



Raw Material Report

Mercedes-Benz



Foreword

Dear readers,

On our way to a fully electric future, human rights and environmental standards are non-negotiable for us. That's why one thing is certain: an electric vehicle from Mercedes-Benz must be produced maintaining the highest standards, acknowledging the responsible procurement of production materials. This reflects our understanding of responsible business, which does not stop at our own factory gates.

The international "Lead the Charge" network sees Mercedes-Benz ahead of the competition with its active commitment to sustainable supply chains. We received the highest overall score for our efforts to prevent emissions, environmental damage and human rights violations in the supply chain ([↗ Website](#)).

This result gives us confidence that our procurement team is on the right track and at the same time presents an incentive for us to continue with our efforts.

This is all the more reason for us to prioritize maximum transparency and sustainability in complex supply chains

for critical battery raw materials. Among other things, we have set ourselves the goal of decidedly scrutinizing a total of 24 critical raw materials to identify all possible negative effects of our business activities by 2028. Where we see potential for improvement, we implement appropriate measures for prevention, reduction or termination of human rights and environmental violations in close cooperation with our partners.

A detailed overview of our activities and efforts can be found in this Raw Materials Report. We will also explain our approach and methodology, as well as report on the risk analysis and the measures taken. Our goal with this report is to create transparency and thereby further improve the partnership with you, our stakeholders.

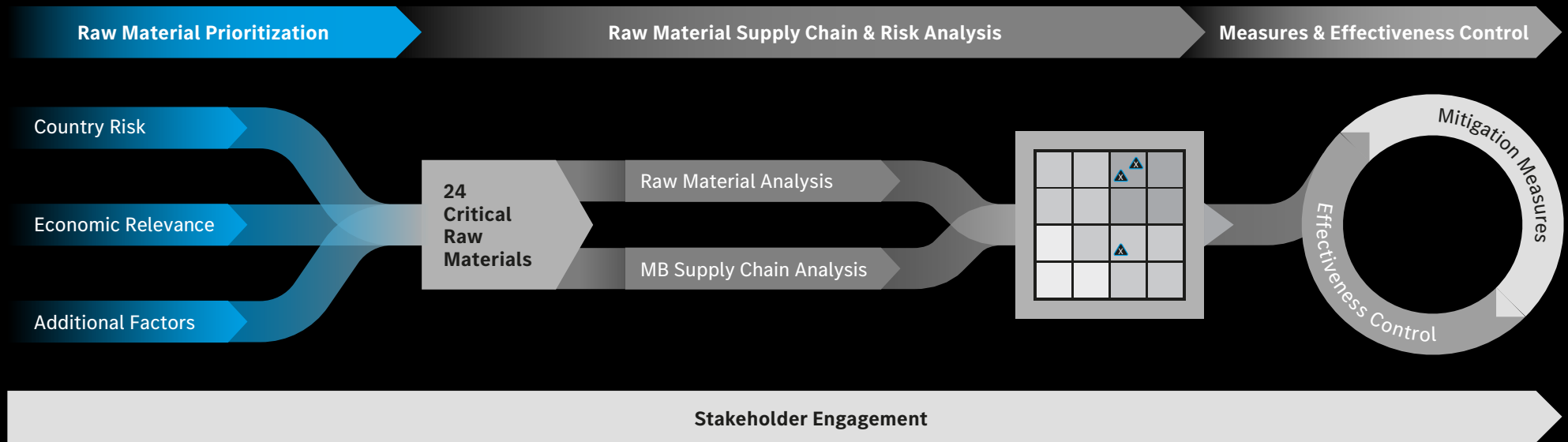
Sincerely,

Dr Gunnar Güthenke
Head of Procurement & Supplier Quality
Mercedes-Benz Cars



Methodology

In addition to an initial review of the situation, important elements of our assessments include the intensive analysis of our supply chains and the involvement of our direct suppliers and further stakeholders including affected rightsholders and civil society.



Salient Risk Areas

- A** Working conditions, including occupational health and safety
- B** Child labour
- C** Modern slavery, including forced labour

- D** Community and indigenous peoples' rights
- E** Excessive violence by private and public security forces
- F** Environmental risks with impact on human rights

- G** Business conduct in CAHRAS
- H** Serious human rights abuses

For more information on the definition of salient risk areas, please visit our [website](#).





Methodology



Raw Material Prioritization

We run our assessments as a standardized process for 24 critical raw materials. This list is subject to an annual revision, using a combination of three main indices.

These include a country risk rating based on the Global Risk Map of the Responsible Minerals Initiative, the industrial criticality based on the EU Critical Raw Materials List as well as additional factors that include direct sourcing, regulatory relevance and the occurrence of ASM as one significant form of raw material extraction.

<p>Al</p> <p>Aluminium</p> <p>↗ Page 06</p>	<p>Au</p> <p>Gold</p> <p>↗ Page 33</p>	<p>Cr</p> <p>Chromium</p>	<p>Co</p> <p>Cobalt</p> <p>↗ Page 09</p>	<p>Cu</p> <p>Copper</p> <p>↗ Page 12</p>	<p>C</p> <p>Graphite</p> <p>↗ Page 15</p>
<p>Fe</p> <p>Iron</p>	<p></p> <p>Leather</p>	<p>Li</p> <p>Lithium</p> <p>↗ Page 18</p>	<p>Mg</p> <p>Magnesium</p>	<p>Mn</p> <p>Manganese</p>	<p></p> <p>Mica</p> <p>↗ Page 21</p>
<p>Mo</p> <p>Molybdenum</p>	<p>Ni</p> <p>Nickel</p> <p>↗ Page 24</p>	<p>Nb</p> <p>Niobium</p>	<p>Pd</p> <p>Palladium</p> <p>↗ Page 30</p>	<p>Pt</p> <p>Platinum</p> <p>↗ Page 30</p>	<p></p> <p>Rare Earth Elements</p>
<p>Rh</p> <p>Rhodium</p> <p>↗ Page 30</p>	<p></p> <p>Rubber</p>	<p>Si</p> <p>Silica Sand & Silicon</p> <p>↗ Page 27</p>	<p>Ta</p> <p>Tantalum</p> <p>↗ Page 33</p>	<p>Sn</p> <p>Tin</p> <p>↗ Page 33</p>	<p>W</p> <p>Tungsten</p> <p>↗ Page 33</p>

The 24 critical raw materials. For further information please click on the links above. Assessments of the remaining raw materials will be published in due course.

Methodology



Raw Material Supply Chain & Risk Analysis

To be able to develop and design targeted measures to prevent or mitigate adverse human rights impacts, we assess all 24 critical raw materials along nine salient risk areas. These are derived from our Responsible Sourcing Standards, taking into account the international frameworks relevant to raw material supply chains, such as the OECD Due Diligence Guidelines for Minerals from Conflict and High Risk Areas.

The assessment begins with systemic risks inherent to the extraction of the raw material in question. This part rests on a technical understanding of the production process, raw material production and trade data as analyzed by the Raw Material Outlook – a Drive Sustainability project we initiated in 2020. The review of systemic risk is enriched with specific information about incidents from Mercedes-Benz’s own supply chain. Direct suppliers of focus parts with relevance to a specific critical raw material are subject to an in-depth assessment. The assessment focuses on the state of their due diligence management system, using the Mercedes-Benz Due Diligence Questionnaire (DDQ) as an instrument.

The detailed definition of our risk areas and how we prioritize in accordance with the UN Guiding Principles on Business and Human Rights (UNGPs) as well as the entire assessment logic can be found on our [website](#).



Measures & Effectiveness Control

Our measures are individual responses to each commodity’s risk profile. At least one mitigating measure will be implemented for each prioritized salient risk area. To guide the definition of these measures, we run through a series of considerations based on the UNGPs:

Severity of risk: how severe is the risk based on a rating of scale and scope? ([↗ website for definitions and methodology](#))

Contribution to the risk: to what extent have we caused, contributed or are linked to the identified risks?

Type of risk: Are the identified risks potential risks or have adverse impacts already occurred?

Leverage: to what extent can we influence the actors who are causing or contributing to a risk.

We have developed and are piloting an impact monitoring framework that will further refine our selection of measures going forward.



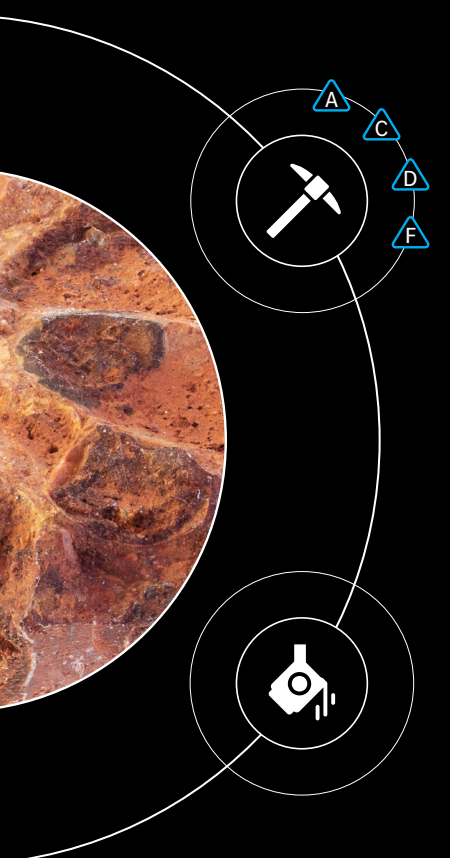
Stakeholder Engagement

The inclusion of potentially or actually affected rightsholders is a cornerstone of the raw material assessment. While it is our priority to engage with affected rightsholders directly, this is not always feasible. In these cases, we liaise with a diverse set of external stakeholders including human rights organizations, non-governmental organizations, trade unions, universities and community representatives. The aim of these consultations is to review our classification of the salient risk areas as well as the appropriateness of mitigating measures to be implemented.

Al Aluminium

Aluminium is the most abundant metal in the earth's crust and is extracted from bauxite. It is increasingly replacing steel in vehicle manufacturing because its light weight can make a significant contribution to improving fuel efficiency and decreasing carbon emissions by reducing the overall vehicle weight.

Raw Material Risks



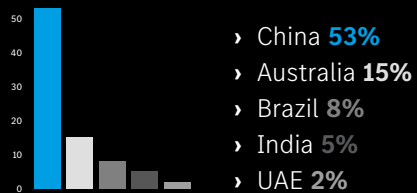
Mining and Beneficiation

Main bauxite mining countries according to global market share¹



Smelting and Refining

Main processing countries¹



Identified Salient Risks

- A** Working conditions, including occupational health and safety
- C** Modern slavery, including forced labour
- D** Community and indigenous peoples' rights
- F** Environmental risks with impact on human rights

Focus Parts/Commodities

- › Wheels
- › Battery compartment
- › Raw aluminium

Risk Analysis

	Minor	Moderate	Major	Critical
Minor				
Moderate			A	
Major				
Critical			C D	F

¹ Based on United States Geological Survey (2022)

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **17**
- › Average DDQ rating:
 - 65%** (wheels)
 - 57%** (raw aluminium)
- › **In progress** (Battery Compartment)
- › Suppliers implementing measures to improve DDQ score: **3**

Tier N / Systemic Risk

In our analysis, the risk areas Modern Slavery and Forced Labour and Community and Indigenous Rights as well as Environmental Risks with Impact on Human Rights stand out. Community and Indigenous Rights and Environmental Risks with Impact on Human Rights are closely interrelated and have a broader geographical footprint, for example in Guinea and Brazil. Bauxite mining requires extensive areas and comes with impacts on the environment such as the stripping of land, dust emissions, soil erosion and water turbidity. If not managed, these impacts present a significant risk to negatively affect the livelihoods of neighbouring communities. This is exacerbated when mining happens next to vulnerable communities such as in Guinea.

Stakeholder Engagement

- › Regular exchange with international Civil Society Organizations on human rights and environmental risk specific to Guinea and Brazil, the role of the automotive industry ensuring human rights are respected and the role of standards in the aluminium value chain
- › Engagement with mining industry on findings from missions to Brazil and Guinea ([→ Spotlight](#))
- › Mine site visits during missions in Brazil and Guinea ([→ Spotlight](#))
- › Engagement with affected communities on mining impacts ([→ Spotlight](#))

Measures

Implemented Measures

- › The rising demand for aluminium is leading to new projects and the expansion of existing bauxite mining projects. It is therefore important to define the conditions under which this process takes place.
- › Further roll-out of ASI certified material: we have raised the bar and aim to achieve 80% ASI-certified aluminium in our vehicles (EQS-based calculation, may differ for other models). This is in conjunction with our goals to use exclusively renewable energy.
- › ASI development: we are committed to work with ASI on the continuous improvement of the standard and audit accompanying measures.

✔ Activity Log

- › Mission to Guinea: bauxite mines and mining communities
- › Mission to Brazil: bauxite mines and refining
- › Member of the Aluminium Stewardship Initiative Standard Committee and Human Rights Workgroup
- › Initiation of Sustainability Partnership with Norsk Hydro since 2022

▶ Outlook

- › Expansion of sustainability partnership with Norsk Hydro with a geographical focus on Brazil
- › Continued broad stakeholder engagement regarding Guinea
- › Continued engagement to strengthen ASI



Spotlight: Missions to Brazil and Guinea

In April and May 2023, we travelled to Brazil and Guinea to visit bauxite mines and alumina production sites as well as to establish direct relationships with mining affected communities. The goal of these visits was to further increase our expertise and understanding of the industry's impacts on affected communities and the environment with particular reference to the prioritized salient risk areas for aluminium. The visits were a direct consequence of our raw material assessment of aluminium which identified both Brazil and Guinea as high-risk geographies.

What we found was a complex challenge to traditional livelihoods, comprised of mining-affected impacts but also apparent effects of climate change. Further conditions impeding improvements include the lack of governance and the most basic services leading to a state of chronic poverty.

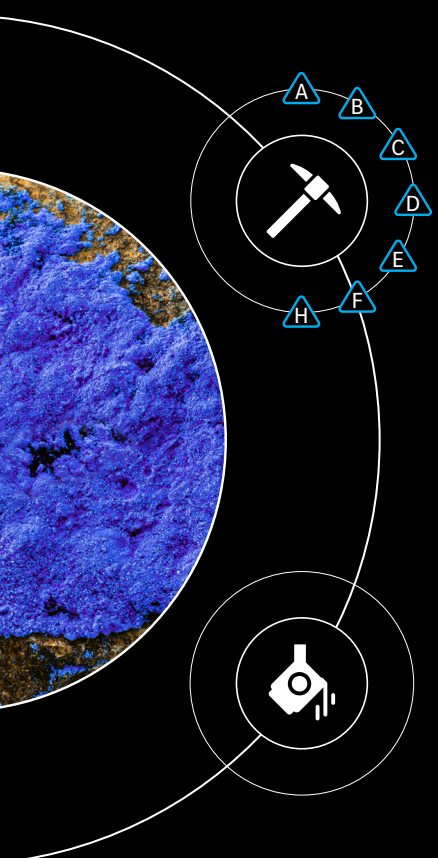
We did observe issues related to the extraction of bauxite that we do not consider an international best practice. As part of our corporate responsibility, we raised these with the mining operator and shareholders. The complexity of challenges to traditional livelihoods, however, cannot be addressed only through improvements in mining companies' practices.

Further engagement and on-the-ground support is needed, which is why we shared our experience in Guinea with interested stakeholders in more than 15 debriefings and initiated a conversation on collaborative action within Drive Sustainability.

Co Cobalt

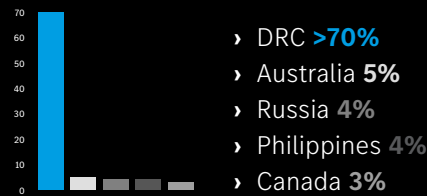
Cobalt is rarely found in its pure form, but is largely produced as a by-product of copper or nickel mining. Cobalt is an important material for the energy transition. It is highly valued for its thermal stability and high energy density. These qualities cause cobalt to be used in the cathodes of most types of lithium-ion batteries.

Raw Material Risks



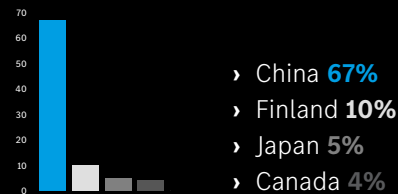
Mining and Beneficiation

Main cobalt mining countries according to global market share¹



Smelting and Refining

Main processing countries



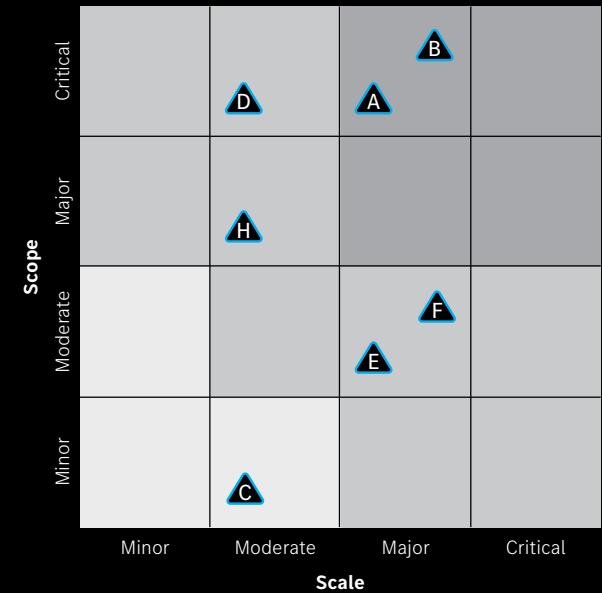
Identified Salient Risks

- A** Working conditions, including occupational health and safety
- B** Child labour
- C** Modern slavery, including forced labour
- D** Community and indigenous peoples' rights
- E** Excessive violence by private and public security forces
- F** Environmental risks with impact on human rights
- H** Serious human rights abuses

Focus Parts/Commodities

- › Lithium-ion batteries

Risk Analysis



¹ Based on United States Geological Survey (2022)



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **7**
- › Average DDQ rating: **77%** (lithium-ion batteries)
- › Suppliers implementing measures to improve DDQ score: **0**

Tier N / Systemic Risk

Working conditions including Occupational Health and Safety and Child Labour have been prioritized as salient risk areas for cobalt. The vast majority of cobalt is produced through large-scale mining. However, the risks mainly relate to the DRC and almost all concern the artisanal and small-scale sector (ASM). The most serious risks are concentrated on a relatively small part of the supply chain which employs a large number of people.

Due to extreme poverty, some children need to support their families and work directly in the mines. Children are also taken to the mines due to the lack of alternatives to care. The number of working children cannot easily be distinguished from the total number of children present at mines. Risks in working conditions mainly reflect the inability to enforce safety standards in ASM operations.

Stakeholder Engagement

- › Ongoing dialogue with all Tier 1 focus component suppliers on due diligence and transparency in the supply chain
- › Dialogue with two mine sites and one cobalt refiner on standards
- › Ongoing dialogue with industry initiatives (e.g. Cobalt Institute) on ASM standards and legal frameworks in the DRC
- › Dialogue with international and Congolese civil society organizations on feedback from assessment results

Measures

Implemented Measures

- › To address the risks in industrial mining, we focus mainly on standards and transparency. Since child labour is a poverty-driven phenomenon, we try to provide alternative livelihoods through concrete local project work.
 - › Commitment to the IRMA Standard: contractual agreements with our battery cell suppliers stipulate that cobalt sourcing is restricted to material originating from mines that are audited against the IRMA Standard. A transitional period of three years after SOP applies to achieve the IRMA 50 level.
 - › RMAP: we have introduced a requirement to only allow cobalt that comes from RMAP conformant smelters and refineries in our purchased parts. This ensures a certain level of due diligence management systems installed at the point of the supply chain where it matters most.
 - › Human rights and environmental due diligence audits in battery supply chains: mapping and audit activities throughout the entire supply chain (Tier 1 - mine).
- Scope includes supply chain mapping, audit implementation, supplier trainings and provision of corrective action plans based on individual findings.
- › Alternative livelihoods project: cooperation with Bon Pasteur on the creation of alternative livelihoods, social and economic empowerment, child protection as well as healthcare services for children, girls and women.

✔ Activity Log

- › Mission to the DRC (Kolwezi): mine site visits and engagement with mining communities ([→ Spotlight](#))
- › Participation on a panel on human rights due diligence at Annual Cobalt Conference of the Cobalt Institute
- › Member of ILO Child Labour Platform DRC Country Working Group
- › Participation on a panel at the OECD Forum on Responsible Mineral Supply Chains on the implementation of the EU Battery Regulation

▶ Outlook

- › We continue stakeholder dialogues on monitoring the status of legal developments in the cobalt sector and on getting feedback on our due diligence efforts.
- › We are completing a material-agnostic ASM strategy focused on alternative livelihoods.



Spotlight: On the Ground for More Transparency and Higher Standards in Our Cobalt Supply Chains (Kolwezi - DRC)

In November 2022, we travelled to the Democratic Republic of the Congo – more precisely to the Katanga province – to get an overview of the current state of responsible mining practices on the ground. We had the chance to visit two industrial copper/cobalt mines and discuss human rights and environmental topics in large-scale mines as well as challenges and expectations from downstream companies with the operating mining company. Moreover, we were able to accompany a RCS Global due diligence audit commissioned by Mercedes-Benz at a copper/cobalt mine site in the same region.

Furthermore, we attended a workshop organized by Drive Sustainability and CSR Europe which took place in the same week. Participants included various stakeholders along the cobalt supply chain, inter alia international initiatives, operating mining companies

from the region as well as the minister of the Congolese Chamber of Mines. We used the opportunity to raise awareness about our Mercedes-Benz requirements and expectations regarding responsible cobalt sourcing and especially about the IRMA Standard ([↗ website](#)).

Last but not least, we visited our project partner Bon Pasteur and were able to gain an understanding of its regional and local projects. These include a farming project as part of social and economic empowerment for the people as well as the creation of alternative livelihoods beyond the ASM sector, a local school and a mobile healthcare centre for children, especially girls and women.

Cu Copper

Copper is a relatively abundant element and occurs in a range of minerals with mineable deposits across the globe. It is an excellent conductor of heat and electricity and has therefore found its way into many applications of modern life. The role of copper for the automotive industry will increase with the introduction of battery electric vehicles.

Raw Material Risks



Mining and Beneficiation

Main copper mining countries according to global market share¹



Smelting and Refining

Main processing countries¹



¹ Based on United States Geological Survey (2022)

Identified Salient Risks

- A** Working conditions, including occupational health and safety
- B** Child labour
- D** Community and indigenous peoples' rights
- E** Excessive violence by private and public security forces
- F** Environmental risks with impact on human rights

Focus Parts/Commodities

- › Wiring harness
- › Battery high voltage
- › Electric motor

Risk Analysis

	Minor	Moderate	Major	Critical
Critical			F	D
Major				E
Moderate			A	B
Minor				



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **19**
- › Average DDQ rating:
 - 59%** (wiring harness)
 - 77%** (lithium-ion battery)
 - 75%** (electric motor)
- › Suppliers implementing measures to improve DDQ score: **2**

Tier N / Systemic Risk

We have identified and prioritized three salient risk areas for copper: Community and Indigenous Rights, Excessive Violence by Public and Private Security Forces and Environmental Risks with Impact on Human Rights. All three overlap to a large extent and share common origins. With a geographical focus on Chile and Peru (one third of the annual global mining production), copper mining holds a significant risk for adverse impacts on the rights of indigenous communities. These originate in the environmental footprint of mining, e.g. regarding dust emissions, water availability and quantity as well as the heavy use of local infrastructure. In the past, protest by communities has led to violent clashes involving public and private security forces.

Stakeholder Engagement

- › Dialogue with a Peruvian civil society organisation on human rights and environmental risks in copper mining in Peru and Chile
- › Dialogue with a copper industry association on expectations toward the development of sustainability standards in copper mining

Measures

Implemented Measures

- › With the global distribution of copper production and a highly dynamic trade system of copper and copper semis, it is extremely difficult to address the prioritized salient risk areas through the supply chain. Our approach therefore focuses on systemic change and continuous improvement.
- › Copper Mark/RRA: while the Copper Mark does not currently meet our expectations of a good practice standard, we recognize its uptake in the market. We have therefore extensively shared our views during the 2023 standard revision process, highlighting aspects tied to the salient risk areas (e.g. importance of human rights defenders).
- › Guidance for Suppliers to Navigating Quality and Effectiveness of Mining and Supply Chain Standards: as we need standards to serve as effective instruments for human rights due diligence, we have published a guidance to clarify our expectations towards standards initiatives for their further path of development. Core of this guidance is the need to put affected rightsholders at the centre of attention in both governance and operative audits.
- › NAP Copper: we have committed funding to clarify human rights due diligence expectations beyond standards in copper in a multi-stakeholder workgroup.



✔ Activity Log

- › Initiation of a Raw Material Outlook risk analysis for copper through Drive Sustainability
- › Member of the automotive workgroup on copper under the German National Action Plan for Business and Human Rights

▶ Outlook

- › Research in quantifiable goals to increase the share of secondary material for copper focus parts to the maximum
- › Continued exchange with a certification scheme for copper production
- › Human Rights Impact Assessment of certification schemes in copper production under the umbrella of the German National Action Plan for Business and Human Rights

c Graphite

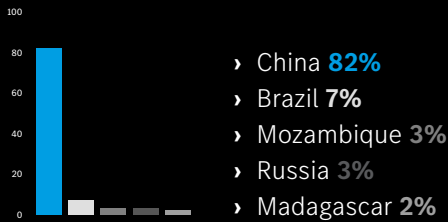
Natural graphite occurs in nature in its native form (not combined with other elements). Its chemical properties makes it useful in a wide range of automotive applications, including foundries, steelmaking and lithium-ion batteries. Its use in lithium-ion batteries will be a critical contribution to the introduction of battery electric vehicles.

Raw Material Risks



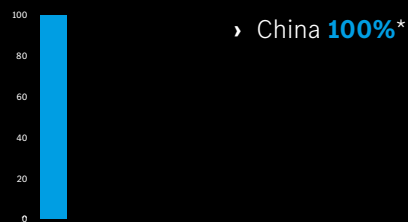
Mining and Beneficiation

Main graphite mining countries according to global market share¹



Smelting and Refining

Spherical graphite



Identified Salient Risks

- A** Working conditions, including occupational health and safety
- C** Modern slavery, including forced labour
- D** Community and indigenous peoples' rights
- F** Environmental risks with impact on human rights
- G** Business conduct in CAHRAS
- H** Serious human rights abuses

Focus Parts/Commodities

- › Lithium-ion batteries

Risk Analysis

	Minor	Moderate	Major	Critical
Critical		H	D , F	
Major			A , C	
Moderate			G	
Minor				

¹ Based on [United States Geological Survey \(2022\)](#)
 *Not only does China have the major share in natural flake graphite mining, it also has a monopoly on conversion to spherical graphite needed for battery cell anodes.



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **8**
- › Average DDQ rating: **77%** (lithium-ion battery)
- › Suppliers implementing measures to improve DDQ score: **0**

Tier N / Systemic Risk

We have identified and prioritized three salient risk areas for graphite: Working Conditions including Occupational Health and Safety, Community and Indigenous Rights and Environmental Risks with Impact on Human Rights.

China, Madagascar and Mozambique are in focus for Working Conditions including Occupational Health and Safety and Community and Indigenous Rights due to excessive exposure to graphite dust and conflict over land rights with local communities.

China is in the focus for Environmental Risks with Impact on Human Rights where the most risks originate in the footprint of the mine sites. Dust emissions around the sites, inadequate waste water management or the contamination of drinking water are to be mentioned here as an example.

Stakeholder Engagement

→ [Outlook](#)

Measures

Implemented Measures

- › The rising demand for graphite, particularly for EV batteries, is causing a rise of natural graphite mining projects. Especially Mozambique, Tanzania and Madagascar are new actors with growing market shares. Therefore, it is key to secure responsible mining standards, legal frameworks and the fulfillment of due diligence obligations as well as to minimize environmental impacts.
- › Commitment to the IRMA Standard: contractual agreements with our battery cell suppliers stipulate that graphite sourcing is restricted to material originating from mines that are audited against the IRMA Standard. A transitional period of three years after SOP applies to achieve the IRMA 50 level.
- › Integration of graphite into our human rights and environmental due diligence audits in battery supply chains: mapping and audit activities throughout the entire supply chain (Tier 1 - mine). The scope includes supply chain mapping, audit implementation, supplier trainings and provision of corrective action plans based on individual findings.

✔ Activity Log

- › Building knowledge via RCS audits
- › Completion of risk assessment
- › Due diligence management screening of Tier 1 suppliers

▶ Outlook

- › In order to derive appropriate measures from our identified risk areas, we will continue to evaluate the risks in detail and share our findings in dialogues with NGOs and representatives of affected rightsholders.
- › In addition, we will share and discuss our findings with upstream stakeholders in the natural graphite sector to implement our measures in a practice-oriented approach



Spotlight: Enhanced Focus on Environmental Due Diligence in Supply Chains

Mining is associated with significant environmental risks and impacts to air, land, water and biodiversity. However, with the green energy transition, discussions around environmental and climate-friendly supply chains became even more important. Even though Environmental Risks with Impacts to Human Rights had already been a salient risk area we assessed in the context of our raw material assessments, we made the decision to expand this field, embedding more specific environmental considerations in our supply chain due diligence processes.

In 2022, we adopted our Responsible Sourcing Standards (RSS). The RSS apply globally and are our code of conduct for the supply chain. They include mandatory minimum requirements for suppliers as well as expectations to support continuous development. In the absence of established international guidance, we purposefully integrated a standalone chapter on environmental due diligence. Also in 2022, we expanded the scope of our battery cell due diligence audit programme with RCS Global

to include environmental aspects and are currently reviewing the first audit results from both our direct suppliers and sub-suppliers for the raw materials nickel, lithium, graphite and cobalt ([→ Spotlight: Transparency and Due Diligence Audits](#)).

Furthermore, we support the new OECD handbook on [Environmental Due Diligence in Mineral Supply Chains](#) as the new best practice guidance and will integrate its principles into our raw material assessment process. The handbook provides guidance for downstream operators on how to effectively implement environmental due diligence in their raw material supply chains given the fact that downstream operators might be far away from risks on the ground.

To build further expertise and drive the debate forward, we are working on two research projects focusing on environmental due diligence requirements in the upstream value chains as well as on the measurability and monitoring of biodiversity in automotive supply chains.

Li Lithium

Lithium is a soft, silvery-white light metal and is produced mainly from brine and hard-rock deposits. It has a high energy storage density and is therefore used in particular for rechargeable lithium-ion batteries. The second important application of lithium is in the field of ceramics, glass ceramics and glass.

Raw Material Risks



Mining and Beneficiation

Main lithium mining countries according to global market share 2022¹



Smelting and Refining

Main processing countries*

- › China
- › Japan
- › Korea

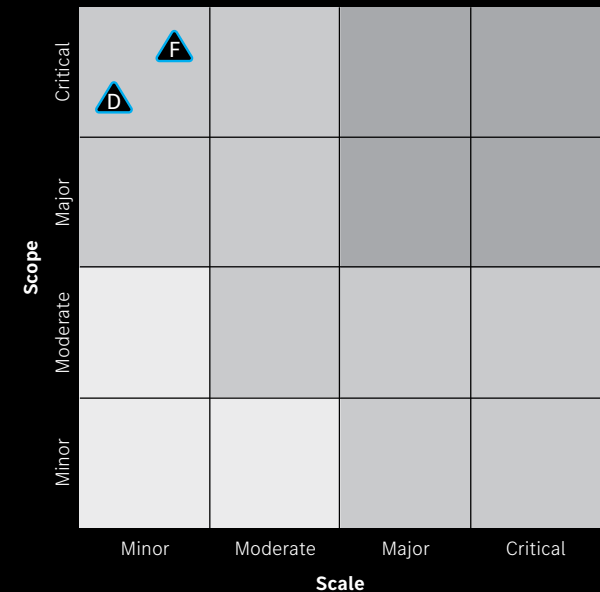
Identified Salient Risks

- D** Community and indigenous peoples' rights
- F** Environmental risks with impact on human rights

Focus Parts/Commodities

- › Lithium-ion batteries

Risk Analysis



¹ Based on [United States Geological Survey \(2023\)](#)

*Precise production data is not available

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **8**
- › Average DDQ rating: **77%** (lithium-ion battery)
- › Suppliers implementing measures to improve DDQ score: **0**

Tier N / Systemic Risk

We have identified and prioritized two salient risk areas for lithium: Community and Indigenous Rights and Environmental Risks with Impact on Human Rights. Lithium is produced in large mining operations. The most serious risks associated with lithium mining are concentrated on production from brine deposits. The largest brine reserves are located in arid areas in South America where brine and water use pose a potential risk for water and brine table shifts that could result in harm to ecosystems and affect local livelihoods due to water scarcity. The insufficient understanding of the hydrological situation and impacts of mining activities as well as a lack of transparency and objectivity in available information can lead to conflicts between different stakeholders.

Stakeholder Engagement

- › Dialogue with international NGO on human rights risks associated with lithium extraction in South America
- › Dialogue with participants of the Responsible Lithium Partnership (initiated by the GIZ project) on concerns, expectations and needs linked to lithium mining in Chile's Salar de Atacama region

Measures

Implemented Measures

- › Due to the rapid expansion of electromobility, the demand for lithium is expected to grow significantly, leading to an increase in production volumes in high-risk areas such as South America, but also in other already established production countries as well as in newly emerging sites. Therefore, it is key to focus on risks in South America as well as implementing an overarching approach.
- › Commissioning a study with other market participants carried out by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH to further understand the risks in Chile and develop an effective and targeted action plan
- › Initiating a Responsible Lithium Partnership with several other companies, coordinated by GIZ. The aim of the initiative is to work towards responsible natural resource management, including lithium, in Chile's Salar de Atacama. The partnership is intended to foster a dialogue among local stakeholders, generating and synthesising scientific facts and seeking collective solutions.
- › Commitment to the IRMA Standard: contractual agreements with our battery cell suppliers stipulate that lithium sourcing is restricted to material originating from mines that are audited against the IRMA Standard.
- › Human rights and environmental due diligence audits in battery supply chains: mapping and audit activities throughout the entire supply chain (Tier 1 - mine). The Scope includes supply chain mapping, audit implementation, supplier trainings and provision of corrective action plans based on individual findings.

✔ Activity Log

- › Mission to Chile (Salar de Atacama): mine site visits, dialogue with diverse stakeholders (including representatives of indigenous communities) as part of the Responsible Lithium Partnership
- › Participation in the lithium working group of the automotive industry sector dialogue organised by the Federal Ministry of Labour and Social Affairs to support the implementation of Germany's National Action Plan for Business and Human Rights (NAP)

▶ Outlook

- › Continue the Responsible Lithium Partnership until Q1 2024
- › Since 2020, MB AG Group is part of the automotive industry dialogue in the National Action Plan on Business and Human Rights (NAP), working in a pilot project for lithium. In this project, representatives from various stakeholder groups are developing [↗ Cross-country recommendations for responsible lithium mining & recommended actions](#). The aim of the project is to promote and spread the recommendations by engaging with external stakeholders.

IRMA Initiative for Responsible Mining Assurance

Spotlight: IRMA for Responsible Mining

Mercedes-Benz joined the Initiative for Responsible Mining Assurance (IRMA) in 2021 as one of the first automotive OEMs and is since then regularly engaged in its Buyers Group.

Since 2021, we have been using IRMA as a precondition in all battery-related awardings and require our suppliers to exclusively use cobalt, lithium, nickel, natural graphite, manganese and copper from IRMA-audited mines in newly commissioned scopes of supply. Because IRMA is still at the beginning of industry-wide application, we are relying on transitional periods. With our clear requirement, we accelerate the establishment of the Standard under realistic conditions: we are gradually moving towards increasingly responsible practices with the medium-term goal of robust certification. For example, we expect at least proof of IRMA Transparency at the start of production of the corresponding purchased part from the supplier and three years later the achievement of IRMA 50 or higher. With the strategic decision to work only with suppliers who agree to the requirements of IRMA in the future, Mercedes-Benz seeks to ensure that its products contain only

materials that have been mined and produced without violating human rights or environmental standards.

However, we are committed to continuously work on the improvement of the Standard. Therefore in 2022 we initiated a project together with IRMA to analyse how communities could be even better engaged in IRMA audits:

“In addition to advancing engagement from the industry, Mercedes-Benz has been equally focused on ensuring communities are well supported to engage in IRMA audits. To this end, the company provided substantial support for a yearlong focus on testing and refining approaches for effective and inclusive community participation during the on-site audit.

This support resulted in a range of translated materials in relevant languages, concrete tools tailored for this important audience, and key learnings which will be integrated into IRMA's approach and shared with other standards systems.”

Rebecca Burton, Deputy Director of IRMA



Mica

Due to its diverse properties, mica is contained in a wide variety of consumer and industrial products. In the car, the raw material is used in paint to achieve the shimmering effect, but also in brake pads and other electrical components because of its heat resistance.

Raw Material Risks



Mining and Beneficiation

Main mica mining countries according to global market share*

- › China
- › India
- › Canada
- › Madagascar
- › France

Smelting and Refining

Main processing countries*

- › No data available

Identified Salient Risks

- A** Working conditions, including occupational health and safety
- B** Child labour
- F** Environmental risks with impact on human rights
- H** Serious human rights abuses

Focus Parts/Commodities

- › Brake pad
- › Mica mat
- › Paint

Risk Analysis

		F	H	
Critical				B
Major				A
Moderate				
Minor				
	Minor	Moderate	Major	Critical

Scale

*Due to the lack of transparency in the mica supply chain, it is not possible to provide [precise data](#). Statistics on global mica reserves are hard to come by, as are reliable statistics on mica production. There is disparity between export data and production data.



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **15**
- › Average DDQ rating:
58% (Barke pad)
- › **83%** (Mica mat)
- › **60%** (Paint)
- › Suppliers implementing measures to improve DDQ score: **3**

Tier N / Systemic Risk

We have identified and prioritized two salient risk areas for mica: Working Conditions including Occupational Health and Safety and Child Labour.

In India and Madagascar, mica is to a large extent produced by means of artisanal and small-scale mining. This holds a high risk of labour abuses and the use of child labour. As these mines are often illegal, the lack of safety standards lead to a further threat of collapsing underground due to insufficient preventive measures resulting in deaths and severe injuries.

Child labour and poor working conditions exist due to weak enforcement of a legal framework, remoteness and poverty and lack of health and education services and infrastructure.

Stakeholder Engagement

- › Ongoing dialogue with Tier 1 and Tier 2 suppliers
- › Dialogue with international NGO and representatives

Measures

Implemented Measures

- › The predominant challenge in the mica supply chain is a highly intransparent trade system in the upstream. Our approach therefore focuses on systemic change and continuous improvement.
- › Combating child labour: the cooperation with the NGO Terre des Hommes Netherlands in Jharkhand (India) aims to enable children in the vicinity of mica mines to attend school and to support their families economically ([→ Spotlight](#)).
- › Responsible Mica Initiative: in the cross-industry alliance of international companies and NGOs, we support RMI's three overarching goals, safeguarding labour standards, strengthening mining communities and establishing a legal framework in India.



✔ Activity Log

- › Member of the Responsible Minerals Initiative's Workplace Standards for traceability and workplace standards action group

▶ Outlook

- › Further initiation of dialogues with NGOs and representatives of affected rightsholders.
- › Improve traceability across mica supply chains with the help of the Responsible Mica Initiative blockchain-based solution
- › Ongoing engagement in the RMI working group to promote the Global Mica Working Standard
- › Complete a material-agnostic ASM strategy focused on alternative livelihoods



Spotlight: Combating Child Labour

Since 2020, Mercedes-Benz has been cooperating with Terre des Hommes Netherlands in Jharkhand, India. The cooperation aims to eliminate child labour in mica mining activities by addressing its root causes and applying a child rights-based approach. The project aims for continuity of school education for children and supports livelihoods of mica dependent families. The project has been extended until 2025 and includes another 20 villages to achieve lasting positive changes. Major achievements include:

Children empowerment and education:

- › Supported 756 children to access pre-school learning.
- › Mobilized 1,842 children in 30 villages to form Balmanch (children's forums) on their own.
- › Supported 645 at-risk children to continue their education.
- › Helped 234 adolescent girls access government scholarships for education up to 12th standard.

Improved conditions to enhance income of mica-dependent families:

- › Trained 578 families to adopt gainful and diversified additional livelihood options.
- › Assisted 724 families in accessing at least three government social welfare and social protection schemes.
- › Provided safety training to 268 families to reduce health hazards in mica-related activities.

Advocacy efforts - socio-economic entitlements and formalisation of Dhibra policy

- › Facilitated district-level consultations with CSOs, labour unions, and government authorities on social security schemes.
- › Facilitated district and state level consultations with Government and CSOs to expedite the procedures for effective implementation of guiding principles to formal handling of Dhibra (mica scrap).

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **11**
- › Average DDQ rating: **77%** (Lithium-ion batteries)
73% (Exhaust system)
- › Suppliers implementing measures to improve DDQ score: **0**

Tier N / Systemic Risk

We have identified and prioritized Working conditions including Occupational Health and Safety, Community and Indigenous Rights and Environmental Risks with Impact on Human Rights as salient risk areas for nickel. Nickel mining and processing presents a significant risk for adverse impacts on the environment. Air, soil, and water pollution as well as waste management are the most detrimental risks. Nickel mines are usually open pit and therefore require a lot of space. Therefore land use often clashes with community and indigenous rights. In sum this leads to a complex combination of risk affecting community livelihoods from a variety of angles.

Stakeholder Engagement

- › Dialogue with industry associations on industry standards
- › Ongoing dialogue with consultancies as subject matter experts
- › Ongoing dialogue with all Tier 1 focus component suppliers on due diligence and transparency in the supply chain
- › Dialogue with international and Indonesian civil society organizations on the most salient risks in nickel mining and processing
- › Dialogue with nickel mines in Indonesia and New Caledonia on the IRMA Standard

Measures

Implemented Measures

- › The rising demand for nickel, particularly for EV batteries, is causing a tremendous rise of nickel mining projects and nickel industrial parks especially in Indonesia. Therefore, it is key to secure responsible mining standards, legal frameworks and the fulfillment of due diligence obligations as well as to minimize environmental impacts.
- › Commitment to the IRMA Standard: contractual agreements with our battery cell suppliers stipulate that nickel sourcing is restricted to material originating from mines that are audited against the IRMA Standard. A transitional period of three years after SOP applies to achieve the IRMA 50 level.
- › Integration of nickel into our human rights and environmental due diligence audits in battery supply chains. Mapping and audit activities throughout the entire supply chain (Tier 1 - mine): scope includes supply chain mapping, audit implementation, supplier trainings and provision of corrective action plans based on individual findings.

Ni

✔ Activity Log

- › Initiation of a Raw Material Outlook risk analysis for nickel through Drive Sustainability
- › Participation at the Nickel Workshop series organised by Drive Sustainability
- › Member of the Nickel Working Group of the Responsible Minerals Initiative (RMI)

▶ Outlook

- › We continue stakeholder dialogues through our contacts on developments in the nickel sector and feedback on our due diligence efforts
- › We are currently engaged in the evaluation with peers on developing adequate measures with a focus on environment/biodiversity in Indonesia
- › We continue our work as a member of the Nickel Working Group of the Responsible Minerals Initiative (RMI)

Spotlight: Transparency and Due Diligence Audits Along Battery Cell Supply Chains

In 2018, Mercedes-Benz engaged [RCS Global](#) to provide transparency along the complex cobalt supply chains of battery cells and to audit them across all stages against the OECD due diligence guidelines. Due to increasing due diligence requirements as well as increased transparency in battery cell supply chains, we decided to continue the audit and transparency activities in collaboration with RCS Global and expand the activities beyond cobalt to include the raw materials lithium, nickel, graphite, copper and manganese. In addition, the audit scope of human rights due diligence was expanded to include environmental aspects like biodiversity, water protection, hazardous substances and energy management. The new phase of the project started in July 2022 and will run until June 2025.

Results 07/2022 – 06/2023:

- › Identification of 449 suppliers and sub-suppliers from battery cell providers to mine sites
- › Implementation of 48 audits along the entire battery supply chain (Tier 1 - mine)
- › Among these 48 audits, 9 extensive environmental audits have been conducted, piloting our approach to environmental due diligence
- › 6 supplier trainings conducted

Identified Suppliers along the Battery Cell Supply Chain



**Battery
Manufacturers**
22 suppliers



**Cathode/Anode
Manufacturers**
25 suppliers



Refiners
287 suppliers

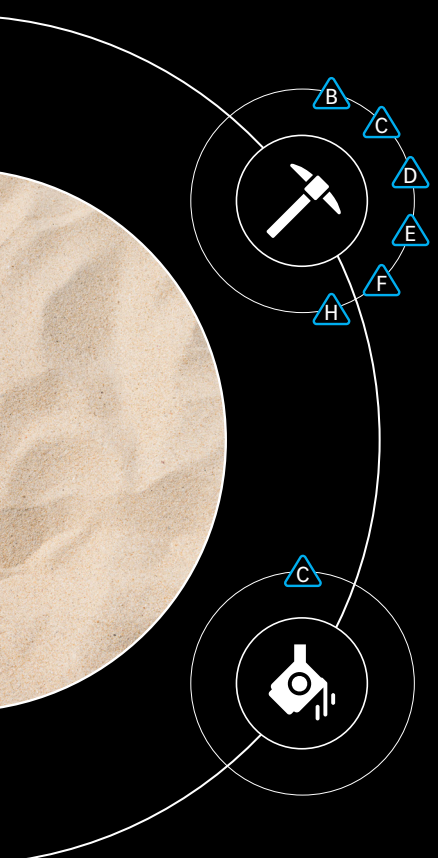


**Treatment Units and
Mine Sites**
115 suppliers

Si Silica Sand & Silicon

In their processed form, silica sands are used in a wide variety of products in the automotive industry. This can range from high-purity quartz sands for glass production to further processing into metallurgical silicon for aluminum alloys. Silica sands naturally form from the weathering of many different minerals and rocks.

Raw Material Risks



Mining and Beneficiation

Main silica sand mining countries according to global market share¹

- › China
- › USA
- › Spain
- › Netherlands
- › Italy

Smelting and Refining

Metallurgical Silicon Production²



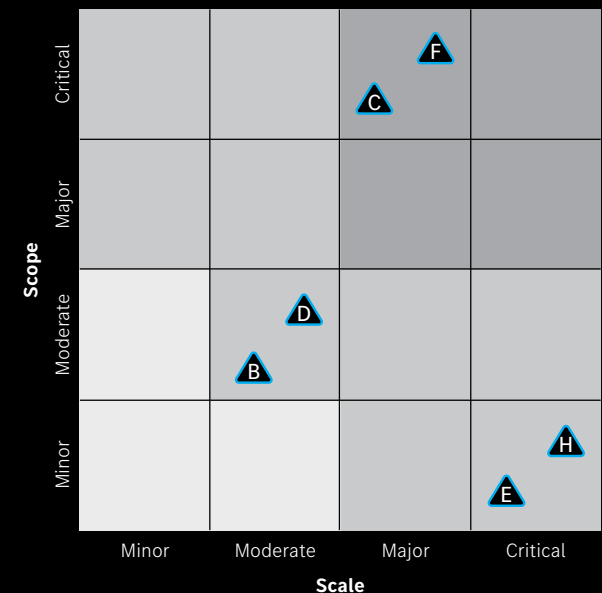
Identified Salient Risks

- B** Child labour
- C** Modern slavery, including forced labour
- D** Community and indigenous peoples' rights
- E** Excessive violence by private and public security forces
- F** Environmental risks with impact on human rights
- H** Serious human rights abuses

Focus Parts/Commodities

- › Glass
- › Aluminium silicon alloys
- › Semiconductors

Risk Analysis



¹ Due to the often very local and non-transparent sand market, it is not possible to give an exact percentage.

² Due to the different glass applications, e.g. in the construction industry, it is not possible to make a prediction about the annual country capacities of glass for automotive industries.



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Currently in the assessment process

Tier N / Systemic Risk

We have identified and prioritized two salient risk areas for silicon: Modern Slavery including Forced Labour and Environmental Risks with Impact on Human Rights. Excessive sand mining in rivers, deltas and coastal sand resources leads to increased loss of biodiversity in rivers and erosion of shorelines, which has a direct impact on the livelihood of local communities. For this reason, we identified environmental risks mainly related to activities around sand extraction in active sedimentary areas as hotspots with impact on human rights. In particular, Southeast Asian countries around the Mekong River and China are identified hotspots for these sand extraction activities.

Stakeholder Engagement

- › Sustainability dialogues with all relevant glass suppliers
- › Exchange with the UNEP/GRID-Geneva on sand extraction-related risks and the transparency of world-wide sand trade.
- › Next steps for 2023: → [Outlook](#)

Measures

Implemented Measures

→ [Outlook](#)

Si

☑ Activity Log

→ Outlook

▶ Outlook

- › The assessment of silicon and silica sand is currently in the intensive operational execution phase. This implies that all identified suppliers of the selected focus components are currently undergoing a due diligence management screening with our DDQ.
- › In addition, we are building more knowledge on the so far often intransparent (international) sand trade business and evaluating the Mercedes-Benz risk exposure towards the identified risk areas.
- › In the field of stakeholder engagement, we will continue our dialogues with the UNEP/GRID-Geneva with a focus on environmental aspects of sand extraction.

Pt Pd Rh PGMs

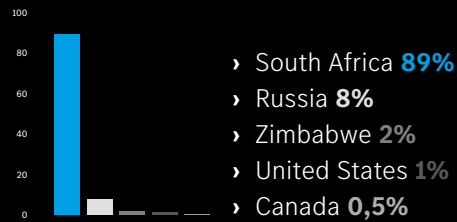
Platinum, Palladium and Rhodium will be referred to as Platinum Group Metals (PGMs) throughout this report. All PGMs naturally occur together and are mined in the same sites from the same ore. PGM deposits are geographically concentrated and serve one predominant function in vehicles - as catalysts in catalytic converters.

Raw Material Risks



Mining and Beneficiation

Main PGM mining countries according to global market share¹



Smelting and Refining

Main processing countries

- › No data available

Identified Salient Risks

- A** Child labour
- D** Excessive violence by private and public security forces
- F** Modern slavery, including forced labour

Focus Parts/Commodities

- › Catalytic converter

Risk Analysis



¹ Percentages refer to reserves, not current production (USGS, 2023)



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Suppliers of focus parts: **6**
- › Average DDQ rating:
No rating: supplier assessments have been conducted through qualitative questionnaires and supplier dialogues. Going forward, the adequacy of due diligence management systems will be ensured by a mandatory requirement of the Responsible Sourcing Certificate issued by the London Platinum & Palladium Market (LPPM).
→ [Measures](#)
- › Suppliers implementing measures to improve DDQ score: **0**

Tier N / Systemic Risk

In our assessment, we have prioritized Community and Indigenous Rights as the outstanding salient risk area with a particular geographical focus on South Africa. The rating reflects a complex scenario originating from historic lines of conflict from apartheid, a poverty driven in-migration of unskilled workers, growing informal settlements lacking basic infrastructure, unemployment and high levels of violence including sexual violence against women. PGM mining is not the direct source of all these potential adverse impacts on human rights. However, it bears a particular responsibility due to its core function in any economic and social development in the mining areas.

Stakeholder Engagement

- › Dialogues with all PGM producers on human rights due diligence in PGM mining and sustainability targets including for IRMA
- › Dialogues with three researchers from two South African universities on the verification of the assessment results
- › Dialogue with a German NGO as subject matter experts on the verification of the assessment results
- › Dialogue with a PGM industry association on sustainability targets set by the industry including for IRMA

Measures

Implemented Measures

PGM mining sits at the center of reoccurring violence in the respective mining areas in South Africa. The complexity of economic and social dynamics which were not necessarily caused by the mining sector, but can be intensified by it, however are a challenge for a corporate response in line with the UN guiding principles. Fundamentally, it needs to be ensured that mining does not further contribute to the present risk. We have therefore introduced two specific requirements for the sourcing of PGMs:

- › London Platinum & Palladium Market (LPPM) Responsible Sourcing Certificate: exclusive sourcing from refiners that have undergone a due diligence audit and therefore provided proof of adequate human rights due diligence management systems.
- › IRMA: exclusive sourcing from IRMA audited mines with IRMA Transparency applying from 2024 and IRMA 50 applying from 2025.



✓ Activity Log

- › Introduction of measures in operative purchasing
(→ [measures](#))

▶ Outlook

- › Rollout of sourcing requirement and monitoring implementation over transition period
- › Continued exchange with one South African university on the research focus of community development and violence in South Africa
- › Continued exchange with PGM miners at a time when the demand for PGMs will decrease significantly from year to year due to the phase-out of conventional vehicles and therefore catalytic converters

Ta

Sn

W

Au

Conflict Minerals (3TG)

Tin, Tantalum, Tungsten and Gold (3TG) have been grouped under the term conflict minerals due to their role in financing conflict in the Democratic Republic of the Congo and the adjoining countries. This chapter refers to 3TG within the limits of this definition. 3TG are used in electronics - commodities that arrive at our factories as sophisticated products.

Raw Material Risks



Mining and Beneficiation

Main 3TG mining countries according to global market share

Tin (Sn)¹

- › China
- › Indonesia
- › Myanmar
- › Peru

Tantalum (Ta)²

- › DRC
- › Brazil
- › Rwanda
- › China

Gold (Au)⁴

- › China
- › Russia
- › Australia
- › Canada

Tungsten (W)³

- › China
- › Vietnam
- › Russia
- › Rwanda

Smelting and Refining

Main processing countries

- › Precise production data is not available

Identified Salient Risks

- A** Working conditions, including occupational health and safety
- B** Child labour
- C** Modern slavery, including forced labour
- D** Community and indigenous peoples' rights
- E** Excessive violence by private and public security forces
- F** Environmental risks with impact on human rights
- G** Business conduct in CAHRAS
- H** Serious human rights abuses

Focus Parts/Commodities

- › Battery busbar
- › On-board charger
- › Wiring harness
- › Direct sourcing of raw material

Risk Analysis

			G F	B
Critical			C E	A
Major		D		H
Moderate				
Minor				
	Minor	Moderate	Major	Critical

Scale

1 Tin (USGS, 2023)
 2 Tantalum (USGS, 2023)
 3 Tungsten (USGS, 2023)
 4 Gold (USGS, 2023)



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- › Currently in the assessment process

Tier N / Systemic Risk

We consider 3TG at high risk for a broad spectrum of salient risk areas. This is due to the strong presence of informal artisanal and small scale mining (ASM) in the eastern parts of the DRC and adjoining areas in Rwanda and Burundi. The lack of basic safety equipment, knowledge about hazardous conditions and substances as well as the threat from militias form the conditions for a highly dangerous economic activity. Due to the lack of alternative livelihoods, ASM is often the only viable economic activity available.

Stakeholder Engagement

- › Dialogue with an international research institution on peace and conflict surveillance
- › Dialogue with an international NGO on ASM certification
- › Dialogue within the Responsible Minerals Initiative on improving due diligence and data exchange in mineral supply chains

Measures

Implemented Measures

- › The challenge with 3TG remains with the complexity of the electronics equipment we purchase as an already semi-finished to finished product. This makes an effective response difficult - while also hindering a necessary conversation about shared corporate responsibility in the supply chain.
- › RMAP: we have introduced a requirement to allow only 3TG material in our purchased parts that comes from RMAP conformant smelters and refineries. This ensures a certain level of due diligence management systems installed at the point of the supply chain where it matters most.
- › Upstream certification: due diligence management systems rely on upstream certification and audits. We have initiated a discussion through our memberships to establish a more open exchange of data and findings between upstream certifiers and downstream industrial users. While these systems will remain under development, we have also initiated a conversation about innovative ways to bring funding to where it is needed most.



✔ Activity Log

- › Member of RMI ASM Workgroup

▶ Outlook

- › Further work towards improving due diligence systems across supply chains and industries through our membership at the Responsible Minerals Initiative
- › Expand research on 3TG in the course of the running raw material assessments
- › Define material-specific measures with direct impact on affected rightsholders
- › Complete a material-agnostic ASM strategy focused on alternative livelihoods

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