Marikana Coalition, with Scania as one of the partners (see highlight box on → page 50), engaging in several on-the-ground projects in local communities with long-term goals such as decreasing unemployment and providing after-school activities and career support.

In the reporting period, we also furthered our engagement with other global and local networks:

- NIR, a Swedish member-based organization which promotes conducting sustainable business in complex markets
- Business Sweden's global Sustainable Mining Program
- Mining Indaba, Africa's mining investment forum that enables a platform for industry discussions supporting sustainable growth on the continent

In 2023, we developed a **PGM specification sheet** entailing specific requirements regarding transparency and audits. The roll-out across the Volkswagen Group's brands is planned for 2024. The requirements include audit requirements for mine sites in line with industry good practices (such as IRMA standards). Another requirement is conforming to the London Platinum & Palladium Market (LPPM) Responsible Sourcing Guidance, which foresees that our tier-2 suppliers source exclusively from refiners that have undergone a due diligence audit and therefore provided proof of adequate human rights due diligence management systems. These measures were discussed with major suppliers in the reporting period and are supported by all tier-2 suppliers of focus parts for this material group.

The Volkswagen Group also continues to encourage PGM mining companies in the supply chain to undergo or prepare to undergo an **IRMA audit**. For directly procured PGM, an IRMA audit is part of the contractual requirements for the

mine sites. Recently, PGM mining companies are becoming more open towards audits and the majority is committing to the IRMA approach. So far, one mining company has completed audits for three of its mine sites; another has plans in place for being audited by IRMA in 2024. More information regarding IRMA certification of mine sites can be found on the website of the [International Platinum Group Metals Association \(IPA\)](#).

## Stakeholder Engagement

- Ongoing virtual and in-person dialogues with PGM suppliers, down to the mine site level, such as LPPM, Minerals Council of South Africa, Fabricators (Umicore, JM and BASF) and mining companies (Anglo and Sibanye-Stillwater)
- Marikana Coalition: local stakeholder meeting in South Africa in November 2023
- Encourage mining companies to meet the IRMA standards and become IRMA-certified
- Exchange with members of IPA on sector-wide risk mitigation efforts

## Outlook 2024

We plan to:

- Finalize and roll out the sustainability specification sheet for PGM
- Continue to engage in dialogue with affected stakeholders, prioritizing stakeholders in South Africa
- Continue support for the Marikana Coalition projects





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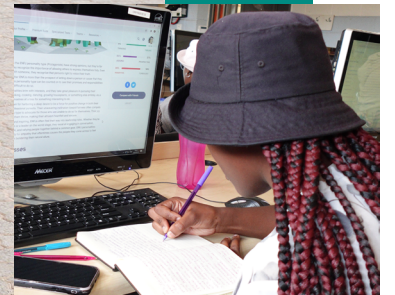
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## Marikana Coalition – building a future beyond mining

In an attempt to leave a positive legacy in communities affected by PGM mining, Scania is supporting the Marikana Coalition, a new multi-stakeholder initiative which started in Q3 2023 to support sustainable social development of mining and mining-impacted communities in South Africa. Currently, Scania is working together with the local mining company Sibanye Stillwater, NGO Afrika Tikkun, the Mineworkers Development Agency (MDA) and other stakeholders to build the Marikana Youth Centre, a project to provide brighter futures for children in the platinum mining town of Marikana, giving them a future beyond mining.

The project is turning an unused mine building into an educational facility. The new youth center, set to open in May 2024, will provide after-school support, careers and employment guidance and occupational training as well as a safe social hub for young people in the community. The center will be staffed by employees from a local unemployment program, who will receive training in leadership and management skills through an intensive two-week workshop. In addition, Scania is developing a concept with the aim of enabling some of the young people receiving careers guidance at the youth center to work with Scania as interns.

## Educational facility opening in May 2024



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# → Natural Rubber

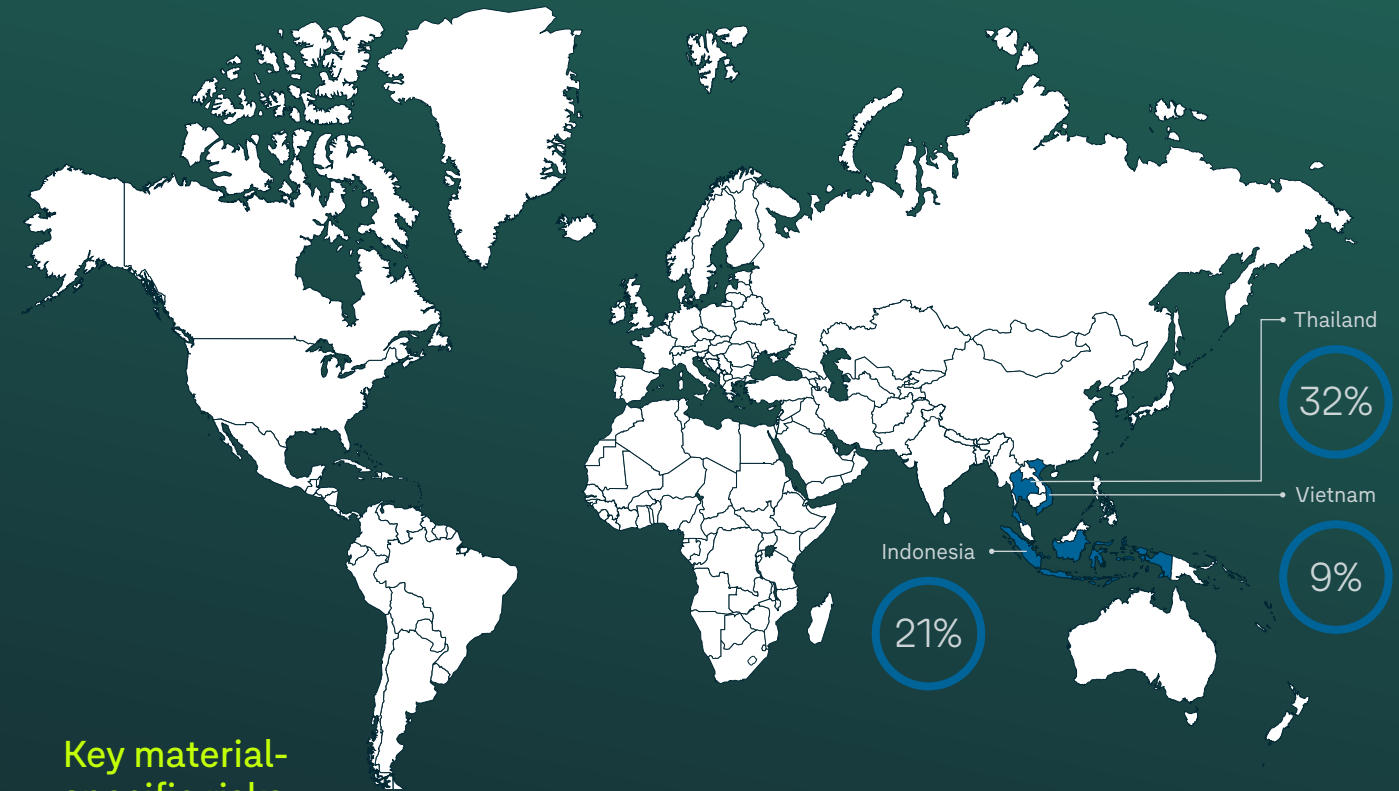
Natural rubber is derived from the rubber tree *Hevea Brasiliensis*, grown primarily in the tropical regions of West Africa, South America and Southeast Asia. It is a key raw material in tires and many other products due to its wear resistance.



## Countries of origin (Share of global production)

● Top 3 production countries

Source: FAO, 2022.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Destruction of forests and soils
- Loss of biodiversity

### Social & Human Rights

- Child labor
- Forced or compulsory labor
- Health and safety
- Payment of adequate wages

### Communities

- Forced evictions and/or expropriations
- Protection of the rights of indigenous peoples





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## Natural Rubber in our supply chain

Most of the world’s natural rubber is used for tire production. Rubber can withstand heat and cold, and the strength of rubber is key to tire resistance and supporting the vehicle load. Beyond tires, other vehicle parts such as bearings, brake pads, wiper blades, mats and electrical wire covers have rubber as their main component. Natural rubber is hard to substitute, and it is listed by the EU as the only forest-based critical raw material (CRM).

The Volkswagen Group does not directly source natural rubber. To assess the risks of rubber, we focus on the most important tier-1 suppliers for tires, i.e. the tire manufacturers. Due to a highly complex and fragmented supply chain, complete traceability of natural rubber is challenging. Global production involves millions of small rubber tree plantations worldwide and from there, the rubber passes through several intermediary dealers and processing companies until it reaches the manufacturers of tires and other products.

## Risk Assessment

In 2023, we continued to map and update our rubber supply chain. So far, we have identified over 650 business actors in our natural rubber supply chain, achieving visibility up to tier 4.

In the reporting period, we also conducted an in-depth analysis of human rights and environmental risks based on data from both internal and external sources. Due to the highly labor-intensive cultivation of natural rubber by smallholders and in plantations (85% of the global natural rubber sup-

### KEY APPLICATION

— Tires

ply comes from smallholders with an average of only 1.5 hectares of land per person), we have identified the following as the most salient risks in the rubber industry: child labor, working conditions and safety, forced labor and adverse environmental impacts.

## Risk Mitigation

Based on the results of our ESG risk assessment, we implemented risk mitigation and capacity-building measures as part of the **CASCADE project** to support smallholder farmers on their path to sustainability. Through Porsche, we continued to engage on the ground in Indonesia as part of the CASCADE project (see highlight box on → [page 53](#)).

In 2023, we systematically engaged with our focus tire suppliers and conducted a workshop series on the natural rubber supply chain. Based on these discussions, we developed a **natural rubber specification sheet** which will be piloted with Porsche and then rolled out as a mandatory requirement for all sourcing in the respective material group.

As a member of the [Global Platform for Sustainable Natural Rubber \(GPSNR\)](#), a multi-stakeholder organization focused on enabling responsible sourcing and defining a sustainability framework for the natural rubber sector, we actively engage in working groups and continue to support the development of reporting processes and an assurance model. Currently, 60% of the world’s natural rubber demand is under the membership of GPSNR.

In 2023, the GPSNR members agreed on a timeline to pilot a sustainability assurance system. Further highlights in 2023 were capacity-building projects, training smallholders in Indonesia, Thailand and Cote D’Ivoire on subjects such as disease fighting, Good Agricultural Practices and agroforestry.

## Stakeholder Engagement

- Ongoing collaboration with our tier-1 tire suppliers
- Active engagement as a member of the GPSNR and in working groups
- Engagement with environmental NGOs

## Outlook 2024

We plan to:

- Continue our efforts around risk mitigation
- Pilot the natural rubber specification sheet
- Continue to actively participate in the GPSNR to help improve sustainability efforts around the natural rubber supply chain
- Prepare for compliance with the European Deforestation Regulation (EUDR), also collaborating within GPSNR, DRIVE and VDA

For more information on the EU Deforestation Regulation (EUDR) → [see page 13](#) of this report.

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## On-the-ground support in Sumatra, Indonesia

The ability of smallholders to secure a decent livelihood while using good environmental and social practices is key. Therefore, since 2021, Porsche has been actively engaged in CASCADE (Committed Actions for Smallholders Capacity Development), a capacity-building project in the Jambi province in Central Sumatra, Indonesia, initiated together with the global tire manufacturer Michelin. The four-year program involves training for more than 1,000 local farmers to help them improve their livelihood by increasing their yield and income and improve their cultivation practice.

In November 2023, a Porsche team travelled to Muara Bungo, Sumatra to visit local smallholders in the project together with representatives from Michelin and a local NGO. The goal was to get an impression of the situation on the ground and to further deepen our understanding of the smallholders' challenges. In discussions with the smallholders, we learned about how the trainings provided through CASCADE have already helped them to make their cultivation methods more environmentally friendly and efficient and to improve their working and living conditions in the long term.

During the trip, we also visited one of the main natural rubber processing units and met with regional authorities to discuss how both the processors as well as smallholder farmers can prepare for compliance with upcoming regulations like EUDR.

Further engagement and on-the-ground support will be necessary to continuously improve the sustainability of the rubber supply chain while also improving the livelihood of people in the rubber cultivation regions.

HIGHLIGHT



Training for **1,000** local farmers to help improve their working and living conditions



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# → REE

RARE EARTH ELEMENTS

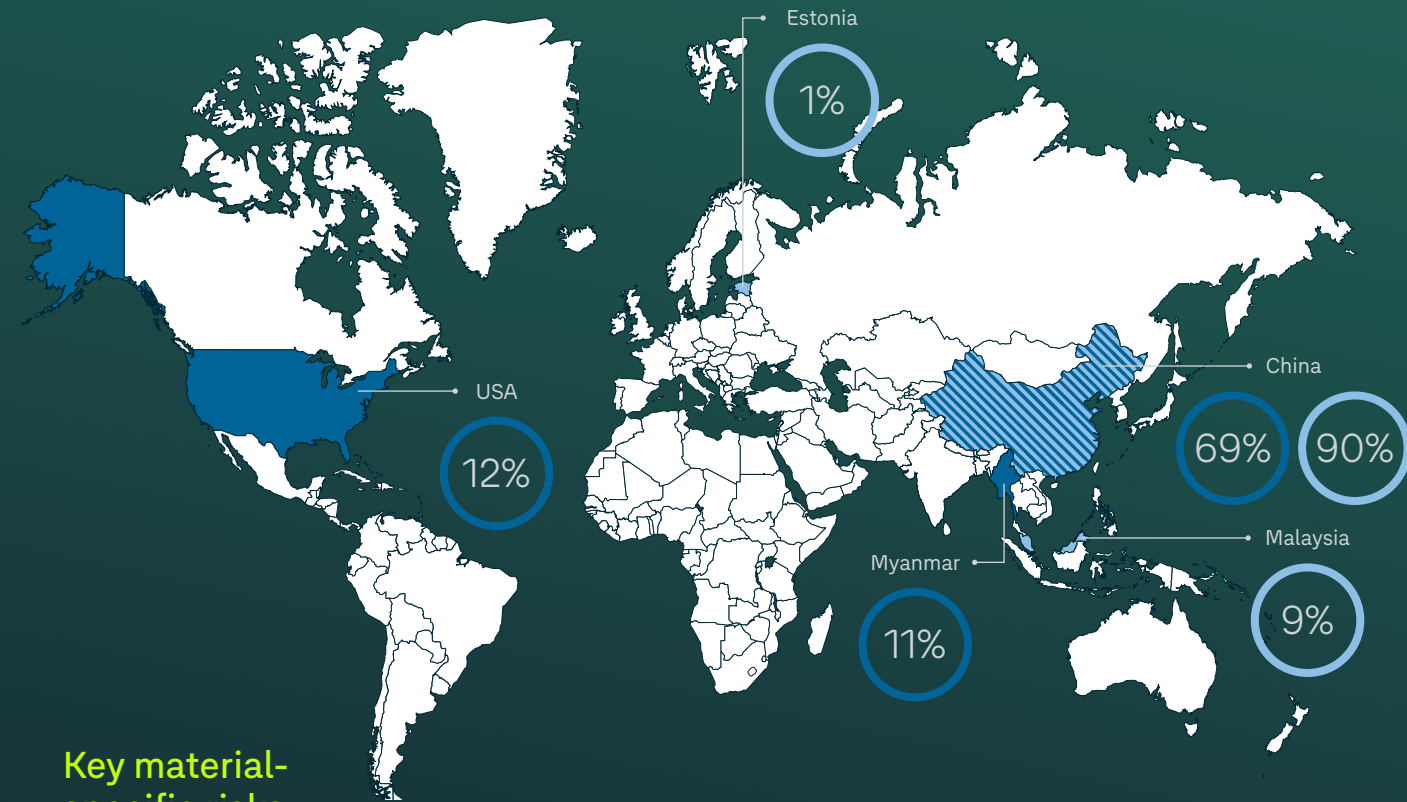
Rare earth elements refer to a group of 17 chemical elements, the group of 15 lanthanides, plus scandium and yttrium. REE are not as rare as the name may imply, but minable concentrations are less and the process of separating them from other elements is technically challenging and complex. REE are used in many electronic devices, from smartphones to electric engines and LCD screens. Demand for REE is expected to increase in coming years.



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ■ Both

Sources: USGS, 2023 estimates; IEA, 2019.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Air pollution
- Pollution, water consumption



- Handling and disposal of waste



- Destruction of forests and soils
- Loss of biodiversity

### Social & Human Rights



- Direct or indirect support to armed groups
- Forced or compulsory labor
- Child labor



- Health and safety



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## REE in our supply chain

For the Volkswagen Group, the main use of rare earth elements (REE) is for permanent magnets in electric vehicles. Additionally, rare earth oxides, metals and alloys are also used for exhaust systems, catalysts and speakers. Most of our REE volumes are covered by four rare earth elements, namely neodymium, cer, praseodymium and lanthan. The Volkswagen Group does not source REE directly but purchases the different

parts from manufacturers. With a shift to more electric vehicles, we expect the demand for REE to keep rising. Currently, the major global source of REE metals and alloys is China. Over the past years, more REE mining and processing facilities are being built across the globe.

### Risk Assessment

REE shows significant environmental and human rights-related challenges that can lead to adverse environmental impacts and threats to local communities. Any extraction or processing method requires the use of chemicals that can cause water, air or soil pollution and therefore requires additional caution when it comes to waste management or maintaining safe working environments. Further risks include conflict financing and other serious human rights risks, as REE are also mined in conflict-affected regions such as Myanmar.

#### KEY APPLICATIONS

- Permanent magnets in EVs
- Exhaust systems, front/converter
- Coating catalytic converters

## Stakeholder Engagement

- Ongoing dialogue with industry associations and supply chain partners to deepen our understanding of REE supply chain risks
- Participation in the raw material working group of German automotive industry association VDA
- Engagement with Chinese counterparts in a Sino-German pilot project on REE supply chain (BGR-CCCMC project)

### German-Chinese Pilot Project for Sustainability Requirements in the Chinese Rare Earth Supply Chain

The Volkswagen Group takes part in the German-Chinese Pilot Project for Sustainability Requirements in the Chinese Rare Earth Supply Chain, led by the Federal Institute for Geosciences and Natural Resources (BGR) and the China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC). The project aims to promote exchange between German and Chinese industry actors regarding sustainability in the REE supply chain, to foster trust, to establish a common understanding on

sustainability criteria in an automotive supply chain and to increase transparency.

After experiencing challenges in 2022, the project was continued in the reporting period. In 2023, two virtual and hybrid meetings between the Chinese and German working groups took place, and a working document on sustainability criteria was developed and discussed. A workshop in China is planned for 2024. We appreciate that we can engage directly with the CCCMC

### Workshop in China planned for 2024

through the pilot project and aim to complete the first phase in the first half of 2024. Further engagement will then be assessed and discussed by all partners in the project.

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In 2023, our approach to risk identification continued to focus on engaging with various groups of stakeholders including NGOs in order to gain more insight into REE supply chains. We have concluded our internal assessment on the importance of certain vehicle components and key suppliers which we will use as a basis for our 2024 activities.

### Risk Mitigation

Considering the challenge of limited supply chain information for products containing REE sourced in China, we continue a multi-layered approach to risk mitigation, focusing on our direct suppliers as well as collaborating with other OEMs via associations such as the VDA. We also continue to engage in the Emerging Minerals working group facilitated by the Responsible Minerals Initiative (RMI).

Furthermore, the Volkswagen Group continued to monitor progress in the field of standardization of rare earth mining, concentration, extraction, separation and conversion to REE compounds. Standardization is driven via international, regional and national standardization committees with the aim to minimize the negative impact from mining throughout the life cycle and to increase Europe's and Germany's resilience through standardization.

#### Alternatives to primary REE

Currently, the global recycling share of REE magnets is nearly insignificant, which leaves a lot of room for improvement. Through the proposed [Critical Raw Materials Act \(CRMA\)](#), the EU is setting a benchmark of covering at least 15% of strategic raw material annual consumption (and therefore also of REE) through recycling. However, because of the extremely small quantities of REE used in products, recycling remains technically challenging and energy-intensive.

## Outlook 2024

We plan to:

- Continue our efforts in REE supply chain mapping
- Engage with external partners and internal R&D experts to increase the share of recycled materials and to reduce the overall REE demand in the future
- Start dialogue with three key magnet suppliers to communicate our expectations while deepening our understanding of their upstream supply chain and sustainability measures implemented

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# → Steel

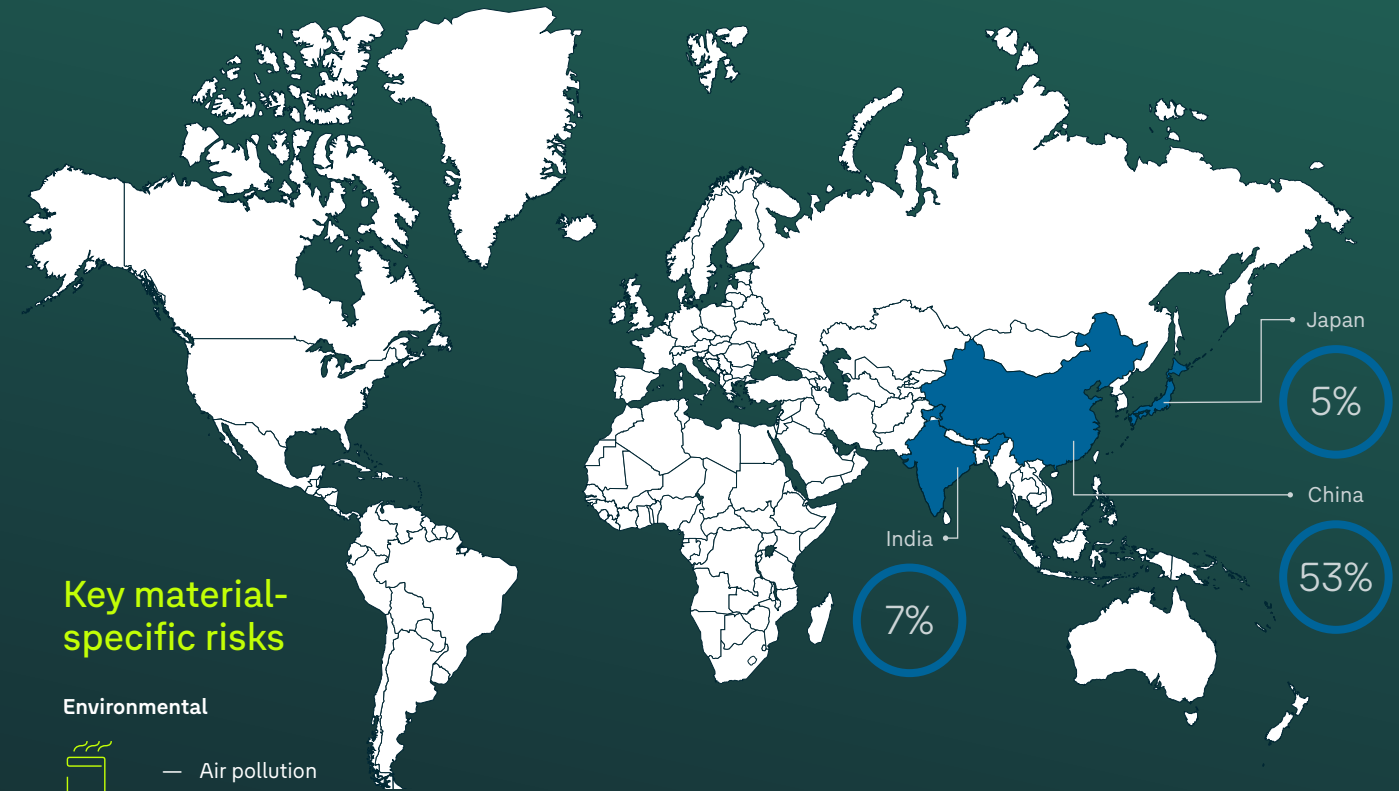
Steel is made from the combination of iron and carbon in the classic blast furnace route and is one of the world's most utilized materials – used in buildings, infrastructure, transportation vehicles, tools, machines and much more. Many other elements may be added for different grades of steel.



## Countries of origin (Share of global production)

● Top 3 raw steel production countries

Source: USGS, 2023 estimates.





## Key material-specific risks



### Environmental

-  — Air pollution
-  — Pollution, water consumption
-  — Handling and disposal of waste
-  — Destruction of forests and soils
-  — Loss of biodiversity

### Social & Human Rights

-  — Forced or compulsory labor
-  — Health and safety

### Communities

-  — Causing harmful change
-  — Protection of the rights of indigenous peoples

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## Steel in our supply chain

Steel is one of the key materials for vehicles, used in the body structure, panels, doors, drive train, suspension, steering and braking systems. To develop lighter vehicles, advanced high-strength steels (AHSS) are used. Although steel is partly being replaced by aluminum for lightweight construction, it remains a key element in vehicle construction due to its excellent mechanical properties.

## Risk Assessment

Steel production often occurs in integrated steel mills. This means that several production steps such as the blast furnace process, steel making, rolling and galvanizing processes are combined at the same site. The production of steel in blast furnaces is highly energy intensive, and water is consumed for cooling, among other things.

Iron ores are typically mined at surface in open pits, a mechanized large-scale activity, but large underground mines also exist. The fact that around 50% of iron ore is found in forest areas amplifies the risks for biodiversity and the environment.

The use of natural resources and related adverse environmental impact are therefore one of the systemic and salient risk areas identified by the Volkswagen Group. Another area of risk is the provision of occupational health and safety, especially during mining operations.

### KEY APPLICATION

— **Body sheets**

## Risk Mitigation

Since a large part of the risks for steel is located in the upstream supply chain, the Volkswagen Group continues to work towards increasing the supply chain transparency. This deepens our understanding of our specific supply chains and their risks. In particular, the primary materials coking coal and iron ore are in focus. We also continue to reach out to our steel suppliers in order to leverage their influence for risk mitigation along the steel supply chain. The transparency created will help us to define further mitigation measures.

In the reporting period, the Volkswagen Group continued to develop parameters for a sustainability specification sheet for steel.

Furthermore, we are continuously reviewing the options for joining specific industry initiatives and suitable certification opportunities.

## Stakeholder Engagement

- Workshops with major steel suppliers for supply chain transparency

## Outlook 2024

We plan to:

- Develop a sustainability specification sheet for steel
- Continue engaging with our steel suppliers and relevant industry initiatives



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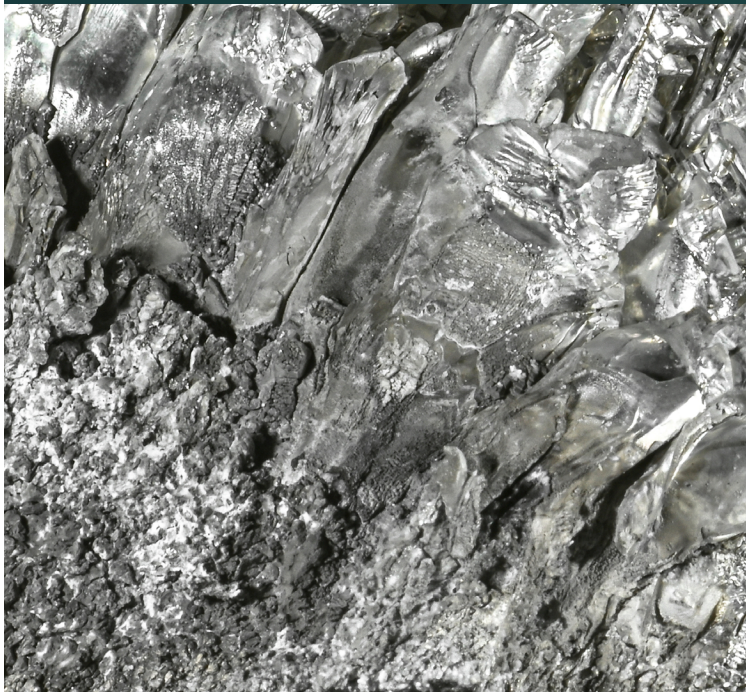
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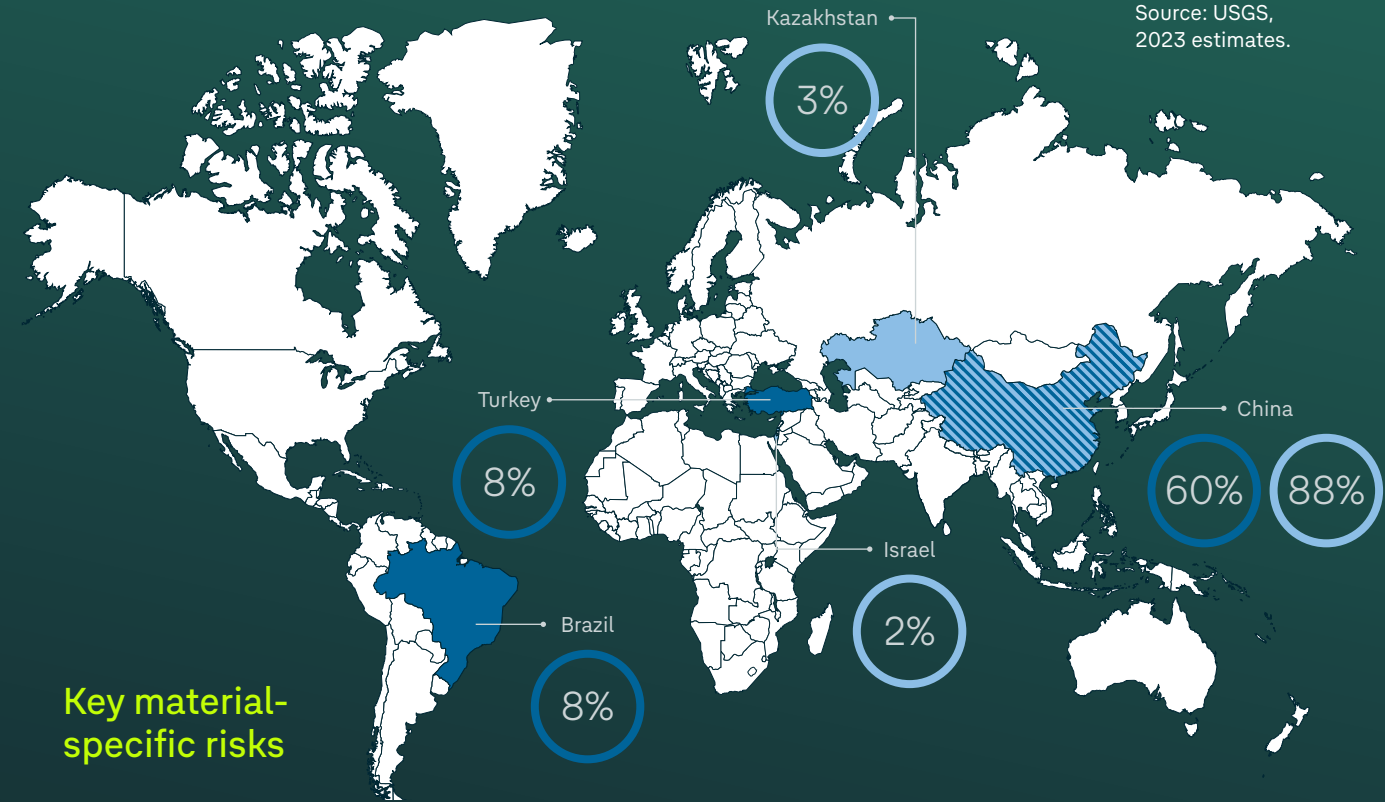
# → Magnesium

Magnesium is an alkaline earth metal with high chemical reactivity, a low melting point and low density. The shiny gray metal is used in many applications where reduced weight is important. Magnesium is used primarily as a component in strong and lightweight alloys that contain aluminum. It can be produced through various methods, including electrolysis and thermal reduction. These processes are highly energy intensive. Magnesium is very widespread; global reserves can be considered nearly infinite. However, global production is highly concentrated in Yulin, China.



## Countries of origin (Share of global mining/processing)

● Top 3 mining countries ● Top 3 smelting and refining/processing countries ■ Both



Source: USGS, 2023 estimates.

## Key material-specific risks

### Environmental

- Air pollution
- Pollution, water consumption
- Destruction of forests and soils

### Social & Human Rights

- Forced or compulsory labor
- Discrimination
- Torture
- Health and safety
- Payment of adequate wages
- Trade union freedoms

### Communities

- Protection of the rights of indigenous peoples



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# → Cotton

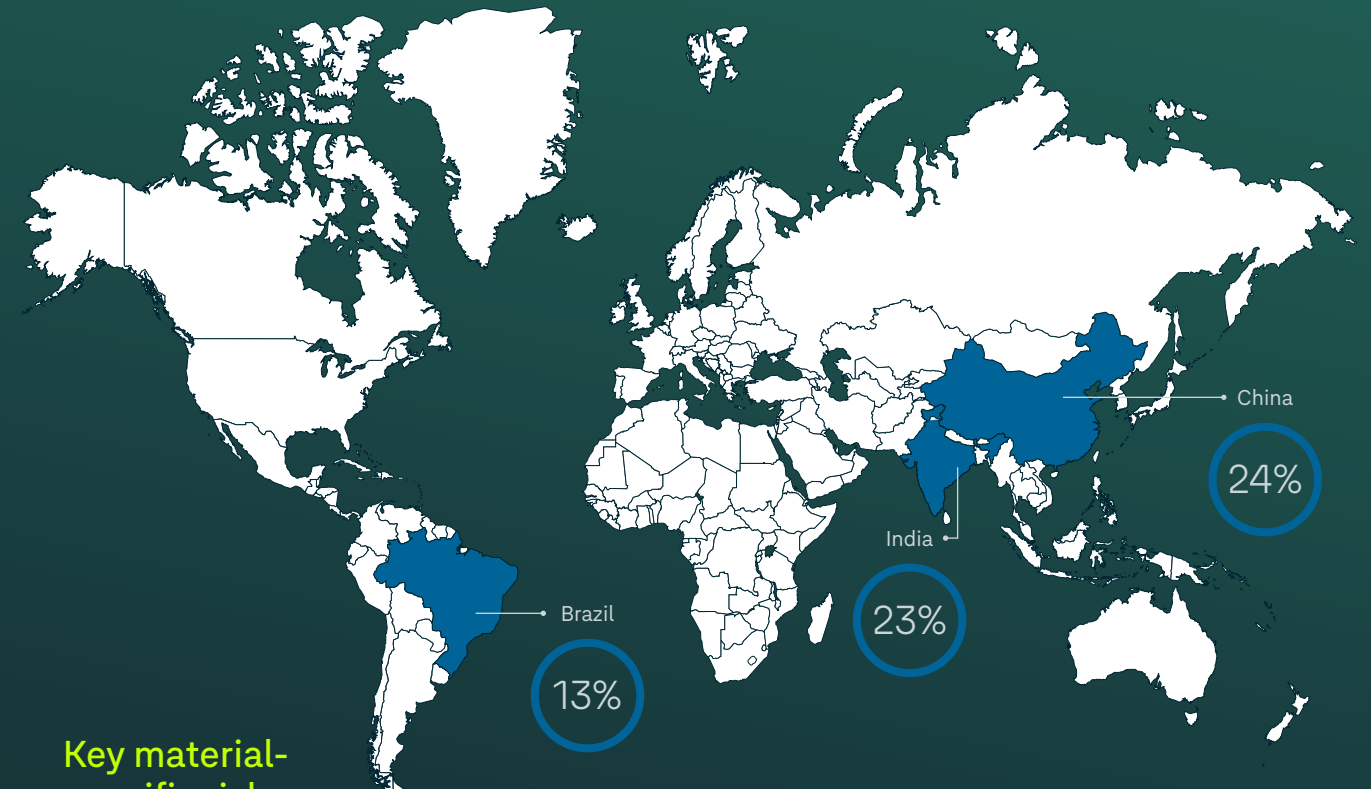
Cotton is a soft, fluffy fiber that grows in a boll around the seeds of the cotton plants. The fiber is almost pure cellulose and is most often spun into yarn or thread for textile products. Cotton is a very widely cultivated and traded commodity. Cultivation requires a long frost-free period, plenty of sunshine and moderate rainfall while substantial amounts of water are needed to grow the crop. In addition to the textile industry, cotton is a highly versatile crop used for nets, filters, cotton paper and in bookbinding. In many countries, cotton significantly contributes to the livelihoods of millions of rural smallholders.



## Countries of origin (Share of global production)

● Top 3 production countries

Source: FAS USDA, 2023/2024 estimates.



## Key material-specific risks

### Environmental

- Production and use of pollutants
- Air pollution
- Destruction of forests and soils
- Loss of biodiversity
- Pollution, water consumption

### Social & Human Rights

- Discrimination
- Child labor
- Direct or indirect support to armed groups
- Health and safety
- Payment of adequate wages
- Trade union freedoms



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In 2024, we are continuing our work across the Volkswagen Group to achieve more visibility throughout our complex supply chains and further analyze and mitigate the risks related to our raw materials. We will do this with a focus on the following priorities:

**Align our raw material due diligence with evolving regulatory requirements**

Following the German Supply Chain Act, which came into force on January 1, 2023, imposing new obligations on companies regarding human rights across supply chains, our focus for 2024 has now shifted to the upcoming EU Regulation concerning batteries and waste batteries (EU Battery Regulation, EUBR) and the EU Regulation on deforestation-free products (EU Deforestation Regulation, EUDR), whose provisions will start to apply from 2025.

Our efforts will include the adaptation and implementation of new processes, intensive supplier engagement and the use of new risk assessment, management and documentation tools.

**Further strengthen our RMDDMS**

We continue to adapt and enhance our processes and systems in order to align our RMDDMS with the new legislation. As part of this alignment and as an integral part of our RMDDMS, the Volkswagen Group is currently reviewing its Policy on Sustainable Raw Materials, with the aim of publishing an updated version in 2024.

We are also working to improve and strengthen internal procedures and documentation systems for actions taken under the RMDDMS. In addition, strategy work and an update of the RMDDMS objectives for the coming years are planned for 2024.

Another important topic is Key Performance Indicators (KPIs). We have already defined KPIs for some of our priority raw materials which will be re-evaluated and refined in 2024. We also plan to develop KPIs for additional raw materials.

Raw material due diligence management and tightening regulatory requirements require significant investments in resources, capacity development and training. In 2024, we look forward to further expanding and improving our capacity for human rights and environmental due diligence in our raw material supply chains.

**Close engagement with suppliers and stakeholders**

To achieve a common understanding of the new regulations and promote the development and use of tools to help identify risks, we will continue to work closely with our suppliers, particularly within the battery supply chain, as well as with other stakeholders across the industry and our supply chains. This broad collaboration is particularly important to increase our leverage while benefiting from knowledge sharing, lessons learned and best practices.

Our goal for 2024 is to leverage industry initiatives such as DRIVE Sustainability or the RMI to develop tools that can be deployed along the supply chain in order to increase audit/questionnaire acceptance, particularly in the midstream supply chain.

**Measuring and reporting our social and environmental impact**

In order to be able to measure the social and environmental impact of our actions more comprehensively and quantitatively, the Volkswagen Group is currently developing Group-wide concepts and at the same time preparing to align its reporting processes across the Group companies with the future

specifications of the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), which will be applicable for the reporting period 2024.

More information can be found in the [2023 Sustainability Report \(page 22\)](#).

In 2024 and beyond, we continue to take our responsibility for sustainable sourcing of raw materials very seriously and we keep learning as we go. Our goal remains to achieve measurable positive results for human rights and the environment, step by step and year by year.

We provide an in-depth outlook for 2024 for our 18 priority raw materials in → [Section 04](#) of this report.

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## Annex I: List of Abbreviations

<b>3TG</b>	tin, tantalum, tungsten and gold	<b>IPA</b>	International Platinum Group Metals Association
<b>AI</b>	artificial intelligence	<b>IRMA</b>	Initiative for Responsible Mining Assurance
<b>ASI</b>	Aluminium Stewardship Initiative	<b>KPI</b>	key performance indicator
<b>ASM</b>	artisanal and small-scale mining	<b>LPPM</b>	London Platinum and Palladium Market
<b>BEV</b>	battery electric vehicle	<b>LSM</b>	large-scale mining
<b>BGR</b>	Bundesanstalt für Geowissenschaften und Rohstoffe	<b>LWG</b>	Leather Working Group
<b>C4D</b>	Cobalt for Development	<b>Maplecroft GriD</b>	Maplecroft Global Risk Dashboard
<b>CAP</b>	corrective action plan	<b>NAP</b>	National Action Plan
<b>CASCADE</b>	Committed Actions for Smallholders Capacity Development	<b>NGO</b>	non-governmental organization
<b>CCCMC</b>	China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters	<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>CERA</b>	Certification of Raw Materials	<b>OEM</b>	original equipment manufacturer
<b>CMRT</b>	Conflict Minerals Reporting Template	<b>OHS</b>	occupational health and safety
<b>CoC BP</b>	Code of Conduct for Business Partners	<b>PGM</b>	platinum group metals
<b>CoC Standard</b>	Chain of Custody Standard	<b>PHEV</b>	plug-in hybrid electric vehicle
<b>CSRD</b>	Corporate Sustainability Reporting Directive	<b>REE</b>	rare earth elements
<b>DRC</b>	Democratic Republic of the Congo	<b>ReSC System</b>	Responsible Supply Chain System
<b>EU</b>	European Union	<b>RBA</b>	Responsible Business Alliance
<b>EUBR</b>	EU Battery Regulation	<b>RMAP</b>	Responsible Minerals Assurance Process
<b>EUDR</b>	EU Deforestation Regulation	<b>RMDDMS</b>	Raw Materials Due Diligence Management System
<b>ESRS</b>	European Sustainability Reporting Standards	<b>RMI</b>	Responsible Minerals Initiative
<b>EV</b>	electric vehicle	<b>RMI</b>	Responsible Mica Initiative
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit	<b>UN</b>	United Nations
<b>GPSNR</b>	Global Platform for Sustainable Natural Rubber	<b>VDA</b>	Verband der Automobilindustrie
<b>HRFS</b>	Human Rights Focus System	<b>VDM</b>	Verband Deutscher Metallhändler und Recycler
		<b>WWF</b>	World Wide Fund for Nature



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- [Advisory board of the Certification of Raw Materials \(CERA\)](#)
- [Aluminium Stewardship Initiative \(ASI\)](#)
- [CASCADE project](#)
- [Cobalt for Development \(C4D\)](#)
- [The Copper Mark](#)
- [Drive Sustainability](#)
- [German Automotive Sector Dialogue](#)
- [Global Battery Alliance \(GBA\)](#)
- [Global Platform for Sustainable Natural Rubber \(GPSNR\)](#)

- [Initiative for Responsible Mining Assurance \(IRMA\)](#)
- [International Platinum Group Metals Association \(IPA\)](#)
- [Leather Working Group \(LWG\)](#)
- [Raw Material Working Group of the Verband der Automobilindustrie \(VDA\)](#)
- [Responsible Lithium Partnership](#)
- [Responsible Mica Initiative \(RMI\)](#)
- [Responsible Minerals Initiative \(RMI\)](#)
- [Swedish Leadership for Sustainable Development](#)
- [Teknikföretagen \(Association of Swedish Engineering Industries\)](#)

## Annex III: List of 3TG Smelters

Metal	Smelter name	RMI ID
Gold	L'Orfebre S.A.	CID002762
Gold	Fujairah Gold FZC	CID002584
Gold	Dijllah Gold Refinery FZC	CID003348
Gold	Kaloti Precious Metals	CID002563
Gold	Al Etihad Gold Refinery DMCC	CID002560
Gold	Emirates Gold DMCC	CID002561
Gold	International Precious Metal Refiners	CID002562
Gold	Sam Precious Metals	CID003666
Gold	Ogussa Osterreichische Gold- und Silber-Scheideanstalt GmbH	CID002779
Gold	Western Australian Mint (T/a The Perth Mint)	CID002030
Gold	ABC Refinery Pty Ltd.	CID002920
Gold	Industrial Refining Company	CID002587
Gold	Umicore S.A. Business Unit Precious Metals Refining	CID001980
Gold	AngloGold Ashanti Corrego do Sitio Mineracao	CID000058
Gold	Coimpa Industrial LTDA	CID004010
Gold	Marsam Metals	CID002606
Gold	Royal Canadian Mint	CID001534
Gold	Asahi Refining Canada Ltd.	CID000924
Gold	CCR Refinery - Glencore Canada Corporation	CID000185
Gold	Argor-Heraeus S.A.	CID000077
Gold	PX Precinox S.A.	CID001498
Gold	Metalor Technologies S.A.	CID001153
Gold	Valcambi S.A.	CID002003
Gold	MKS PAMP SA	CID001352
Gold	Cendres + Metaux S.A.	CID000189
Gold	Planta Recuperadora de Metales SpA	CID002919

Metal	Smelter name	RMI ID
Gold	Jiangxi Copper Co., Ltd.	CID000855
Gold	Inner Mongolia Qiankun Gold and Silver Refinery Share Co., Ltd.	CID000801
Gold	Tongling Nonferrous Metals Group Co., Ltd.	CID001947
Gold	Shandong Gold Smelting Co., Ltd.	CID001916
Gold	Zhongyuan Gold Smelter of Zhongjin Gold Corporation	CID002224
Gold	Great Wall Precious Metals Co., Ltd. of CBPM	CID001909
Gold	Daye Non-Ferrous Metals Mining Ltd.	CID000343
Gold	Hangzhou Fuchunjiang Smelting Co., Ltd.	CID000671
Gold	Guoda Safina High-Tech Environmental Refinery Co., Ltd.	CID000651
Gold	Guangdong Jinding Gold Limited	CID002312
Gold	Sichuan Tianze Precious Metals Co., Ltd.	CID001736
Gold	Shenzhen CuiLu Gold Co., Ltd.	CID002750
Gold	Gold Refinery of Zijin Mining Group Co., Ltd.	CID002243
Gold	Hunan Guiyang Yinxing Nonferrous Smelting Co., Ltd.	CID000773
Gold	Refinery of Seemine Gold Co., Ltd.	CID000522
Gold	Hunan Chenzhou Mining Co., Ltd.	CID000767
Gold	Metalor Technologies (Suzhou) Ltd.	CID001147
Gold	Metalor Technologies (Hong Kong) Ltd.	CID001149
Gold	Shandong Humon Smelting Co., Ltd.	CID002525
Gold	Shenzhen Zhonghenglong Real Industry Co., Ltd.	CID002527
Gold	Lingbao Jinyuan Tonghui Refinery Co., Ltd.	CID001058
Gold	Luoyang Zijin Yinhui Gold Refinery Co., Ltd.	CID001093
Gold	Lingbao Gold Co., Ltd.	CID001056
Gold	Penglai Penggang Gold Industry Co., Ltd.	CID001362
Gold	Shandong Tiancheng Biological Gold Industrial Co., Ltd.	CID001619
Gold	Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	CID001622

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Gold	Yunnan Copper Industry Co., Ltd.	CID000197
Gold	Heraeus Metals Hong Kong Ltd.	CID000707
Gold	SHENZHEN JINJUNWEI RESOURCE COMPREHENSIVE DEVELOPMENT CO., LTD.	CID004435
Gold	Dongwu Gold Group	CID003663
Gold	Gold by Gold Colombia	CID003641
Gold	SAFINA A.S.	CID002290
Gold	Degussa Sonne / Mond Goldhandel GmbH	CID002867
Gold	Heraeus Germany GmbH Co. KG	CID000711
Gold	Agosi AG	CID000035
Gold	WIELAND Edelmetalle GmbH	CID002778
Gold	Heimerle + Meule GmbH	CID000694
Gold	C. Hafner GmbH + Co. KG	CID000176
Gold	Aurubis AG	CID000113
Gold	SEMPSA Joyeria Plateria S.A.	CID001585
Gold	WEEEREFINING	CID003615
Gold	SAAMP	CID002761
Gold	Gold Coast Refinery	CID003186
Gold	PT Aneka Tambang (Persero) Tbk	CID001397
Gold	MD Overseas	CID003548
Gold	Augmont Enterprises Private Limited	CID003461
Gold	Bangalore Refinery	CID002863
Gold	Attero Recycling Pvt Ltd	CID004697
Gold	Emerald Jewel Industry India Limited (Unit 2)	CID003488
Gold	Emerald Jewel Industry India Limited (Unit 3)	CID003489
Gold	Emerald Jewel Industry India Limited (Unit 4)	CID003490
Gold	Kundan Care Products Ltd.	CID003463
Gold	JALAN & Company	CID002893
Gold	GGC Gujrat Gold Centre Pvt. Ltd.	CID002852

Metal	Smelter name	RMI ID
Gold	Sai Refinery	CID002853
Gold	Shirpur Gold Refinery Ltd.	CID002588
Gold	MMTC-PAMP India Pvt., Ltd.	CID002509
Gold	CGR Metalloys Pvt Ltd.	CID003382
Gold	Sovereign Metals	CID003383
Gold	Emerald Jewel Industry India Limited (Unit 1)	CID003487
Gold	Safimet S.p.A	CID002973
Gold	T.C.A S.p.A	CID002580
Gold	8853 S.p.A.	CID002763
Gold	Chimet S.p.A.	CID000233
Gold	Italpreziosi	CID002765
Gold	Yokohama Metal Co., Ltd.	CID002129
Gold	Yamakin Co., Ltd.	CID002100
Gold	Ishifuku Metal Industry Co., Ltd.	CID000807
Gold	Ohura Precious Metal Industry Co., Ltd.	CID001325
Gold	Eco-System Recycling Co., Ltd. East Plant	CID000425
Gold	Matsuda Sangyo Co., Ltd.	CID001119
Gold	Aida Chemical Industries Co., Ltd.	CID000019
Gold	Asahi Pretec Corp.	CID000082
Gold	Dowa	CID000401
Gold	Chugai Mining	CID000264
Gold	Japan Mint	CID000823
Gold	Asaka Riken Co., Ltd.	CID000090
Gold	Mitsui Mining and Smelting Co., Ltd.	CID001193
Gold	Mitsubishi Materials Corporation	CID001188
Gold	Tanaka Kikinzoku Kogyo K.K.	CID001875
Gold	JX Nippon Mining & Metals Co., Ltd.	CID000937
Gold	Eco-System Recycling Co., Ltd. North Plant	CID003424
Gold	Eco-System Recycling Co., Ltd. West Plant	CID003425



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Gold	Sumitomo Metal Mining Co., Ltd.	CID001798
Gold	Kojima Chemicals Co., Ltd.	CID000981
Gold	Tokuriki Honten Co., Ltd.	CID001938
Gold	Nihon Material Co., Ltd.	CID001259
Gold	Kyrgyzaltyn JSC	CID001029
Gold	DSC (Do Sung Corporation)	CID000359
Gold	LT Metal Ltd.	CID000689
Gold	HwaSeong CJ CO., LTD.	CID000778
Gold	LS-NIKKO Copper Inc.	CID001078
Gold	Torecom	CID001955
Gold	Korea Zinc Co., Ltd.	CID002605
Gold	Samwon Metals Corp.	CID001562
Gold	Samduck Precious Metals	CID001555
Gold	SungEel HiMetal Co., Ltd.	CID002918
Gold	NH Recytech Company	CID003189
Gold	TOO Tau-Ken-Altyn	CID002615
Gold	Kazzinc	CID000957
Gold	Kazakhmys Smelting LLC	CID000956
Gold	State Research Institute Center for Physical Sciences and Technology	CID003153
Gold	Caridad	CID000180
Gold	Metalurgica Met-Mex Penoles S.A. De C.V.	CID001161
Gold	Modeltech Sdn Bhd	CID002857
Gold	REMONDIS PMR B.V.	CID002582
Gold	K.A. Rasmussen	CID003497
Gold	Morris and Watson	CID002282
Gold	Inca One (Chala One Plant)	CID004704
Gold	Bangko Sentral ng Pilipinas (Central Bank of the Philippines)	CID000128
Gold	KGHM Polska Miedz Spolka Akcyjna	CID002511

Metal	Smelter name	RMI ID
Gold	Albino Mountinho Lda.	CID002760
Gold	Kyshtym Copper-Electrolytic Plant ZAO	CID002865
Gold	JSC Uralelectromed	CID000929
Gold	Moscow Special Alloys Processing Plant	CID001204
Gold	JSC Ekaterinburg Non-Ferrous Metal Processing Plant	CID000927
Gold	OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" (OJSC Krastsvetmet)	CID001326
Gold	Prioksky Plant of Non-Ferrous Metals	CID001386
Gold	JSC Novosibirsk Refinery	CID000493
Gold	SOE Shyolkovsky Factory of Secondary Precious Metals	CID001756
Gold	L'azurde Company For Jewelry	CID001032
Gold	Sudan Gold Refinery	CID002567
Gold	Boliden AB	CID000157
Gold	Metalor Technologies (Singapore) Pte., Ltd.	CID001152
Gold	Umicore Precious Metals Thailand	CID002314
Gold	Atasay Kuyumculuk Sanayi Ve Ticaret A.S.	CID000103
Gold	Nadir Metal Rafineri San. Ve Tic. A.S.	CID001220
Gold	Istanbul Gold Refinery	CID000814
Gold	Singway Technology Co., Ltd.	CID002516
Gold	Solar Applied Materials Technology Corp.	CID001761
Gold	Super Dragon Technology Co., Ltd.	CID001810
Gold	GG Refinery Ltd.	CID004506
Gold	African Gold Refinery	CID003185
Gold	QG Refining, LLC	CID003324
Gold	Pease & Curren	CID002872
Gold	Advanced Chemical Company	CID000015
Gold	Materion	CID001113
Gold	United Precious Metal Refining, Inc.	CID001993
Gold	Metalor USA Refining Corporation	CID001157

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Gold	Asahi Refining USA Inc.	CID000920
Gold	Abington Reldan Metals, LLC	CID002708
Gold	Kennecott Utah Copper LLC	CID000969
Gold	Sabin Metal Corp.	CID001546
Gold	Metallix Refining Inc.	CID003557
Gold	Alexy Metals	CID003500
Gold	Almalyk Mining and Metallurgical Complex (AMMC)	CID000041
Gold	Navoi Mining and Metallurgical Combinat	CID001236
Gold	Impala Refineries – Platinum Metals Refinery (PMR)	CID004714
Gold	Metal Concentrators SA (Pty) Ltd.	CID003575
Gold	Impala Refineries – Base Metals Refinery (BMR)	CID004604
Gold	Impala Rustenburg	CID004610
Gold	AU Traders and Refiners	CID002850
Gold	Rand Refinery (Pty) Ltd.	CID001512
Gold	Fidelity Printers and Refiners Ltd.	CID002515
Tantalum	Mineracao Taboca S.A.	CID001175
Tantalum	AMG Brasil	CID001076
Tantalum	Resind Industria e Comercio Ltda.	CID002707
Tantalum	Jiangxi Tuohong New Raw Material	CID002842
Tantalum	F&X Electro-Materials Ltd.	CID000460
Tantalum	Guangdong Rising Rare Metals-EO Materials Ltd.	CID000291
Tantalum	FIR Metals & Resource Ltd.	CID002505
Tantalum	Hengyang King Xing Lifeng New Materials Co., Ltd.	CID002492
Tantalum	XIMEI RESOURCES (GUANGDONG) LIMITED	CID000616
Tantalum	JiuJiang JinXin Nonferrous Metals Co., Ltd.	CID000914
Tantalum	Jiujiang Tanbre Co., Ltd.	CID000917
Tantalum	Yanling Jincheng Tantalum & Niobium Co., Ltd.	CID001522
Tantalum	XinXing HaoRong Electronic Material Co., Ltd.	CID002508
Tantalum	Jiujiang Zhongao Tantalum & Niobium Co., Ltd.	CID002506

Metal	Smelter name	RMI ID
Tantalum	Jiangxi Dinghai Tantalum & Niobium Co., Ltd.	CID002512
Tantalum	Ningxia Orient Tantalum Industry Co., Ltd.	CID001277
Tantalum	RFH Yancheng Jinye New Material Technology Co., Ltd.	CID003583
Tantalum	TANIOBIS Smelting GmbH & Co. KG	CID002550
Tantalum	TANIOBIS GmbH	CID002545
Tantalum	5D Production OU	CID003926
Tantalum	NPM Silmet AS	CID001200
Tantalum	Metallurgical Products India Pvt., Ltd.	CID001163
Tantalum	TANIOBIS Japan Co., Ltd.	CID002549
Tantalum	Global Advanced Metals Aizu	CID002558
Tantalum	Mitsui Mining and Smelting Co., Ltd.	CID001192
Tantalum	Taki Chemical Co., Ltd.	CID001869
Tantalum	Ulba Metallurgical Plant JSC	CID001969
Tantalum	KEMET de Mexico	CID002539
Tantalum	Solikamsk Magnesium Works OAO	CID001769
Tantalum	PowerX Ltd.	CID004054
Tantalum	TANIOBIS Co., Ltd.	CID002544
Tantalum	D Block Metals, LLC	CID002504
Tantalum	Telex Metals	CID001891
Tantalum	Global Advanced Metals Boyertown	CID002557
Tantalum	Materion Newton Inc.	CID002548
Tantalum	QuantumClean	CID001508
Tin	Aurubis Beerse	CID002773
Tin	EM Vinto	CID000438
Tin	Operaciones Metalurgicas S.A.	CID001337
Tin	Fabrica Auricchio Industria e Comercio Ltda.	CID003582
Tin	Resind Industria e Comercio Ltda.	CID002706
Tin	Magnu's Minerais Metais e Ligas Ltda.	CID002468
Tin	Melt Metais e Ligas S.A.	CID002500

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Tin	Estanho de Rondonia S.A.	CID000448
Tin	Super Ligas	CID002756
Tin	White Solder Metalurgia e Mineracao Ltda.	CID002036
Tin	Mineracao Taboca S.A.	CID001173
Tin	CRM Fundicao De Metais E Comercio De Equipamentos Eletronicos Do Brasil Ltda	CID003486
Tin	Mining Minerals Resources SARL	CID004065
Tin	Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	CID002158
Tin	Tin Smelting Branch of Yunnan Tin Co., Ltd.	CID002180
Tin	Ma'anshan Weitai Tin Co., Ltd.	CID003379
Tin	Gejiu City Fuxiang Industry and Trade Co., Ltd.	CID003410
Tin	Yunnan Yunfan Non-ferrous Metals Co., Ltd.	CID003397
Tin	Gejiu Kai Meng Industry and Trade LLC	CID000942
Tin	Chenzhou Yunxiang Mining and Metallurgy Co., Ltd.	CID000228
Tin	Gejiu Non-Ferrous Metal Processing Co., Ltd.	CID000538
Tin	HuiChang Hill Tin Industry Co., Ltd.	CID002844
Tin	Chifeng Dajingzi Tin Industry Co., Ltd.	CID003190
Tin	Guangdong Hanhe Non-Ferrous Metal Co., Ltd.	CID003116
Tin	China Tin Group Co., Ltd.	CID001070
Tin	Gejiu Zili Mining And Metallurgy Co., Ltd.	CID000555
Tin	Jiangxi New Nanshan Technology Ltd.	CID001231
Tin	Gejiu Yunxin Nonferrous Electrolysis Co., Ltd.	CID001908
Tin	Dongguan CiEXPO Environmental Engineering Co., Ltd.	CID003356
Tin	Aurubis Berango	CID002774
Tin	CRM Synergies	CID003524
Tin	PT Timah Tbk Kundur	CID001477
Tin	PT Timah Tbk Mentok	CID001482
Tin	PT Refined Bangka Tin	CID001460
Tin	PT Stanindo Inti Perkasa	CID001468

Metal	Smelter name	RMI ID
Tin	PT Panca Mega Persada	CID001457
Tin	PT Sukses Inti Makmur	CID002816
Tin	PT Bangka Prima Tin	CID002776
Tin	PT Menara Cipta Mulia	CID002835
Tin	PT Bangka Serumpun	CID003205
Tin	PT Premium Tin Indonesia	CID000313
Tin	PT Bukit Timah	CID001428
Tin	PT Babel Inti Perkasa	CID001402
Tin	PT Timah Nusantara	CID001486
Tin	PT Tinindo Inter Nusa	CID001490
Tin	PT Tommy Utama	CID001493
Tin	PT Mitra Stania Prima	CID001453
Tin	PT Aries Kencana Sejahtera	CID000309
Tin	PT Tirus Putra Mandiri	CID002478
Tin	CV Venus Inti Perkasa	CID002455
Tin	PT Rajawali Rimba Perkasa	CID003381
Tin	PT Rajehan Ariq	CID002593
Tin	PT ATD Makmur Mandiri Jaya	CID002503
Tin	PT Cipta Persada Mulia	CID002696
Tin	PT Bangka Tin Industry	CID001419
Tin	PT Babel Surya Alam Lestari	CID001406
Tin	PT Artha Cipta Langgeng	CID001399
Tin	PT Prima Timah Utama	CID001458
Tin	PT Sariwiguna Binasentosa	CID001463
Tin	CV Ayi Jaya	CID002570
Tin	PT Belitung Industri Sejahtera	CID001421
Tin	PT Mitra Sukses Globalindo	CID003449
Tin	PT Putera Sarana Shakti (PT PSS)	CID003868
Tin	PT Mitra Graha Raya	CID004685

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Tin	RIKAYAA GREENTECH PRIVATE LIMITED	CID004692
Tin	Precious Minerals and Smelting Limited	CID003409
Tin	Mitsubishi Materials Corporation	CID001191
Tin	Dowa	CID000402
Tin	Takehara PVD Materials Plant / PVD Materials Division of MITSUI MINING & SMELTING CO., LTD.	CID004403
Tin	DS Myanmar	CID003831
Tin	Pongpipat Company Limited	CID003208
Tin	Malaysia Smelting Corporation (MSC)	CID001105
Tin	Modeltech Sdn Bhd	CID002858
Tin	Malaysia Smelting Corporation Berhad (Port Klang)	CID004434
Tin	Minsur	CID001182
Tin	O.M. Manufacturing Philippines, Inc.	CID002517
Tin	Fenix Metals	CID000468
Tin	Novosibirsk Tin Combine	CID001305
Tin	Luna Smelter, Ltd.	CID003387
Tin	O.M. Manufacturing (Thailand) Co., Ltd.	CID001314
Tin	Thaisarco	CID001898
Tin	Rui Da Hung	CID001539
Tin	Woodcross Smelting Company Limited	CID004724
Tin	Tin Technology & Refining	CID003325
Tin	Alpha	CID000292
Tin	Metallic Resources, Inc.	CID001142
Tin	An Vinh Joint Stock Mineral Processing Company	CID002703
Tin	Tuyen Quang Non-Ferrous Metals Joint Stock Company	CID002574
Tin	Electro-Mechanical Facility of the Cao Bang Minerals & Metallurgy Joint Stock Company	CID002572
Tin	Nghe Tinh Non-Ferrous Metals Joint Stock Company	CID002573
Tin	VQB Mineral and Trading Group JSC	CID002015

Metal	Smelter name	RMI ID
Tungsten	Wolfram Bergbau und Hutten AG	CID002044
Tungsten	Cronimet Brasil Ltda	CID003468
Tungsten	Albasteel Industria e Comercio de Ligas Para Fundicao Ltd.	CID003427
Tungsten	ACL Metais Eireli	CID002833
Tungsten	Fujian Xinlu Tungsten Co., Ltd.	CID003609
Tungsten	YUDU ANSHENG TUNGSTEN CO., LTD.	CID003662
Tungsten	Shinwon Tungsten (Fujian Shanghang) Co., Ltd.	CID004430
Tungsten	Guangdong Xianglu Tungsten Co., Ltd.	CID000218
Tungsten	Jiangxi Xinsheng Tungsten Industry Co., Ltd.	CID002317
Tungsten	Hunan Shizhuyuan Nonferrous Metals Co., Ltd. Chenzhou Tungsten Products Branch	CID002513
Tungsten	China Molybdenum Tungsten Co., Ltd.	CID002641
Tungsten	Hunan Chenzhou Mining Co., Ltd.	CID000766
Tungsten	CNMC (Guangxi) PGMA Co., Ltd.	CID000281
Tungsten	Chongyi Zhangyuan Tungsten Co., Ltd.	CID000258
Tungsten	Hunan Jintai New Material Co., Ltd.	CID000769
Tungsten	Jiangxi Yaosheng Tungsten Co., Ltd.	CID002316
Tungsten	Malipo Haiyu Tungsten Co., Ltd.	CID002319
Tungsten	Xiamen Tungsten (H.C.) Co., Ltd.	CID002320
Tungsten	Jiangxi Minmetals Gao'an Non-ferrous Metals Co., Ltd.	CID002313
Tungsten	Ganzhou Jiangwu Ferrotungsten Co., Ltd.	CID002315
Tungsten	Jiangxi Tonggu Non-ferrous Metallurgical & Chemical Co., Ltd.	CID002318
Tungsten	Jiangxi Gan Bei Tungsten Co., Ltd.	CID002321
Tungsten	Ganzhou Seadragon W & Mo Co., Ltd.	CID002494
Tungsten	Hubei Green Tungsten Co., Ltd.	CID003417
Tungsten	Xiamen Tungsten Co., Ltd.	CID002082
Tungsten	Jiangwu H.C. Starck Tungsten Products Co., Ltd.	CID002551
Tungsten	H.C. Starck Tungsten GmbH	CID002541
Tungsten	TANIOBIS Smelting GmbH & Co. KG	CID002542



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Tungsten	A.L.M.T. Corp.	CID000004
Tungsten	Japan New Metals Co., Ltd.	CID000825
Tungsten	HANNAE FOR T Co., Ltd.	CID003978
Tungsten	DONGKUK INDUSTRIES CO., LTD.	CID004060
Tungsten	Philippine Chuangxin Industrial Co., Inc.	CID002827
Tungsten	Unecha Refractory metals plant	CID002724
Tungsten	JSC "Kirovgrad Hard Alloys Plant"	CID003408
Tungsten	NPP Tyazhmetprom LLC	CID003416
Tungsten	Hydrometallurg, JSC	CID002649
Tungsten	Moliren Ltd.	CID002845
Tungsten	Artek LLC	CID003553
Tungsten	OOO "Technolom" 2	CID003612
Tungsten	LLC Vostok	CID003643

Metal	Smelter name	RMI ID
Tungsten	OOO "Technolom" 1	CID003614
Tungsten	Lianyou Metals Co., Ltd.	CID003407
Tungsten	Lianyou Resources Co., Ltd.	CID004397
Tungsten	Kennametal Huntsville	CID000105
Tungsten	Kennametal Fallon	CID000966
Tungsten	Global Tungsten & Powders LLC	CID000568
Tungsten	Niagara Refining LLC	CID002589
Tungsten	Asia Tungsten Products Vietnam Ltd.	CID002502
Tungsten	Masan High-Tech Materials	CID002543
Tungsten	Nam Viet Cromit Joint Stock Company	CID004034
Tungsten	Kenee Mining Corporation Vietnam	CID004619
Tungsten	Tungsten Vietnam Joint Stock Company	CID003993

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<a href="#">Albania</a>	<a href="#">Central African Republic</a>	<a href="#">Georgia</a>	<a href="#">Korea</a>	<a href="#">Nigeria</a>	<a href="#">Spain</a>
<a href="#">Andorra</a>	<a href="#">Chile</a>	<a href="#">Germany</a>	<a href="#">Kyrgyzstan</a>	<a href="#">Norway</a>	<a href="#">Sudan</a>
<a href="#">Angola</a>	<a href="#">China</a>	<a href="#">Ghana</a>	<a href="#">Liberia</a>	<a href="#">Oman</a>	<a href="#">Suriname</a>
<a href="#">Argentina</a>	<a href="#">Colombia</a>	<a href="#">Guam</a>	<a href="#">Liechtenstein</a>	<a href="#">Panama</a>	<a href="#">Sweden</a>
<a href="#">Armenia</a>	<a href="#">Congo</a>	<a href="#">Guatemala</a>	<a href="#">Lithuania</a>	<a href="#">Papua New Guinea</a>	<a href="#">Switzerland</a>
<a href="#">Australia</a>	<a href="#">Cyprus</a>	<a href="#">Guinea</a>	<a href="#">Luxembourg</a>	<a href="#">Peru</a>	<a href="#">Taiwan</a>
<a href="#">Austria</a>	<a href="#">Democratic Republic of the Congo</a>	<a href="#">Guyana</a>	<a href="#">Madagascar</a>	<a href="#">Philippines</a>	<a href="#">Tajikistan</a>
<a href="#">Azerbaijan</a>	<a href="#">Djibouti</a>	<a href="#">Honduras</a>	<a href="#">Malaysia</a>	<a href="#">Poland</a>	<a href="#">Tanzania</a>
<a href="#">Belarus</a>	<a href="#">Dominica</a>	<a href="#">Hong Kong</a>	<a href="#">Mali</a>	<a href="#">Portugal</a>	<a href="#">Thailand</a>
<a href="#">Belgium</a>	<a href="#">Dominican Republic</a>	<a href="#">Hungary</a>	<a href="#">Mauritania</a>	<a href="#">Russian Federation</a>	<a href="#">Togo</a>
<a href="#">Benin</a>	<a href="#">Ecuador</a>	<a href="#">India</a>	<a href="#">Mexico</a>	<a href="#">Rwanda</a>	<a href="#">Turkey</a>
<a href="#">Bermuda</a>	<a href="#">Egypt</a>	<a href="#">Indonesia</a>	<a href="#">Mongolia</a>	<a href="#">Saudi Arabia</a>	<a href="#">Uganda</a>
<a href="#">Bolivia</a>	<a href="#">El Salvador</a>	<a href="#">Ireland</a>	<a href="#">Morocco</a>	<a href="#">Senegal</a>	<a href="#">United Arab Emirates</a>
<a href="#">Botswana</a>	<a href="#">Eritrea</a>	<a href="#">Israel</a>	<a href="#">Mozambique</a>	<a href="#">Serbia</a>	<a href="#">United Kingdom</a>
<a href="#">Brazil</a>	<a href="#">Estonia</a>	<a href="#">Italy</a>	<a href="#">Myanmar</a>	<a href="#">Sierra Leone</a>	<a href="#">United States of America</a>
<a href="#">Bulgaria</a>	<a href="#">Ethiopia</a>	<a href="#">Ivory Coast</a>	<a href="#">Namibia</a>	<a href="#">Singapore</a>	<a href="#">Uruguay</a>
<a href="#">Burkina Faso</a>	<a href="#">Fiji</a>	<a href="#">Japan</a>	<a href="#">Netherlands</a>	<a href="#">Slovakia</a>	<a href="#">Uzbekistan</a>
<a href="#">Burundi</a>	<a href="#">Finland</a>	<a href="#">Jersey</a>	<a href="#">New Zealand</a>	<a href="#">Solomon Islands</a>	<a href="#">Vietnam</a>
<a href="#">Cambodia</a>	<a href="#">France</a>	<a href="#">Kazakhstan</a>	<a href="#">Nicaragua</a>	<a href="#">South Africa</a>	<a href="#">Zambia</a>
<a href="#">Canada</a>		<a href="#">Kenya</a>	<a href="#">Niger</a>	<a href="#">South Sudan</a>	

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The English version of the Responsible Raw Materials Report is binding.

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