Raw Material Report 2024

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 high standards, acknowledging the responsible procurement of production materials. This reflects our understanding of responsible business, which does not stop at our own factory gates.
In the past year, we have once more received external recognition for our work in this space from ↗ Lead the Charge, the ↗ Rainforest Foundation and ↗ Amnesty International. All three organisations have put us in leadership positions in their respective benchmarks.

These results give us confidence that our procurement team is on the right track and at the same time presents an incentive for us to continue our efforts.

This is more reason for us to prioritise transparency and sustainability in complex supply chains for critical battery raw materials. Among other things, we have set ourselves the goal of decidedly scrutinising a total of 24 critical raw materials to identify potential negative effects of our business activities by 2028. When risks to human rights or the environment are identified we, independently or in close co-operation with our partners, implement appropriate measures to prevent and reduce these risks.

This year's report is yet another step towards greater transparency and an example of our efforts to continuously improve. For the first time, we have integrated dedicated theories of change for every raw material profile. We have chosen the example of → lithium to illustrate how we are integrating environmental risk areas such as water, air and biodiversity into a framework originating from human rights due diligence thinking. And we give more insights on how we work with our direct business partners to drive effective due diligence management systems in the supply chain. Of course, this year's report also offers a greater scope, adding rare earth elements and leather to the list of materials we report on.

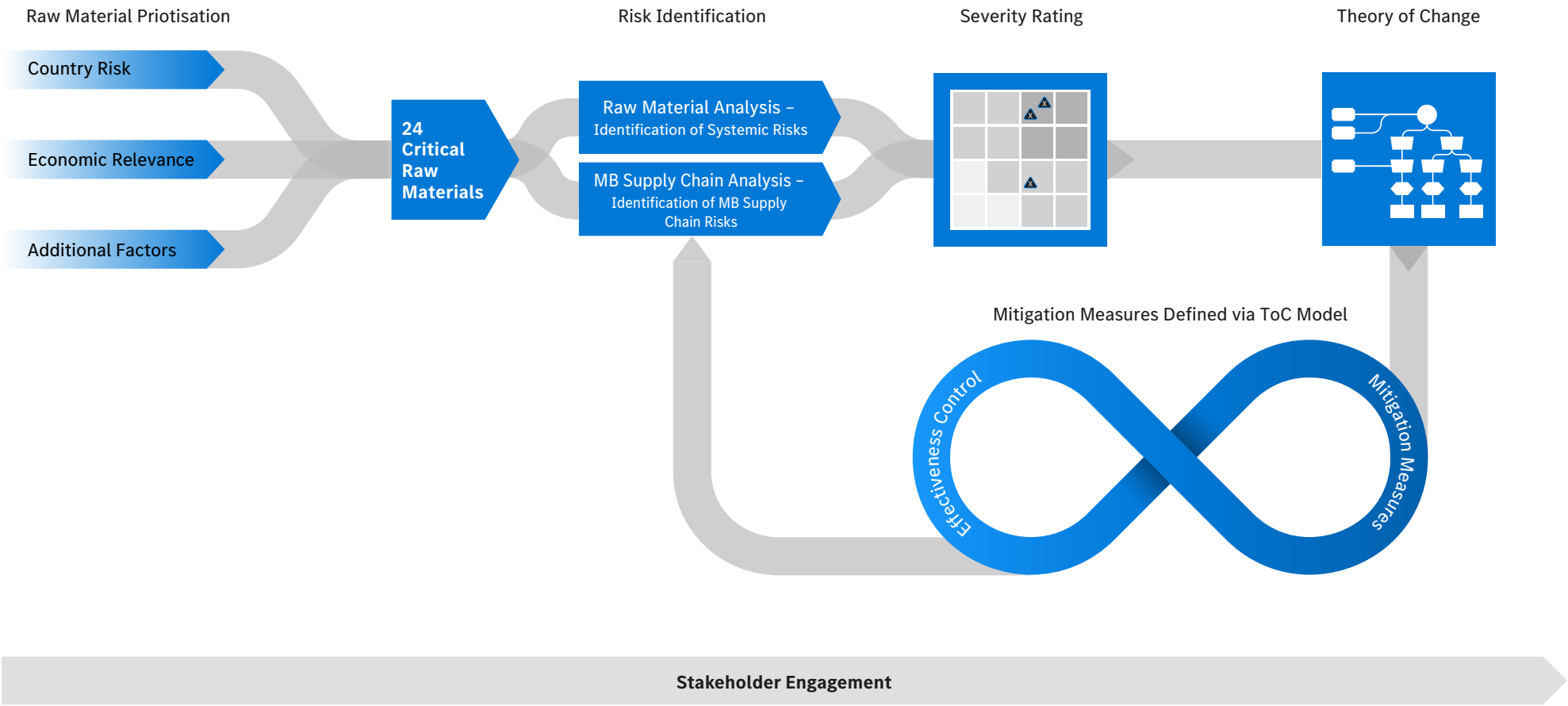
We hope you will find the report helpful and remain available for the continued exchange on the responsible sourcing of raw materials with our stakeholders.

Sincerely,

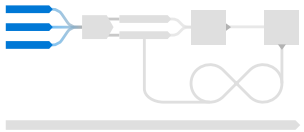
Dr Gunnar Güthenke
Head of Procurement & Supplier Quality
Mercedes-Benz Cars

Raw Material Assessment

Important elements of our assessments include among others the intensive analysis of the raw material risks, supply chains, the involvement of our direct suppliers and further stakeholders including affected rightsholders and civil society. Based on the results of the risk analysis and risk prioritisation, a raw-material-specific Theory of Change is established, which helps to identify adequate measures and serves as a basis for effectiveness control.



Methodology



Raw Material Prioritisation

We run our assessments as a standardised process for **24 critical raw materials**. This list is subject to an annual revision, using a combination of two main indices and additional factors.

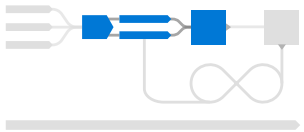
These include a country risk rating based on the Global Risk Map of the Responsible Minerals Initiative, the industrial criticality based on the EU Critical Raw Materials List as well as additional factors that include direct sourcing, regulatory relevance and the occurrence of ASM as one significant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

By 2028, we intend to conclude the assessments for 100 percent of our raw materials that pose an increased risk of human rights violations. The **raw materials assessments** described in this report have at least started in the year 2024.

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

Al Aluminium	**Au** Gold	**Cr** Chromium	**Co** Cobalt	**Cu** Copper	**C** Graphite
↗ Page 47	↗ Page 160		↗ Page 58	↗ Page 70	↗ Page 78
Fe Iron	 Leather	**Li** Lithium	**Mg** Magnesium	**Mn** Manganese	 Mica
	↗ Page 88	↗ Page 96			↗ Page 108
Mo Molybdenum	**Ni** Nickel	**Nb** Niobium	**Pd** Palladium	**Pt** Platinum	 Rare Earth Elements
	↗ Page 122		↗ Page 132	↗ Page 132	↗ Page 140
Rh Rhodium	 Rubber	**Si** Silica Sand & Silicon	**Ta** Tantalum	**Sn** Tin	**W** Tungsten
↗ Page 132		↗ Page 150	↗ Page 160	↗ Page 160	↗ Page 160

Identification of Systemic Risks & Mercedes-Benz Supply Chain Risks



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 human rights 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 Handbook on Environmental Due Diligence in Mineral Supply Chains.

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 analysed by the Raw Material Outlook – a Drive Sustainability project we initiated in 2020. Based on the findings of the previous stage, the analysis of systemic risks focuses on the → salient risk areas, identifying potential negative impacts on human rights and environment along the specific raw material supply chain. The review of systemic risk is enriched with specific information about incidents from Mercedes-Benz's own supply chain such as from reported grievances as well as through media screening of reports on potential human rights or environmental violations along the 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 as an instrument.

In the following, we identify and prioritise the most salient risks in form of a severity rating which is based on considerations of the UN GP. In this step, risks are prioritised with the highest relevance by rating the severity of the risk based on scale (seriousness of negative impact) and scope (number of affected persons) ↗ website for definitions and methodology.

In a subsequent step, we also assess the following aspects in order to guide the selection of appropriate measures:

- 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?

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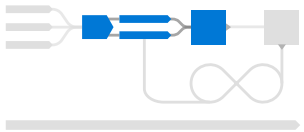

Salient Risk Areas

- A **Working conditions, including occupational health and safety**
- B Child labour
- C Modern slavery, including forced labour
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- F Environmental risks with impact on human rights
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- H Serious human rights abuses
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- J Water
- K Air
- L Soil
- M Waste, hazardous substances, and plant safety

Select for definition

SDG 8.8: Protect Labour Rights and Promote Safe Working Environments

Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

- Number and proportions of staff working with collections in safe and secure working environments.
- Number of accidents and other health and safety incidents reported.
- Training and support provided for staff to ensure their well-being, health and safety.
- Education, awareness-raising and partnership programmes drawing on collections that address labour rights, notably those of migrant workers and others in precarious employment.
- Reduction of numbers and proportions of staff on short-term or zero-hours contracts.
- Fair pay policies and procedures in place to prevent exploitation.
- Procurement policies that ensure that collecting institutions make use of people who are in decent employment, and that avoid exploitation throughout the supply chain.

For more information on the definition of salient risk areas, please visit our (↗ Website).

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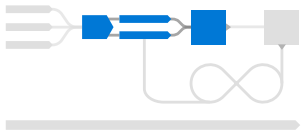

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Select for definition

Whilst child labour takes many different forms, a priority is to eliminate without delay the worst forms of child labour as defined by Article 3 of ILO Convention No. 182:

a. All forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict.
b. The use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances.
c. The use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties.
d. Work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children (hazardous child labour or hazardous work).

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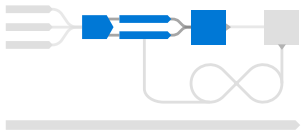

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Select for definition

According to the ILO Forced Labour Convention, 1930 (No. 29), forced or compulsory labour is:

"All work or service which is exacted from any person under the threat of a penalty and for which the person has not offered himself or herself voluntarily."

This definition consists of three elements:

1. Work or service refers to all types of work occurring in any activity, industry or sector including in the informal economy.
2. Menace of any penalty refers to a wide range of penalties used to compel someone to work.
3. Involuntariness: The terms "offered voluntarily" refer to the free and informed consent of a worker to take a job and his or her freedom to leave at any time. This is not the case for example when an employer or recruiter makes false promises so that a worker takes a job he or she would not otherwise have accepted.

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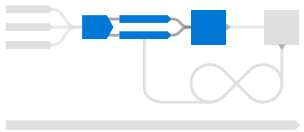

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Select for definition

The ILO has been engaged with indigenous and tribal peoples' issues since the 1920s. It is responsible for the Indigenous and Tribal Peoples Convention, 1989 (No. 169), the only international treaty open for ratification that deals exclusively with the rights of these peoples. The ILO's Decent Work Agenda, with gender equality and non-discrimination as a cross-cutting concern, serves as a framework for indigenous and tribal peoples' empowerment. Access to decent work enables indigenous women and men to harness their potential as change agents in poverty reduction, sustainable development and climate change action.

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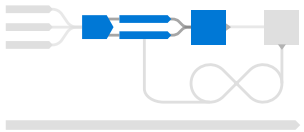

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Select for definition

Universal Declaration of Human Rights, 1948, Article 3

International Covenant on Civil and Political Rights, 1966, Articles 6, 9
SDG 16.1

Businesses that reduce the risk of abuse by security forces contribute to SDG 16.1: Significantly reduce all forms of violence and related death rates everywhere.

Absence of security forces training to ensure integrity and compliance with human rights
- Absence of monitoring and complaint mechanisms
- In particular, the human rights abuses committed by private and public security forces can include:
- Torture
- Compulsory labour
- Child labour
- Other serious human rights violations
- And war crimes, serious violations of international humanitarian law, crimes against humanity or genocide

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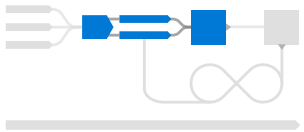

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Select for definition

Adverse impacts on the environment, which (potentially) affect the enjoyment of human rights.*

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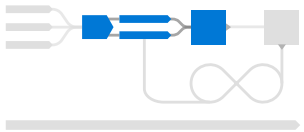

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Select for definition

United Nations Development Programme (2022). Heightened Human Rights Due Diligence for business in conflict-affected contexts; A Guide. New York, United States of America

The guide offers guidance to businesses and other actors on how to meet their responsibilities to carry out a heightened version of human rights due diligence in conflict-affected areas. UNDP developed this guide with the UN Working Group on Business and Human Rights.

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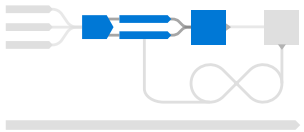

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Select for definition

The ILO Declaration on Fundamental Principles and Rights at Work, adopted in 1998 and amended in 2022, is an expression of commitment by governments, employers' and workers' organisations to uphold basic human values - values that are vital to our social and economic lives. It affirms the obligations and commitments that are inherent in membership of the ILO, namely:

a. Freedom of association and the effective recognition of the right to collective bargaining;
b. The elimination of all forms of forced or compulsory labour;
c. The effective abolition of child labour;
d. The elimination of discrimination in respect of employment and occupation; and
e. A safe and healthy working environment.

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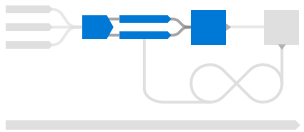

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Select for definition

(Potential) Loss of biodiversity and degradation of lands (or ecosystems) also in form of deforestation.*

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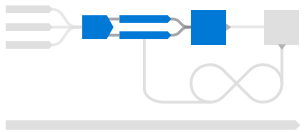

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Select for definition

(Potential) adverse impact on water and water availability in form of pollution or high consumption.*

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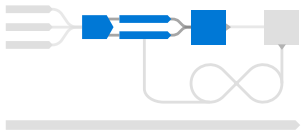

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Select for definition

(Potential) adverse impact on air in form of pollution and emissions and further effects on other environmental mediums. (Potential) adverse impact by GHG emissions from processes, related by energy use as well as the acceleration of climate change as a consequence and its adverse impacts.*

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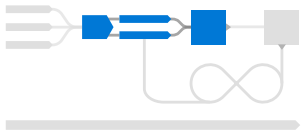

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(Potential) adverse impact on soil in form of pollution and degradation including erosion.*

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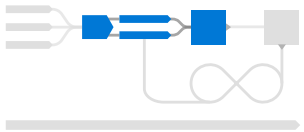

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Select for definition

(Potential) adverse impact caused by improper use or disposal of hazardous materials or waste mismanagement and physical instability of facilities.*

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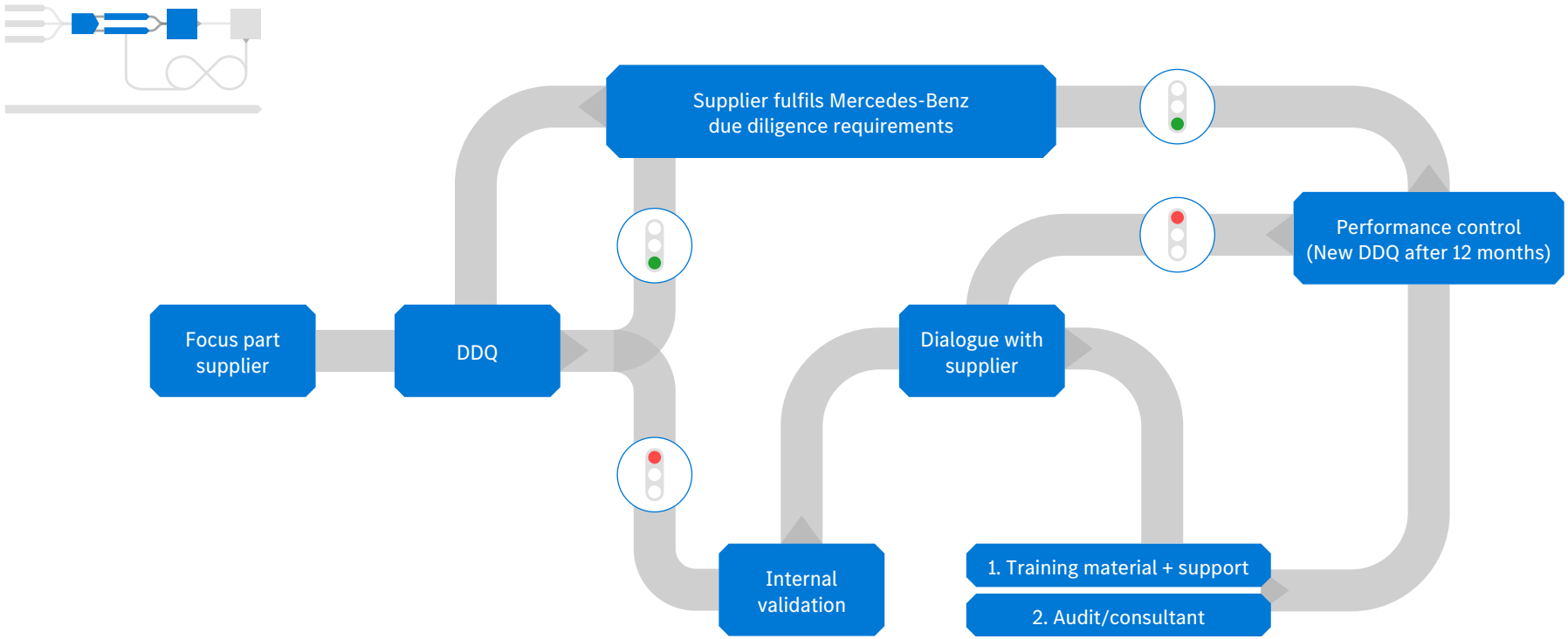
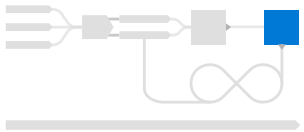
Collaborative Due Diligence Implementation in the Supply Chain at Mercedes-Benz



In the implementation of due diligence obligations, collaboration within the supply chain is essential. Mercedes-Benz has recognised that effective implementation of measures regarding environmental and human rights risks can only be achieved if all actors share a common basis and understanding of due diligence. For this purpose, the Due Diligence Questionnaire (DDQ) and an accompanying empowerment project were developed to support suppliers in implementing the management systems described in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. These systems include transparency controls, supplier engagement, grievance mechanisms, and risk management.

The empowerment is conducted only for selected suppliers who provide Mercedes-Benz with focus parts of the 24 critical raw materials. The system is designed in two stages: initially, if the first DDQ results do not meet our requirements, training materials are provided. The first review of the improvement in management systems takes place after 12 months through a second DDQ assessment. If no improvement is observed, the supplier will be further supported in the second stage through an audit and Corrective Action Plans. All measures and processes are carried out cooperatively and are intended solely to support the supplier in fulfilling their due diligence obligations along the supply chain.

Mercedes-Benz Theory of Change



Following stakeholder suggestions, we have started integrating the Theory of Change (ToC) method [1] into our raw material assessments which we want to present in this report. This method helps us to strategically identify and plan the activities, we believe to be most appropriate, to mitigate significant risks in our critical raw material supply chains. In a nutshell, the ToC is a comprehensive method that illustrates how specific activities may contribute to a sequence of results, ultimately leading to a desired long-term impact based on assumed causal relationships ("paths of change").

The ToCs now form the final component of our raw material assessments. They are informed by results from previous assessment steps such as the raw material analysis, the risk assessment, the supply chain evaluation as well as from stakeholder feedback. This allows us to better understand the root causes of environmental and human rights risks in our industry and to identify potential mitigation measures. In the long-run, the ToCs will form the basis for tracking the progress and effectiveness of our raw material mitigation measures.

Our ToCs incorporate the Logical Framework Model to structure the causal relationships between different stages according to the IAOOI logic: Input, Activity, Output, Outcome, and Impact [2]. "Input" refers to the resources invested, such as financial, human or material resources. "Activities" are the specific actions taken, leading to desired "Outputs," which are the direct results of these activities, such as goods, products, or services. "Outcomes" encompass the short to medium-term effects of these outputs, including changes in knowledge, behaviour or conditions. The final stage, "Impact," refers to the long-term effects of the outcomes on a broader societal level, including both intended and unintended consequences. For better readability and visual simplicity, we have shortened and aggregated the ToCs in this report, also by excluding the "Input" stage.

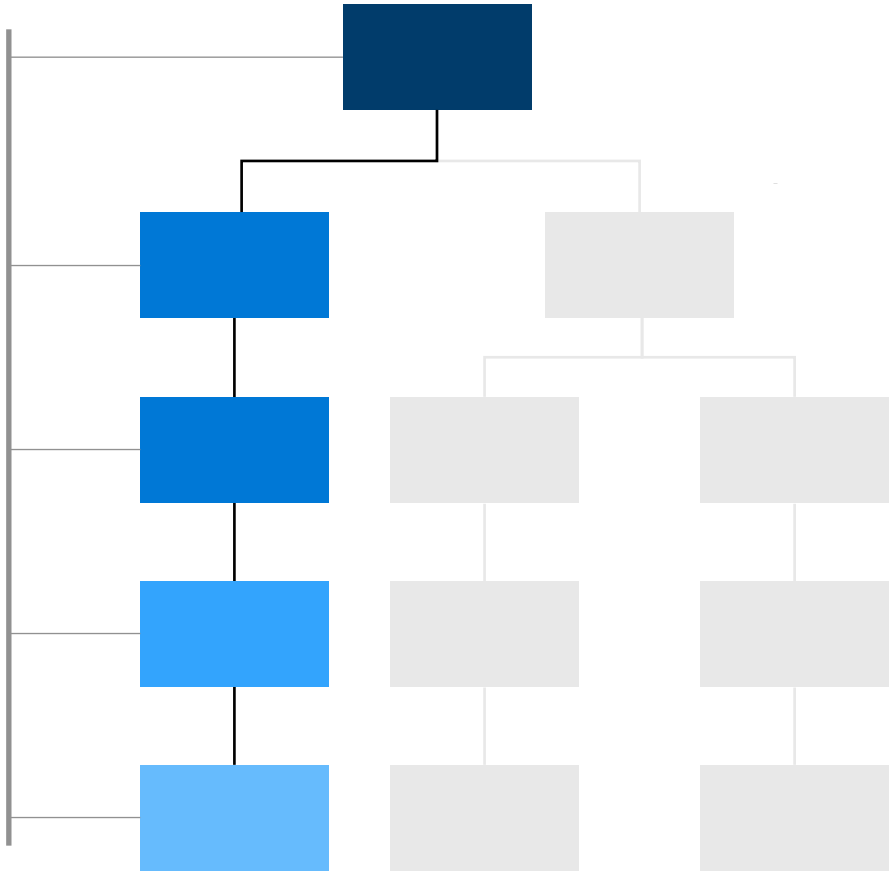
It is important to note that our envisaged paths of change and their realisation are influenced by numerous stakeholders and external factors, particularly when addressing systemic risks. These include political instability, geopolitical dimensions or varying levels of co-operation. In this report, we have depicted several potential obstacles to change as limitations within our ToCs.

In sum, the ToCs provide a structured and strategic framework helping us to select and design appropriate activities and to analyse their effectiveness. By continuously adapting our ToCs and incorporating stakeholder feedback, we aim to enhance our understanding and management of human rights and environmental risks in our supply chains.

1. Mayne, J. (2015). Useful theory of change models. Canadian Journal of Program Evaluation, 30(2), 119-142.
2. OECD. (2023). ↗ Glossary of key terms in evaluation and results-based management for sustainable development (2nd ed.). OECD Publishing.

Mercedes-Benz Theory of Change

ToC-Model



Description

Limitations
External factors like regulatory changes, supply chain complexities, and geopolitical dimensions can influence Mercedes-Benz's efforts posing challenges to fully achieving outputs, outcomes and impacts.

Impact
Higher-level/long-term effects of a measure's outcome (including intended, unintended, positive, or negative effects).

Outcome
The outcome are the likely or achieved short to medium-term effects of a measure's outputs, including changes in knowledge, behaviour or conditions.

Output
The goods/products and services resulting from a measure (direct, immediate results).

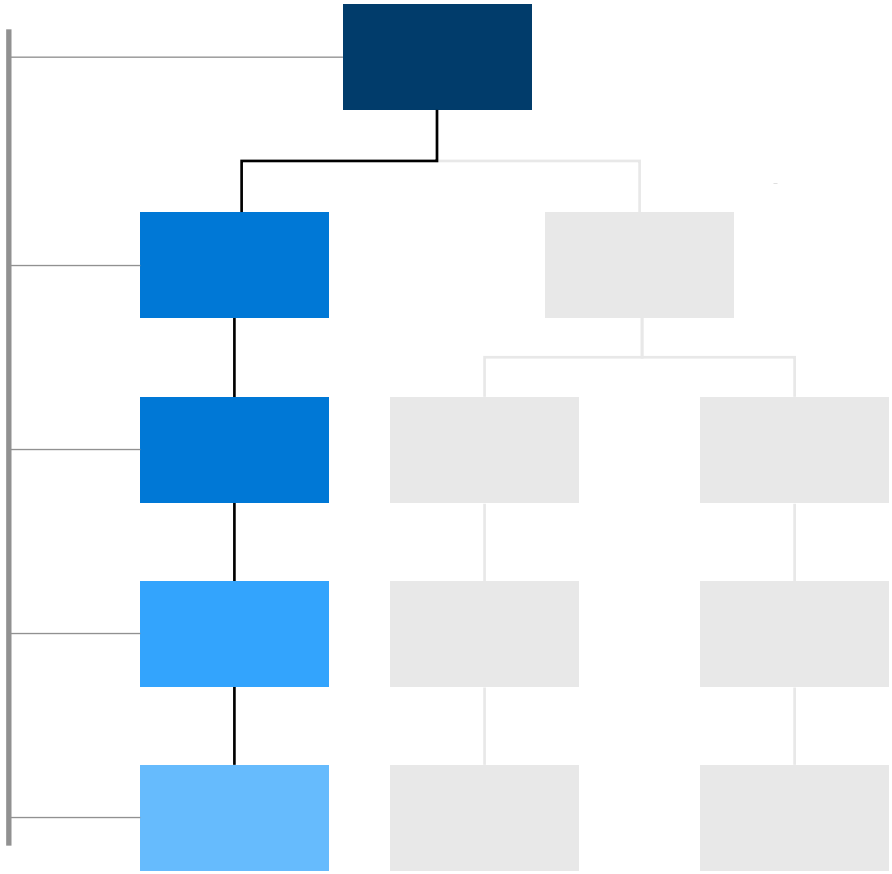
Activity
Actions or work carried out, facilitated by inputs such as funds, technical assistance, and other types of resources.

Click to see example

Mayne, J. (2015). Useful theory of change models. Canadian Journal of Program Evaluation, 30(2), 119-142.

Mercedes-Benz Theory of Change

ToC-Model



Limitations
Depending on supplier's willingness for co-operation.

Description

Impact
Human Rights and environmental risks can be better mitigated through improved processes, thus improving the overall situation.

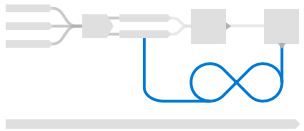
Outcome
Suppliers are able to identify and close gaps in their due diligence and risk management systems.

Output
Number of trained suppliers.

Activity
Development of training programmes and supplier training to implement due diligence risk management systems.

Mayne, J. (2015). Useful theory of change models. Canadian Journal of Program Evaluation, 30(2), 119-142.

Implementation



Our measures are individual responses to each commodity's risk profile addressing prioritised salient risk areas. The measures can be implemented either individually by Mercedes-Benz, such as defining specific awarding criteria for suppliers or in form of collective actions together with other stakeholders and/or rightsholders, including the promotion and adoption of standards, supplier empowerment via training, supply chain transparency improvements or participation in multi-stakeholder alliances.

Following the development of the raw-material specific ToCs and the definition of desired outputs, outcomes and impacts as the final stage of our raw material assessments, the next step is the implementation of the planned risk mitigation measures and the control of their effectiveness. We aim to control the effectiveness of selected measures by monitoring (and evaluating) their implementation and therewith achieved results. Achieving the overarching impact as a long-term goal on a broader societal level is influenced by many external factors and stakeholders. This makes it difficult or even impossible to attribute observable effects to our risk mitigation measures. We therefore have decided to initially limit the monitoring to assess the measures' results at output and outcome level. In the future, we aim at assessing the contribution of our measures at impact level by means of evaluations.

Therefore, in a first step for monitoring, indicators are developed as a basis for a monitoring and evaluation framework. Once these indicators are established, this will help us in controlling whether the proposed strategy yields the desired results, pinpointing what has worked well and what has not. These lessons learnt will support the identification of how an approach could be adapted in future such as by requiring new measures. The results will also feed back into the overall raw material assessment.

The execution of these measures is therefore regarded as a continuous learning journey, with the insights gained being assessed and incorporated into ongoing planning efforts to ensure that our activities remain effective and aligned with our strategic goals.

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 organisations, non-governmental organisations, 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 and for evaluating their effectiveness.

Limitations

Mercedes-Benz is pleased to share the progress we have made in the past year with regards to a revised methodology, defining and incorporating the Theory of Change (ToC) approach and sharing our perspective on its potential benefits for accompanying and enhancing our efforts towards responsible sourcing practices. Nevertheless, did we encounter various methodological limitations to this revised approach, which we have decided to share and contextualise within this dedicated limitations section.

- **Methodological limitations:**
  While there are overarching goals to be pursued within the broader paradigm of sustainable development, Mercedes-Benz constantly refines its sourcing strategy in accordance with what we believe to be an achievable impact of our management system. Therefore, it is indispensable to define the scope of our sphere of influence as well as the peripherical trade-offs, synergies and pitfalls accompanied by our actions. In this context we rely on the exchange with our affiliated partners as well as academics, public and non-governmental institutions as part of our thoroughly conducted stakeholder engagement process. We encourage the reader to participate in this dialogue and to challenge our trajectories. The acknowledgement of a multitude of pathways towards sustainable sourcing which are determined by geopolitical complexity and uncertainty requires Mercedes-Benz to constantly explore linked theories, new research methods and best practices for imposing checks and balances upon our management systems. As we consider ourselves as a first mover in the field, we rely on critical thinkers to come forward and help us to fill the gaps of our approach, enabling us to demonstrate the feasibility of adhering to the highest possible standards of sustainable sourcing to our shareholders as well as other industries.
- **Status quo sustainable sourcing practices within automotive value chains:**
  The automotive industry is undergoing fundamental transition processes where sustainable sourcing practices are becoming increasingly essential. At this decisive turning point, many suppliers still have difficulties with the implementation of these practices in accordance with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals. In co-operation with industry initiatives and partners Mercedes-Benz is taking proactive steps to address these challenges by offering training programmes, developing comprehensive guidelines, and facilitating excessive stakeholder engagement processes to enhance the capabilities of our suppliers.

Limitations

- **Navigating non-transparency along global multi-tier supply chains:**
  The complexity of global automotive supply chains poses significant challenges to achieving transparency, while the origins of materials and sourcing conditions are partly obscure and difficult to trace back. Mercedes-Benz is tackling this issue by implementing advanced digital tracking systems, to depict complex raw material supply, conduct thorough risk assessments and gather supplier data. Additionally, we are collaborating with various mining standards and initiatives to conduct third-party audits to verify compliance with applicable sustainability standards. By publishing the ↗ Mercedes-Benz Standard Guidance on a yearly basis, we are actively engaging with eight standards and initiatives to promote a continuous improvement of standard setting aimed at building trust and accountability.
- **Harmonising legal frameworks, standards, and management systems:**
  The diversity of legal frameworks across different countries poses a challenge to creating a unified approach to sustainable sourcing. Each jurisdiction may have its own set of regulations, standards, and expectations. Bearing this in mind, our efforts are focused on creating a coherent and holistic management system, ensuring that our sourcing processes are consistent, reliable, and transparent, regardless of the geographical location or jurisdiction. Such harmonisation enhances the overall effectiveness of our management system.

Alongside our continuous commitment to the improvement of social and environmental standards along global supply chains, we are constantly challenging our approach. Long-term beneficial outcomes can only be achieved by thinking outside the box and the will to take innovative paths and to test new approaches. Our goal is to further pursue this path and explore potential trajectories to sustainable sourcing to enhance our practices step-by-step.

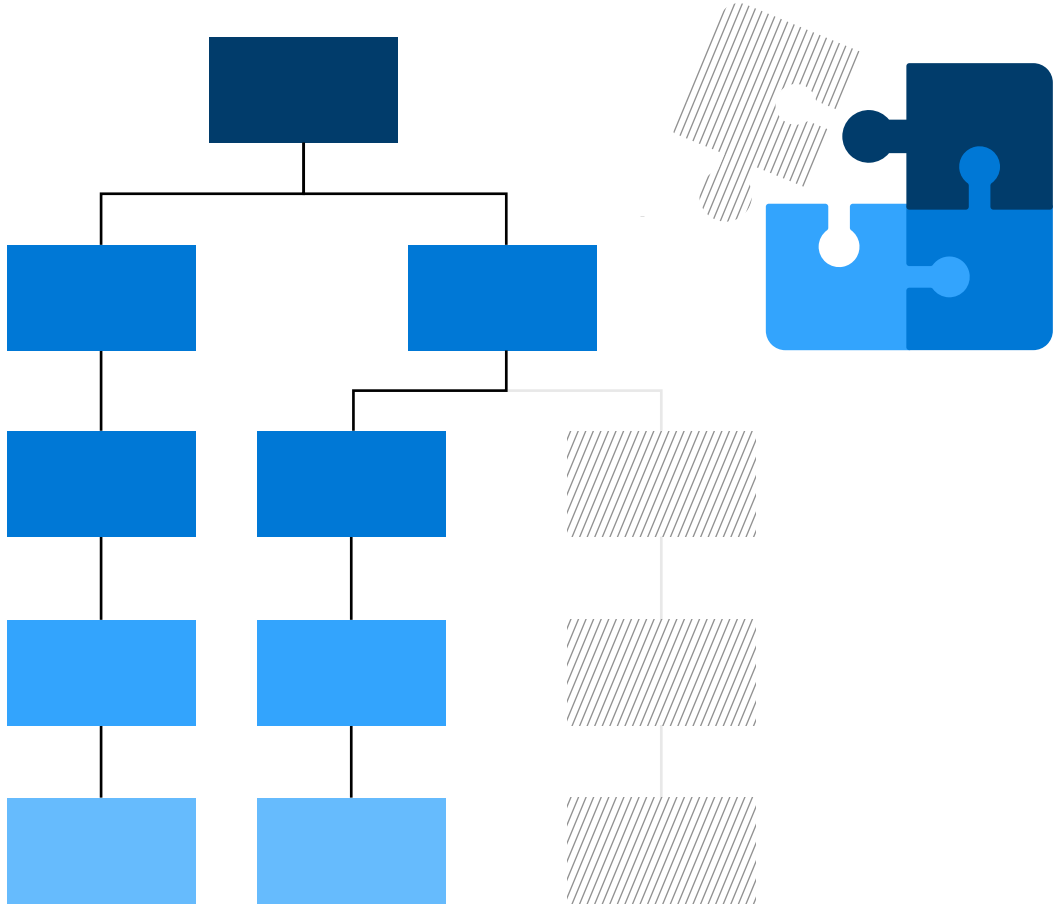
Invitation to Collaborate on Our Theory of Change

At Mercedes-Benz, the inclusion of our stakeholders is our foremost priority. We strive to embody this principle in the development of our Theories of Change. With our methodology, we are venturing into uncharted territory for the automotive industry. The Theory of Change thrives on the continuous questioning of methodology and a holistic impact assessment.

As we are new in this field and have integrated our current activities into this methodology, there may still be undiscovered impact pathways that could contribute to our overall objectives. Therefore, we highly value your feedback.

We envision our Theories of Change as a constantly evolving puzzle, where each piece contributes to the bigger picture. We cordially invite you to provide feedback on the components of our various Raw Material Theories of Change and to collaborate with us in defining Mercedes-Benz's role in raw material supply chains. Our objective is to develop realistic and measurable targets for our company that define our contribution to human rights and environmental due diligence in raw material supply chains.

Should you have any suggestions for improvement for our methodology and change pathways, have constructive feedback, or as an NGO, possess ideas for impact pathways in our raw material supply chains, please contact us at:
sustainable-procurement@mercedes-benz.com



Our Engagement for Standards

As part of our due diligence, Mercedes-Benz regularly analyses environmental and human rights risks along the supply chain. Almost exclusively, the prioritised risks are at the level of raw material extraction.

As an automobile manufacturer, Mercedes-Benz is, in almost all cases, several processing stages removed from raw material extraction. Therefore, addressing risks can often only be done indirectly. Standards are one of the most significant tools for this. They can identify risks on site through audits, create transparency, and thus lay the groundwork for addressing them.

Effective Standards
For standards in raw material extraction to be used for effective and traceable risk mitigation, they must meet certain quality criteria. These include openness to critical voices, consistently transparent procedures, and adequate participation opportunities for affected parties in audits. To clarify expectations of standards, Mercedes-Benz has created a ↗ Guidance for Mining and Supply Chain Standards. The criteria used include:

- Equal participation by civil society and affected parties in the governance of the systems
- Inclusion of affected parties in audits
- Effective complaint mechanisms with protection for whistleblowers
- Transparent processes and full publication of audit reports
- Effectiveness monitoring

Mercedes-Benz is actively involved in a number of standard initiatives in leadership roles. These include the Initiative for Responsible Mining Assurance (IRMA), Towards Sustainable Mining (TSM), the Responsible Minerals Initiative (RMI), and the Aluminium Stewardship Initiative (ASI). Our goal is to develop the standards into as effective instruments as possible in identifying and mitigating human rights and environmental risks.

Market Adoption
Standards can only have an impact where they are applied. The systems available today have not yet achieved sufficient market penetration. This is especially true for particularly high-risk geographies and locations.

A medium-term market penetration of effective systems can only be achieved through sufficient demand. Therefore, Mercedes-Benz has introduced a number of procurement requirements for focus components (see raw material profiles). This includes the battery, the electric motor, and direct procurement materials such as the platinum group metals. The demanded standards systems and their level of ambition are based on the results of the human rights and environmental risk analysis.

Click to download

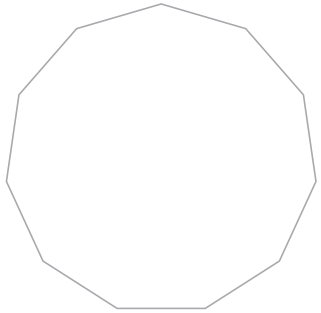
Initiatives

Mercedes-Benz not only supports the responsible procurement of raw materials in battery cells, for example cobalt – but also of "classic" raw materials such as aluminium, mica or steel. In addition, we are committed to various general and specific raw material initiatives designed to improve sustainability in supply chains.

With each of the initiatives, the company is pursuing specific objectives. As platforms, they enable us to work together with relevant stakeholders, and also provide control mechanisms such as certification systems and standards that promote the sustainable sourcing of raw materials.

Click to read more

Initiatives



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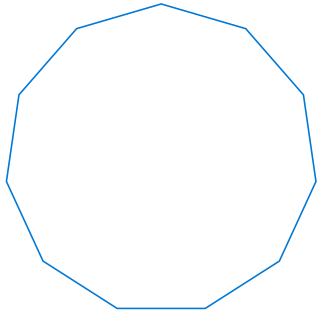
Responsible Minerals Initiative (RMI)
Since 2018, Mercedes-Benz has been a member of the ↗ Responsible Minerals Initiative (RMI), a leading coalition dedicated to the responsible sourcing of minerals worldwide. Since 2024, Mercedes-Benz is represented in the Steering Committee of the RMI.

The Responsible Minerals Initiative provides companies with numerous tools and sources of information for responsible mineral sourcing. This increases transparency in the supply chains where conflict minerals are processed. The initiative offers a self-developed, independent validation scheme for refineries and mines, the Responsible Minerals Assurance Process (RMAP), to ensure the sourcing from conflict-free and responsibly managed sources.

In addition to its validation schemes, the RMI also facilitates collaboration among industry peers, governments, and civil society organisations to address systemic challenges in the mineral supply chain. By participating in working groups and contributing to the development of best practices and standards, Mercedes-Benz leverages the collective expertise of the RMI community to drive continuous improvement in responsible sourcing.

This collaborative approach not only enhances the effectiveness of individual company efforts but also promotes broader industry-wide advancements in ethical mineral procurement.

Initiatives



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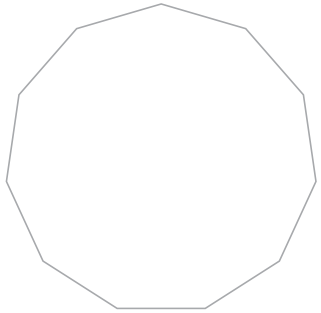
Initiative for Responsible Mining Assurance (IRMA)
Mercedes-Benz joined the ↗ Initiative for Responsible Mining Assurance (IRMA) in 2021 as one of the first automotive OEMs and is since then regularly engaged in its Buyers Group. Since 2024, Mercedes-Benz has been elected as a Board Member of IRMA as well.

Since 2021, we have been using IRMA as a precondition in all battery-related awards and require our suppliers to exclusively use cobalt, lithium, nickel, natural graphite and manganese 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.

Initiatives



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Biodiversity in Good Company

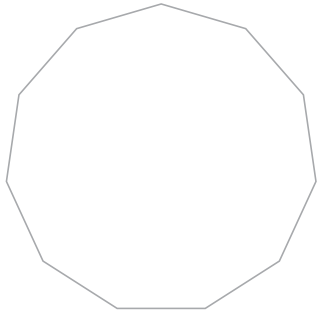
This year, we joined the ↗ Biodiversity in Good Company initiative. It is an association of companies that stand up for the promotion of biodiversity – in the interest of the economy and society. The aim is to reduce risks towards biodiversity loss by gaining access to specialised knowledge and cross-industry best practices.

By signing of the Leadership Commitment and the Mission Statement, we are committed to contributing to the protection and promotion of biodiversity through our business practices and thus setting new standards for environmental protection and sustainability in the automotive industry.

By becoming a member of the Biodiversity in Good Company initiative, Mercedes-Benz is intensifying its engagement and expertise in the field of biodiversity and aims to sustainably promote biodiversity, especially in our supply chains, through co-operation and knowledge exchange with other companies.

The preservation of biodiversity is one of the greatest challenges of our time. Mercedes-Benz also bears responsibility in this regard, as it claims land and resources and intervenes in the environment due to production. This can have an impact on biodiversity.

Initiatives



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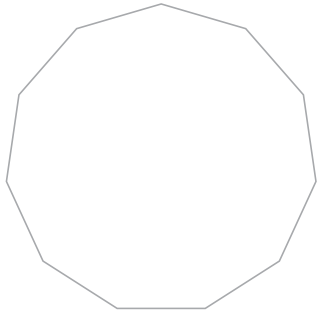
Responsible Mica Initiative (RMI)
The extraction of mica is associated with many social challenges, especially where mining takes place under poor working conditions and child labour. Although Mercedes-Benz does not source directly, it is essential that our materials are extracted and processed sustainably.

As an active member of the ↗ Responsible Mica Initiative (RMI) since 2020, we are committed to fair working conditions and the creation of a legal framework in the mica industry. The focus here is on eliminating unacceptable working conditions and child labour by 2030. We are part of several working groups. For instance, the supply chain mapping & workplace standards programme which aims to secure and improve workplace conditions in the mica supply chain by tracing mica back to its sources and requiring members to adopt comprehensive workplace standards, including a prohibition on child labour.

Initiatives



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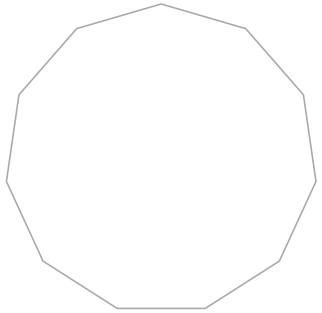
Aluminium Stewardship Initiative (ASI)
The ↗ Aluminium Stewardship Initiative (ASI) is a non-profit organisation that seeks to create more sustainability and transparency in the aluminium industry. ASI provides its members with a comprehensive standards and assurance platform that focuses on the full aluminium life cycle. Mercedes-Benz joined the initiative in 2018 and supports with its participation an independent certification system that covers the entire aluminium value chain.

The aim is to achieve continuous measurable improvements in the areas of social, environmental, and responsible management – from the production and use to the recycling of aluminium.

Initiatives



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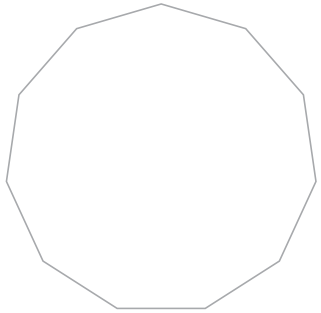
Drive Sustainability
The Drive Sustainability Initiative is a strategic partnership of leading automotive manufacturers, including the Mercedes-Benz Group as lead partner, with the aim of improving and strengthening sustainability within the automotive supply chain. The coalition promotes responsible business practices throughout the supply chain and works to improve environmental and social standards. The initiative has a set of guidelines – ↗ Global Automotive Sustainability Guiding Principles – in which expectations are passed on to suppliers. The central instrument of this partnership is the Sustainability Assessment Questionnaire (SAQ), a standardised questionnaire for suppliers, which is intended to assess the sustainability performance of direct suppliers and to help identify risks and subsequent mitigation in the supply chain. Training courses and workshops are also offered to support suppliers in their sustainability performance.

Initiatives



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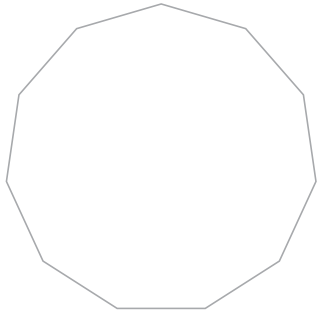
National Action Plan for Business and Human Rights (NAP)
Mercedes-Benz Group has been a member of the Sector Dialogue Automotive Industry – a Multistakeholder Initiative – since the beginning. The Sector Dialogue has been founded in order to help companies to implement human rights due diligence in the sense of the Guiding Principles on Business and Human Rights of the United Nations and the German National Action Plan on Business and Human Rights.

↗ Guidelines to implement the core elements of human rights due diligence have been developed by all members. Furthermore, Mercedes-Benz Group was actively taking part in the ↗ working groups on copper and lithium in the last years.

The Sector Dialogue has evolved to a platform to collaborate in projects with different stakeholders.

Initiatives



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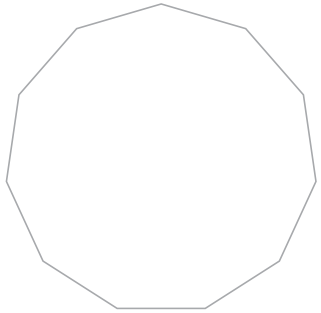
Association of the German Automotive Industry (VDA)

Mercedes-Benz is a member of the ↗ German Association of the Automotive Industry (VDA), one of the key organisations representing the interests of the German automotive sector.

Membership in the VDA provides Mercedes-Benz with access to a strong network and a platform for sharing knowledge and best practices, also with regard to sustainability and responsible sourcing in the supply chains. The association supports its members in areas such as research and development, standardisation, and regulation, as well as addressing global challenges like digitalisation and sustainable mobility.
Mercedes-Benz actively participates in various VDA committees and working groups to develop forward-looking solutions for the automotive industry.

Initiatives



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Towards Sustainable Mining (TSM)

↗ The Towards Sustainable Mining (TSM) standard, established by the Mining Association of Canada (MAC) in 2004, is a comprehensive framework designed to enhance the sustainability and environmental performance of the mining sector. Furthermore, TSM provides mining companies with a structured approach to assess and enhance their practices across critical domains, including environmental stewardship, community engagement, and occupational health and safety.

In 2024, Mercedes-Benz has taken a leading role as one of the first automotive manufacturers to join TSM, demonstrating our commitment to responsible mining practices and the participation in standard development as a customer of mined materials.

The Towards Sustainability Mining (TSM) initiative fosters continuous improvement and transparency within the industry. Our engagement in this initiative represents a crucial step in ensuring that our supply chains adhere to the highest standards of social and environmental responsibility. Our objective is to advance the TSM Standard, enabling its seamless integration into our operations and reinforcing our broader commitment to responsible mining practices in the medium term.

Spotlights: Exploring our Global Efforts

For Mercedes-Benz, it is crucial to visit projects on site as part of our due diligence efforts. Direct contact with local communities and stakeholders allows us to develop a better understanding of specific challenges and risks on the ground. With this section, we would like to give you an overview of our global efforts over the past years.

Additionally, we aim to provide insight into our battery recycling plant in Kuppenheim, Germany, which opened in 2024 and represents a significant step towards a circular economy. This facility, which operates with net carbon-neutrality, processes battery materials efficiently and sustainably, underscoring our commitment to innovation and environmental stewardship.

Summary of our Global Efforts

- In the “Responsible Lithium Partnership” project in Chile, we aim to promote the responsible use of lithium, addressing water scarcity and fostering stakeholder collaboration to manage resources sustainably. Our on-site visit in March 2024 enabled us to see the impact of our efforts and engage directly with local communities and mining companies.
- As part of the “Responsible Mica Initiative” in India and Madagascar, we work to improve transparency and working conditions in mica mining. Our field trip in 2024 allowed us to interact with local stakeholders, understand their challenges, and support initiatives aimed at eradicating child labour and empowering communities.
- In the Democratic Republic of the Congo, we visited copper/cobalt mines to discuss human rights and environmental issues. Our November 2022 trip included a due diligence audit and participation in a workshop to raise awareness about responsible cobalt sourcing, highlighting our commitment to ethical practices.
- Our joint programme with Hydro in Brazil and Guinea focuses on sourcing low-CO_2 aluminium while addressing social and environmental impacts. Visits in 2023 helped us understand the complexities of mining-affected communities and initiate collaborative actions to improve conditions.
- For companies reliant on mined materials, evaluating supply chain impacts must focus on the extraction point, using rigorous and independent audits that engage local communities and indigenous rights holders to ensure their concerns are addressed and benefits are shared, as demonstrated by Mercedes-Benz’s support for IRMA’s enhanced community engagement efforts in countries like South Africa, Chile, and Argentina.

Spotlights: Exploring our Global Efforts

Li

Measure:	Responsible Lithium Partnership
Focus material(s):	Lithium
Focus country(s):	Chile
Aspired outcomes:	Collaborative dialogue between different stakeholders and rights holders; concrete agreements on the care of the ecosystem of the Salar de Atacama basin.

Because the standards and audits of the mining initiatives alone are not enough, we have also launched the “Responsible Lithium Partnership” project together with other companies such as BASF and Volkswagen. In this way, we want to do even more to promote the responsible use of natural resources, including lithium, in the Salar de Atacama in Chile. Chile is one of the main mining countries for lithium, which is used in batteries. In the Salar de Atacama, lithium is extracted from enriched brines that are pumped to surface and concentrated by evaporation (from 0.2% to approximately 6% lithium content). The resulting salts can then be further processed. The mining poses a risk for the water supply in an already arid region. Around the mining operations, conflicts over the scarce water resources between the local population and the companies have intensified.

In March 2024, we were on site together with a delegation from the ↗ Responsible Lithium Partnership where we were able to get a better picture of the situation on the ground as well as the production processes and see for ourselves, everything the partnership has already achieved. In addition, the visit allowed direct exchange with the affected rightsholders in the vicinity of the Salar and representatives of the lithium mining companies.

Our conclusion: ↗ The Mesa Multiactor (Multistakeholder Roundtable initiated by the Responsible Lithium Partnership) has managed to create an open space for exchange between stakeholders that had not existed before. This exchange is fundamental in order to proactively address past and future conflicts in the region and to jointly develop solutions in which everyone can participate. With a joint action plan including 21 initiatives and measures, the stakeholders are pursuing the goal of protecting water resources and managing them more sustainably. An important project goal has thus already been achieved. For more information on the specific project see → Raw Material Profile Lithium.

Source: ↗ Mesa Multiactor

Spotlights: Exploring our Global Efforts

Mica

Measure:	Responsible Mica Initaive
Focus material(s):	Mica
Focus country(s):	India
Aspired outcomes:	Enhancing social and environmental standards along mica supply chains.

In 2020, Mercedes-Benz joined the → Responsible Mica Initiative (RMI), a multi-stakeholder initiative that promotes transparency and better working conditions in mica mining and processing in India and Madagascar. Mica mining is an important livelihood for many people in these regions, involving labour-intensive processes in both large-scale and artisanal mining. The prevalence of small mines poses challenges for traceability and increases the risk of unregulated mining activities, which can impact working conditions, health and safety, environmental pollution, and labour rights, including the risk of child labour.

In 2024, Mercedes-Benz participated in a field trip to India with the Responsible Mica Initiative to visit mica mines and processors and meet with local stakeholders. The visit gave us the opportunity to deepen our understanding of the on-ground realities and gather insights from the communities living in mica sourcing regions. We had the opportunity to directly interact with workers and local communities in the mines and processing facilities in Jharkhand, Bihar, and Rajasthan, gaining a first-hand impression of the situation and production processes.

The visit also provided insights into our supported Terre des Hommes project in a village in Jharkhand. Here, we gained a better understanding of local initiatives, focused on community empowerment and education.

Source: ↗ RMI Mica

Our conclusion: The projects on the ground are crucial for addressing local challenges and risks, eradicating child labour, empowering local communities, promoting education, and enhancing the quality of life for artisanal and small-scale miners. Through a joint action plan with local stakeholders, it is aimed to develop collaborative solutions to support mica artisanal and small-scale mining and improve working conditions. The insights gained from our visit have also informed adjustments to our strategy to better address these → Issues.

Spotlights: Exploring our Global Efforts

Al

Measure:	Corridor Program
Focus material(s):	Aluminium / Bauxite
Focus country(s):	Brazil
Aspired outcomes:	Sourcing low-CO_2 aluminium, promoting human rights and local income as well as enhancing biodiversity and low-carbon value chains.

Building on our partnership with Hydro for CO_2-reduced aluminium, we are enhancing the vertical integration of our aluminium supply chain by launching the long-term ↗ Corridor Program for a sustained development in the Amazon – focusing on fostering community and indigenous rights in Pará, Brazil. The Corridor Program, initiated by Hydro, Mercedes-Benz, IMAZON, IPAM, and the Centro de Empreendedorismo da Amazônia, aims to drive social progress and protect biodiversity around Norsk Hydro's sites in Pará.

The joint programme with Hydro is a flagship project for us, focusing on sourcing low-CO_2 aluminium while managing risks throughout our supply chain, from the mine to the end product. We emphasise close communication with local communities, aiming to positively impact the region's economic, social, and environmental aspects through the ↗ Corridor Program. This initiative promotes human rights, generates income for local communities, and fosters high biodiversity and low-carbon value chains. It empowers local stakeholders by allowing communities near the pipeline to identify and prioritise projects that benefit their regions directly.

The Corridor Program adopts a holistic sustainability approach, reducing the environmental impact of products, addressing human rights in supply chains, and meeting corporate governance standards. It is anchored in strategic pillars and follows a donation-based structure focusing on economic development,

Source: Mercedes-Benz Media

social development, and environmental and biodiversity protection.

Examples of economic development include improving market conditions for agroforestry products like tropical fruits and acai, and identifying financing opportunities for new and expanding bioeconomy businesses. Social development efforts include enhancing Internet access and digital tools, providing access to quality education and essential needs like sanitation, and investing in training. Environmental initiatives involve expanding protected forest areas and biodiversity, and reducing deforestation and greenhouse gas emissions.

With a focus on social cohesion and environmental aspects, this reflects our approach to sustainable management of raw material supply chains. Additionally, we use the Social Progress Index as a territorial management tool to manage risks positively, learn and diagnose gaps and opportunities, and increase the effectiveness of measures on-site.
→ For more information on the project click link

Spotlights: Exploring our Global Efforts

Co

Measure:	More Transparency and Higher Standards in Our Cobalt Supply Chains
Focus material(s):	Cobalt
Focus country(s):	DRC
Aspired outcomes:	Strengthen due diligence in cobalt sourcing.

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 ↗ due diligence audit by the audit firm RCS Global commissioned by Mercedes-Benz at a copper/cobalt mine site in the same region.

Furthermore, we attended a workshop organised 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.

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. → For more information on our engagement click link

Source: Mercedes-Benz Media

Spotlights: Exploring our Global Efforts

Al

Measure:	Bauxite and Alumina: Missions to Brazil and Guinea
Focus material(s):	Bauxite / Alumina
Focus country(s):	Guinea
Aspired outcomes:	Strengthen due diligence in cobalt sourcing.

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 prioritised 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

Source: Mercedes-Benz Media

debriefings and initiated a conversation on collaborative action with → Drive Sustainability. For more information on the mission click link

Spotlights: Exploring our Global Efforts

PGM

Measure:	IRMA Community Engagement Project
Focus material(s):	PGM and battery raw materials (among others)
Focus country(s):	South Africa (among others)
Aspired outcomes:	Strengthen responsible mining practices by enhancing community engagement and inclusion.

For companies reliant on mined materials, evaluating supply chain impacts must include a focus on the extraction point. Various tools, such as assessing a mine's performance against responsible mining standards, help understand these impacts. The effectiveness of such assessments hinges on the quality of the standards and the rigour and independence of the audit process. A critical aspect of these audits is the direct engagement of communities and indigenous rights holders, allowing them to voice concerns, ask questions, and understand how mining companies plan to address their needs and share benefits.

Over recent years, as independent audits have increased, we have explored ways to better include communities near mines in the process. This involves continuous testing, learning, and refining approaches, guided by insights from the diverse constituencies governing our initiative.

Mercedes-Benz Group AG, an → IRMA member since 2020, has supported this effort. In 2022, Mercedes-Benz funded IRMA to enhance community engagement in the auditing process. By implementing new practices and experimenting with alternative approaches, community engagement aspect of IRMA's audits has been improved. This project is conducted in South Africa, among other countries such as Chile and Argentina.

The result of this collaboration is a report that serves as a model for purchasers of mined materials, mining companies, investors, regulators, other standards systems, NGOs, and affected communities. The goal is to strengthen industry assessments, protect human rights, and promote more responsible mining.

"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 system"

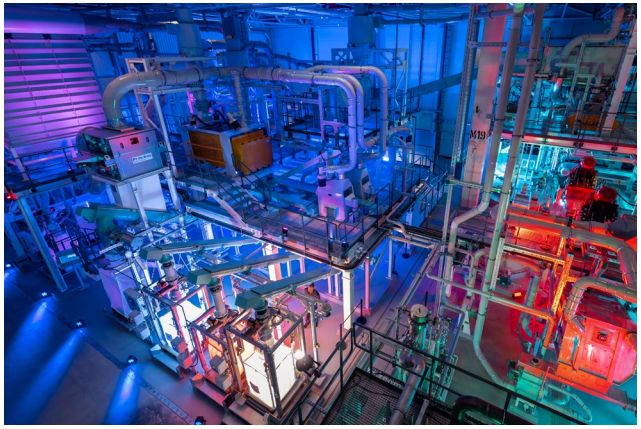
Rebecca Burton, Deputy Director of IRMA

Spotlights: Exploring our Global Efforts

Li **Co** **Ni**

Measure:	Europe‘s First Battery Recycling Plant
Focus material(s):	Cobalt, Nickel, Lithium
Focus country(s):	Germany
Aspired outcomes:	Cutting resource consumption and establishing closed-loop recycling of battery raw materials

In 2024 ↗ Mercedes-Benz opened Europe’s first battery recycling plant with an integrated mechanical-hydrometallurgical process, making it the first car manufacturer worldwide[1] to close the battery recycling loop with its own in-house facility. The recycling plant in Kuppenheim, southern Germany, creates a genuine circular economy. For the first time in Europe, the Mercedes-Benz battery recycling plant covers all steps from shredding battery modules to drying and processing active battery materials. The mechanical process sorts and separates plastics, copper, aluminium and iron in a complex, multi-stage process. The downstream hydrometallurgical process is dedicated to the so-called black mass. These are the active materials that make up the electrodes of the battery cells. The valuable metals cobalt, nickel and lithium are extracted individually in a multi-stage chemical process. These recyclates are of battery quality and therefore suitable for use in the production of new battery cells. Unlike the pyrometallurgy established in Europe today, the hydrometallurgical process is less-intensive in terms of energy consumption and material waste. Its low process temperatures of up to 80 degrees Celsius mean it consumes less energy. In addition, like all Mercedes-Benz production plants, the recycling plant operates in a net carbon-neutral[2] manner. It is supplied with 100 percent green electricity. The roof area of the 6800 square-metre building is equipped with a photovoltaic system with a peak output of more than 350 kilowatts. The Mercedes-Benz battery recycling



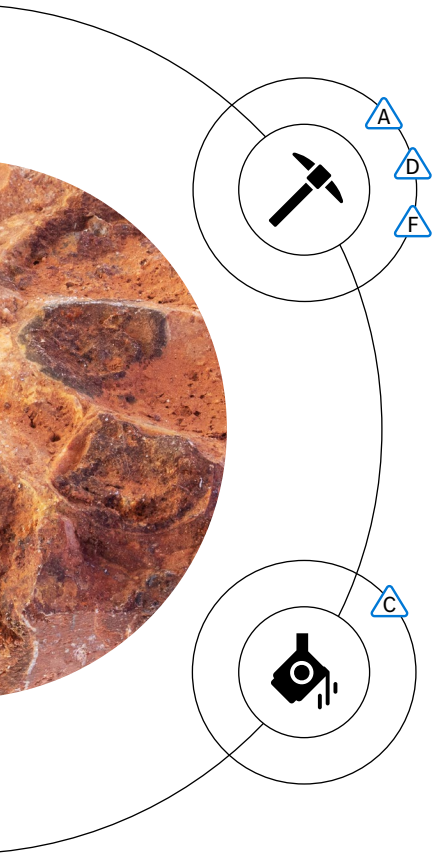
plant in Kuppenheim has an annual capacity of 2,500 tonnes. The recovered materials feed into the production of more than 50,000 battery modules for new all-electric Mercedes-Benz models. The company has invested tens of millions of euros in the construction of the new battery recycling plant and thus in the value creation in Germany. The knowledge gained could help scale up production volumes in the medium to long term.

1. According to current knowledge
2. Net carbon-neutral means that carbon emissions that are not avoided or reduced at Mercedes-Benz are compensated for by certified compensation offsetting projects.

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 share[1]

- Australia **25%**
- Guinea **25%**
- China **24%**
- Brazil **8%**
- India **6%**

Smelting and Refining
Main processing countries[2]

- China **59%**
- Australia **14%**
- Canada **8%**
- India **6%**
- Russia **2%**

Identified Salient Risks

A Working conditions, including occupational health and safety

C Modern slavery, including forced labour

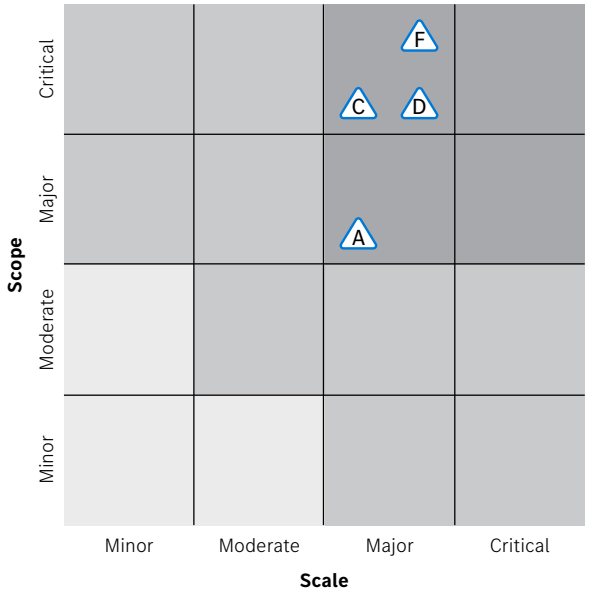
D Community and indigenous peoples' rights

F Environmental risks with impact on human rights

Focus Parts/Commodities

- Body in white / direct sourcing of raw material
- Wheels
- Battery compartment

Risk Analysis



1 Based on USGS 2024, Bauxite
2 USGS 2024

Al

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- Suppliers of focus parts: **35**
- Average DDQ rating:
  67% (wheels)
  72% (raw aluminium)
  65% (body in white)
  43% (Structural / Small Aluminium Castings)
  In progress (Battery Compartment)
- Suppliers implementing measures to improve DDQ score: **3**

Tier N / Systemic Risk

Bauxite is mined in large-scale open pit operations and occurs close to the surface in layers of several metres thickness. Both surface miners as well as blast and haul techniques are used to mine the material after exposing the layer. Depending on the quality of the bauxite, the mined material will be suitable for refining as it might need to be washed to remove dirt. While bauxite can be found in a wide belt around the equator, especially Guinea has become a strong producer. The country holds the largest reserves globally and has seen rapid and strong investment in its mining sector for the past decade. Due to the size of the operations and their constant development, land management is a challenge, particularly when concessions carve into traditional lands of affected communities and indigenous peoples.

Our risk assessment has identified the correlated risk areas: Community and indigenous rights as well as Environmental risks with impacts on human rights as most severe. This is with particular emphasis on Guinea and Brazil as countries of origin where we are connected to the identified risks through business partners. The potential for modern slavery including forced labour in the aluminium sector has been identified as a high risk.

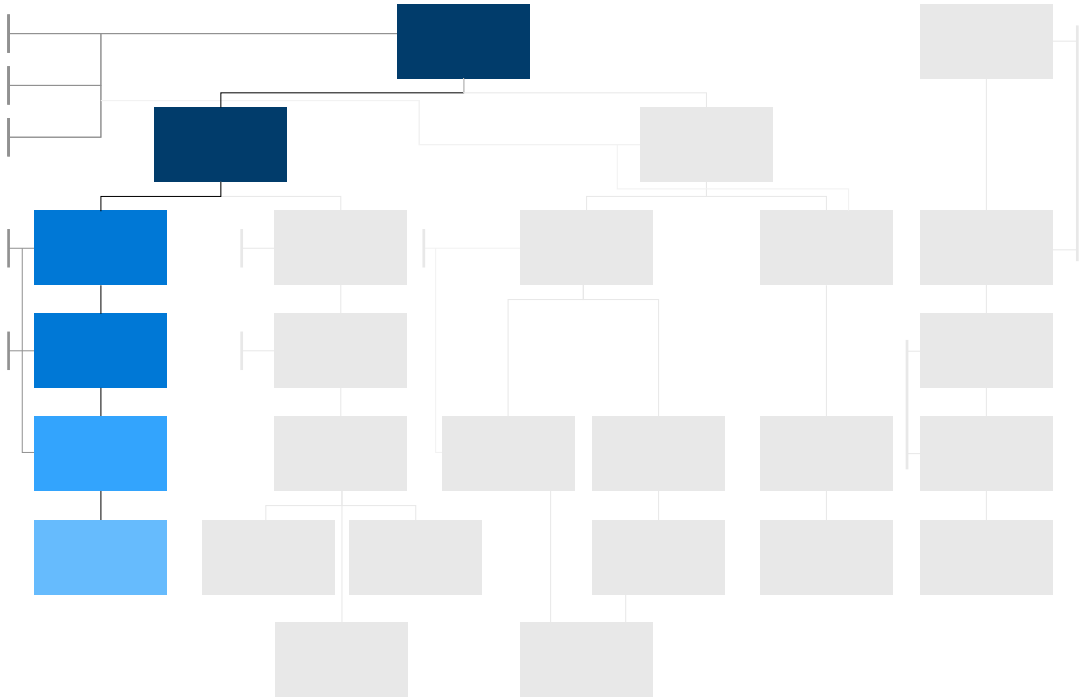
A significant concern is the widespread lack of adressing the identified salient risk areas through sustainability standards in the aluminium industry at both mining and refining levels. Therefore, the focus of our Theory of Change for aluminium is on the development and the market adoption of adequate sustainability standards within the industry to address these concerns and reduce the negative impacts associated with aluminium mining and processing.

Stakeholder Engagement

- Regular exchange with international Civil Society Organisations 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
- Mine site visits during missions in → Brazil and → Guinea
- Engagement with affected communities on mining impacts (→ Spotlight)

Al

Mercedes-Benz Theory of Change for Aluminium



Market Adoption | Standard Development | Heightened Due Diligence in Risk Areas | Fight Against Forced Labour

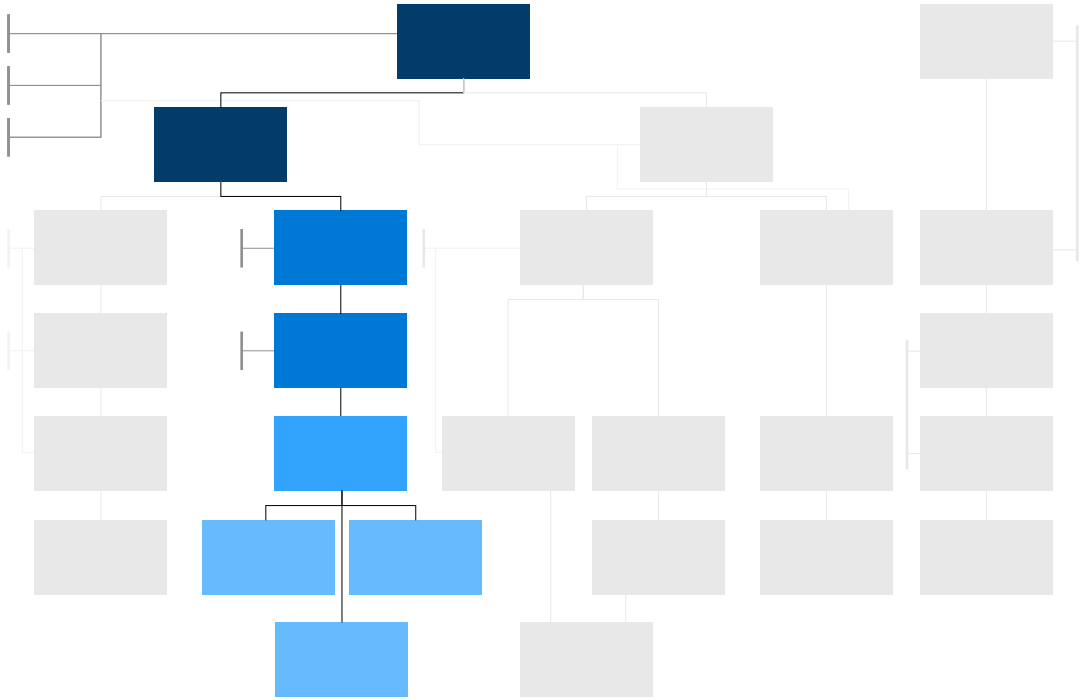
Select path

Market Adoption
Demand is the strongest driver for the uptake of standards in raw material supply chains. We therefore plan to introduce awarding premises for new projects related to aluminium focus parts being contracted to source primary aluminium exclusively from ASI certified or IRMA audited mines achieving at least IRMA 50.

→View path

Al

Mercedes-Benz Theory of Change for Aluminium



Market Adoption | **Standard Development** | Heightened Due Diligence in Risk Areas | Fight Against Forced Labour

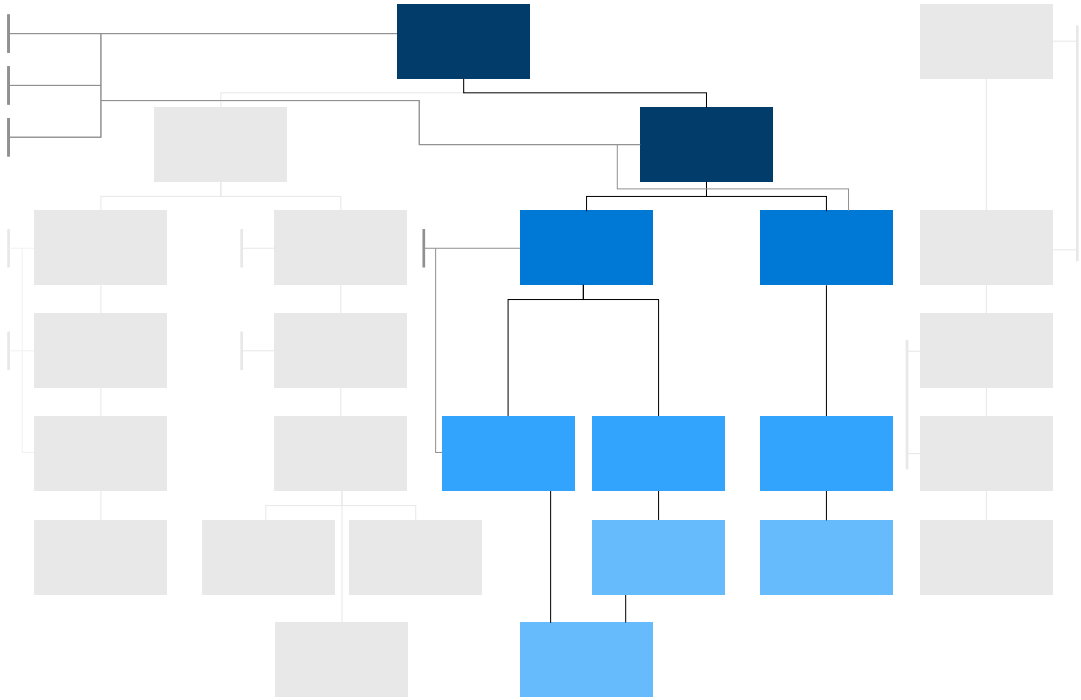
Select path

Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We therefore have engaged bilaterally with ASI with recommendations for governance and audit processes based on our Standards Guidance as well as through a collaborative effort with other automotive OEMs.

→ View path

Al

Mercedes-Benz Theory of Change for Aluminium



Market Adoption | Standard Development | **Heightened Due Diligence in Risk Areas** | Fight Against Forced Labour

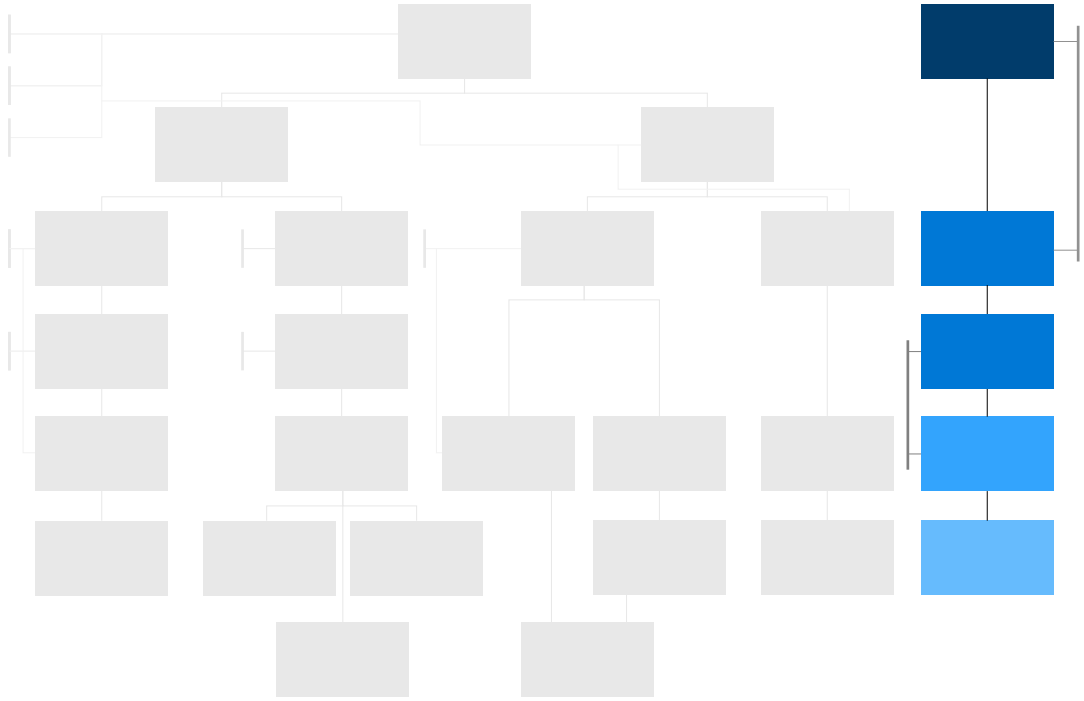
Select path

Heightened Due Diligence in Risk Areas
Our raw material assessment identified the need for heightened due diligence in Guinea. A visit to Boké in May 2023 led to direct engagement with mining operators to address human rights and environmental impacts, highlighting the need for collaborative mitigation efforts. In Brazil, we partnered with Norsk Hydro for CO_2-reduced aluminium, respecting community and indigenous rights. The Corridor Program, initiated by Norsk Hydro, IMAZON, IPAM, and the Centro de Empreendedorismo da Amazônia, aims to drive social progress and protect biodiversity around Norsk Hydro's sites in Pará.

→ View path – Guinea
→ View path – Brazil

Al

Mercedes-Benz Theory of Change for Aluminium



Market Adoption | Standard Development | Heightened Due Diligence in Risk Areas | **Fight Against Forced Labour**

Select path

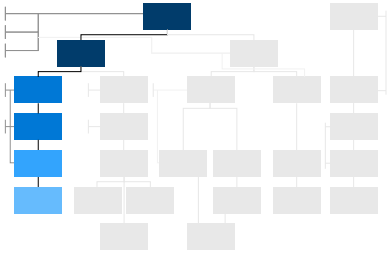
Fight Against Forced Labour

Mercedes-Benz operates according to the principle of “empowerment before withdrawal.” Should this not be possible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to eradicate modern slavery or forced labour in its supply chains. This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

→ View path

Al

Mercedes-Benz Theory of Change for Aluminium:
Market Adoption



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

The missing regulatory recognition of ILO 169 and UNDRIP can limit the implementation of measures in the aluminium industry.

Mining legacies. Rehabilitation and compensation.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the aluminium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of aluminium refining and mining industry.

Outcome
Standards have achieved a critical market coverage with a focus on Guinea and Brazil.

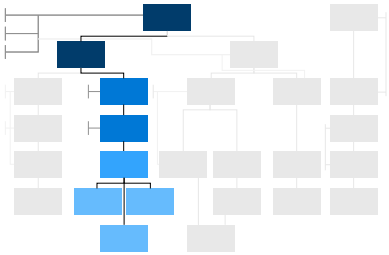
Outcome
A strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
IRMA or ASI or other equivalent standards approved by MB are awarding requirements.

Al

Mercedes-Benz Theory of Change for Aluminium:
Standard Development



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The missing regulatory recognition of ILO 169 and UNDRIP can limit the implementation of measures in the aluminium industry.

Mining legacies. Rehabilitation and compensation.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Dependent on willingness and co-operation of suppliers and MB leverage.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the aluminium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of aluminium refining and mining industry.

Outcome
Suppliers implement effective standard systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continous improvement of their effectiveness.

Activity
Develop position on quality criteria of effective standards.

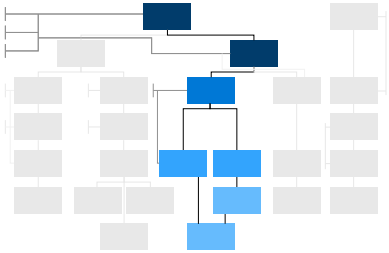
Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Active support/participation in standards/initiatives as well as in public consultation processes of standards systems.

Al

Mercedes-Benz Theory of Change for Aluminium:

Heightened Due Diligence in Risk Areas - Guinea



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The missing regulatory recognition of ILO 169 and UNDRIP can limit the implementation of measures in the aluminium industry.

Mining legacies. Rehabilitation and compensation.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Stakeholder participation risk: Willingness / openness of other actor.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the aluminium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to enhance the quality of life for communities in mining areas by establishing the best possible mining practices in vulnerable settings such as Brazil and Guinea.

Outcome
Improvement of the technical mining practice on the ground.

Output
Initiate a collaborative action to mitigate against adverse human rights and environmental impacts of bauxite mining in Guinea.

Output
Engage with mining companies regularly based on reported incidents and own assessment during 2023 on-the-ground visit.

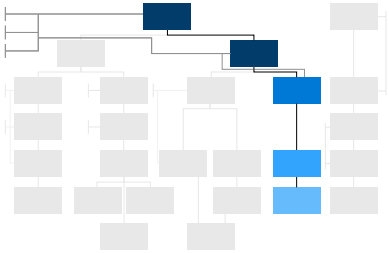
Activity
Conduct on-the-ground assessment of adverse mining impacts in Guinea.

Activity
Hold briefings with peer companies in member initiatives.

Al

Mercedes-Benz Theory of Change for Aluminium:

Heightened Due Diligence in Risk Areas - Brazil



The missing regulatory recognition of ILO 169 and UNDRIP can limit the implementation of measures in the aluminium industry.

Mining legacies. Rehabilitation and compensation.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the aluminium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to enhance the quality of life for communities in mining areas by establishing the best possible mining practices in vulnerable settings such as Brazil and Guinea.

Outcome
A contribution to mitigate adverse impacts of bauxite mining in Brazil.

Output
Launch of the long-term Corridor Program, initiated by Hydro, Mercedes-Benz, IMAZON, IPAM, and the Centro de Empreendedorismo da Amazônia, for a sustained development in the Amazon – focusing on fostering community and indigenous rights in Pará, Brazil.

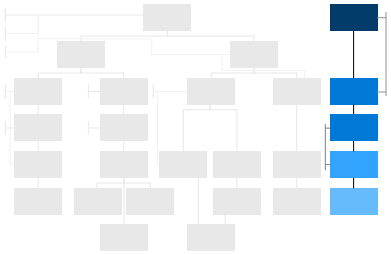
Activity
Conduct on-the-ground assessment of adverse mining impacts in Brazil. Engage with Hydro in a sustainability partnership to create positive legacies for bauxite mining and processing in Brazil.

← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Al

Mercedes-Benz Theory of Change for Aluminium:
Fight Against Forced Labour



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Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Mercedes-Benz follows the principle of "empowerment before withdrawal," aligning with the recommendations of NGOs. We believe in significantly improving the status quo rather than taking the easiest route. Therefore, instead of simply excluding suppliers when issues arise, we strive to collaborate with them to address the findings. Immediate exclusion might create the illusion of a "clean supply chain," but it wouldn't improve the situation for the workers and local people.

If collaboration is not feasible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to minimise the risk of modern slavery and forced labour.

This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

Impact
We strive to contribute to the mitigation of modern slavery, including forced labour in the Mercedes-Benz supply chain.

Outcome
The risk of modern slavery, including forced labour is mitigated for specific supply chains. Critical business relationships are terminated, if collabouration was not feasible and the approach of "empowerment before withdrawal" was not implementable.

Outcome
Measures to mitigate the risk of modern slavery, including forced labour, are established.

Output
Potential risk industry actors and hotspots are identified in the risk field of modern slavery including forced labour in our supply chain. Decision which measures need to be implemented to address the risk adequately is made.

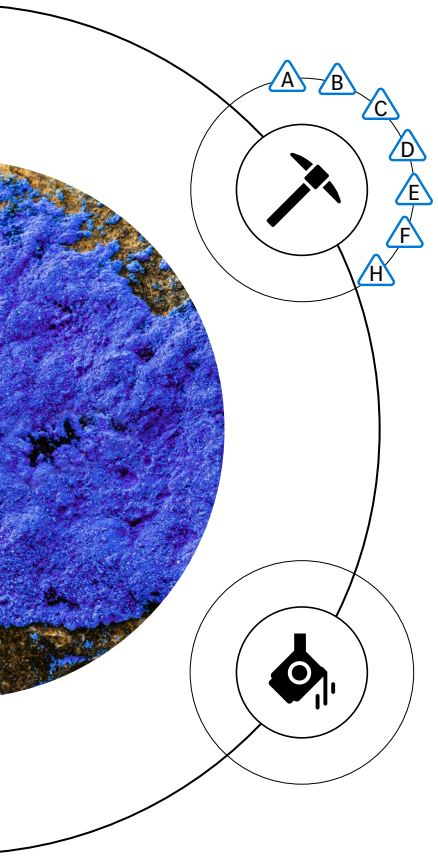
Activity
Usage of due diligence management systems, transparency tools in the supply chain and AI tools to identify potential risk industry actors and risk hotspots.

Mercedes-Benz aims to contribute to this vision. In order to tackle this often systemic problem effectively, other industries beyond the automotive must also engage intensively with this issue to achieve the long-term objective of ending modern slavery including forced labour.

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 are the reason that cobalt is 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 share[1]

- DRC **74%**
- Indonesia **7%**
- Russia **4%**
- Australia **2%**
- Madagascar **2%**

Smelting and Refining
Main processing countries[2]

- China **78%**
- Finland **9%**
- Canada **4%**
- Japan **2%**
- Norway **2%**

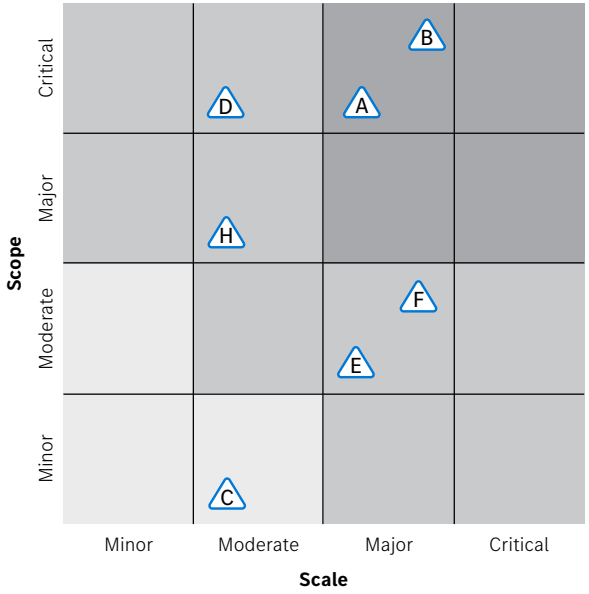
Identified Salient Risks

- 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 USGS 2024
2 RMIS – Raw Materials Information System 2024

Co

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**

Transparency and Supply Chain Due Diligence Audits along the Battery Cell Supply Chain
(Results 07/2023 - 06/2024):

- Identification of **346** suppliers and sub-suppliers from battery cell providers to mine sites
- Implementation of **54** audits along the entire battery supply chain (Tier 1 - mine)
- Among these **54** audits, **16** extensive environmental audits have been conducted, piloting our approach to environmental due diligence.
- **2** supplier training conducted

Tier N / Systemic Risk

As a by-product cobalt is principally mined at large-scale industrial mine sites using open pit and underground mining methods. Pyrometallurgy (high temperature), hydrometallurgy (water-based) and electrometallurgy (electricity-based) techniques are used to separate cobalt products from the ore. Cobalt mining is associated with serious ESG risks and is largely extracted in the DRC. We have identified the DRC in Mercedes-Benz supply chains and have prioritised two salient risk areas: Working conditions, including occupational health and safety (OHS) and Child labour. They have been rated High Risk for Scale and Scope. For scale as mining is one of the worst forms of child labour. Risks in OHS mainly reflects the inability to enforce safety standards in ASM (e.g. basis of absence of equipment, tunnel collapses) as well as in LSM operations (e.g., use of sub-contractors, absence of PPE). For scope as approx. 100-200k people work in ASM in the DRC and many more depend on their income. Due to extreme poverty, lack of alternatives to care and education, children support their families and are taken directly to the mine or washing place. The number of working children cannot easily be distinguished from the total number of children present at mines. The most serious risks in cobalt mining mainly relate to the DRC and almost all concern the ASM sector. They are therefore concentrated on a relatively small part of the supply chain, which employs a large number of people.

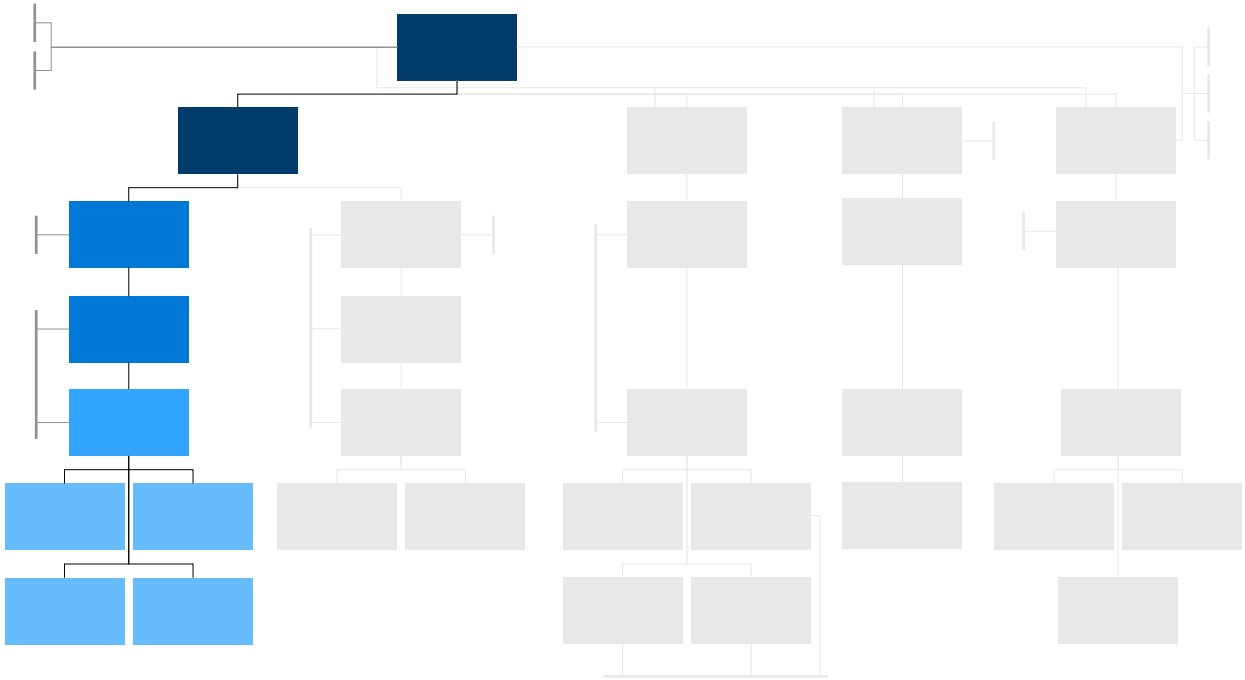
To effectively mitigate these identified risks, there is a pursuit of high market penetration of demanding sustainability standards and audits. Furthermore, we try to address root causes that tackle child labour, such as extreme poverty, lack of community protection systems and alternative livelihood opportunities.

Stakeholder Engagement

- Ongoing dialogue with industry initiatives on status quo and trends in the cobalt sector
- Ongoing sustainability dialogues with suppliers and sub-suppliers on due diligence measures and efforts
- Dialogue with mining company on potential environmental risks on site
- Dialogue with international and Congolese civil society organisation on allegations of potential environmental risks

Co

Mercedes-Benz Theory of Change for Cobalt



Standard Development

We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for refiners.

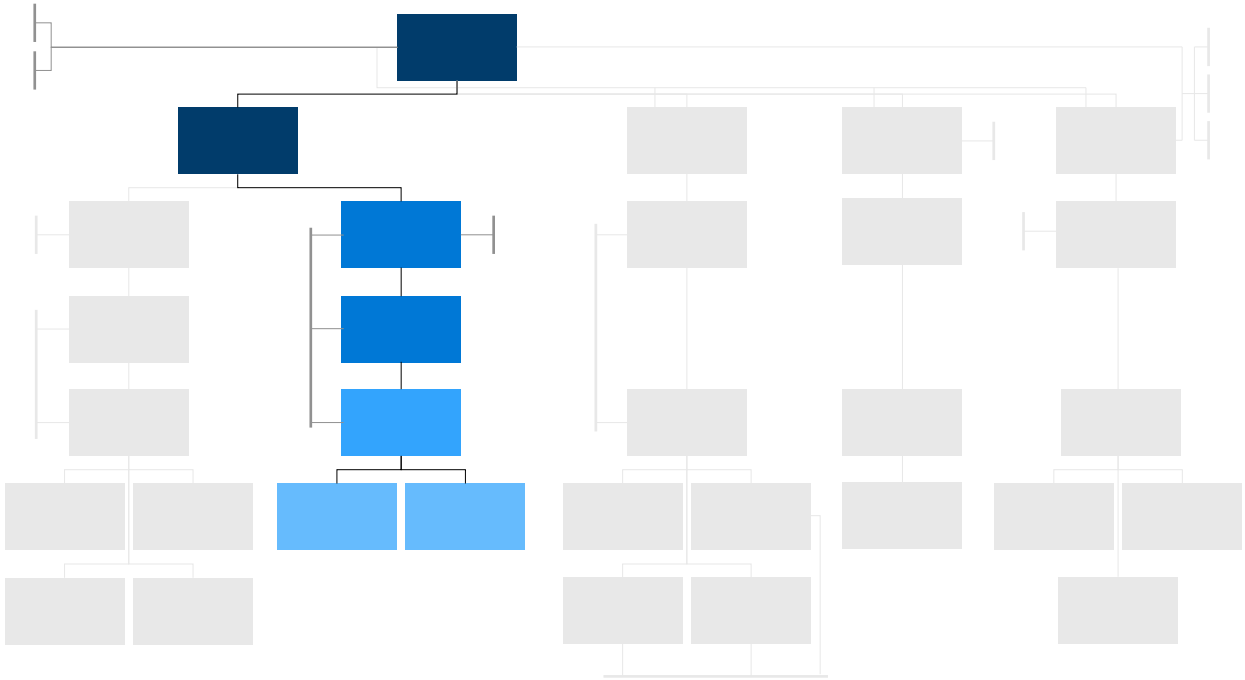
→ View path

Standard Development | Market Adoption | Supply Chain Due Diligence & Transparency | Social and Economic Empowerment | ASM Awareness Raising

Select path

Co

Mercedes-Benz Theory of Change for Cobalt



Standard Development | **Market Adoption** | Supply Chain Due Diligence & Transparency | Social and Economic Empowerment | ASM Awareness Raising

Select path

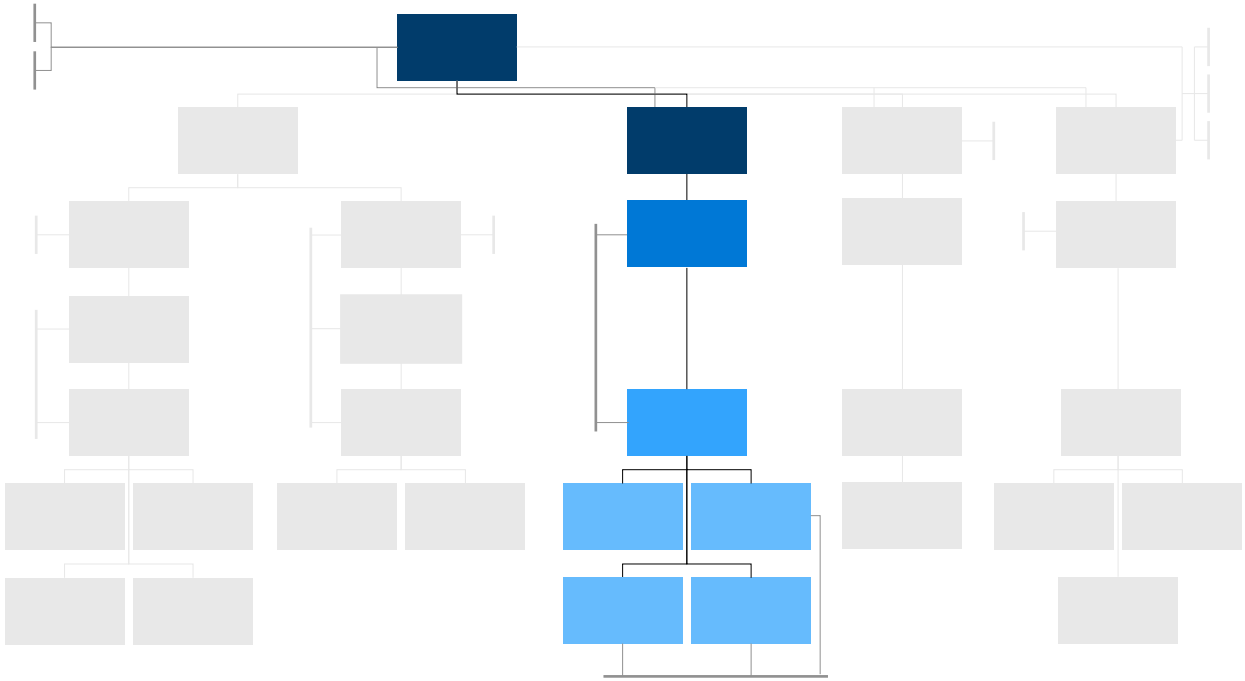
Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for IRMA audited mines achieving at least IRMA 50 as well as for refiners to undertake audits based on Mercedes-Benz approved standards. Our goal is to apply these awarding requirements in all of our sourcing activities of focus commodities.

→ View path

Co

Mercedes-Benz Theory of Change for Cobalt



Standard Development | Market Adoption | **Supply Chain Due Diligence & Transparency** | Social and Economic Empowerment | ASM Awareness Raising

Select path

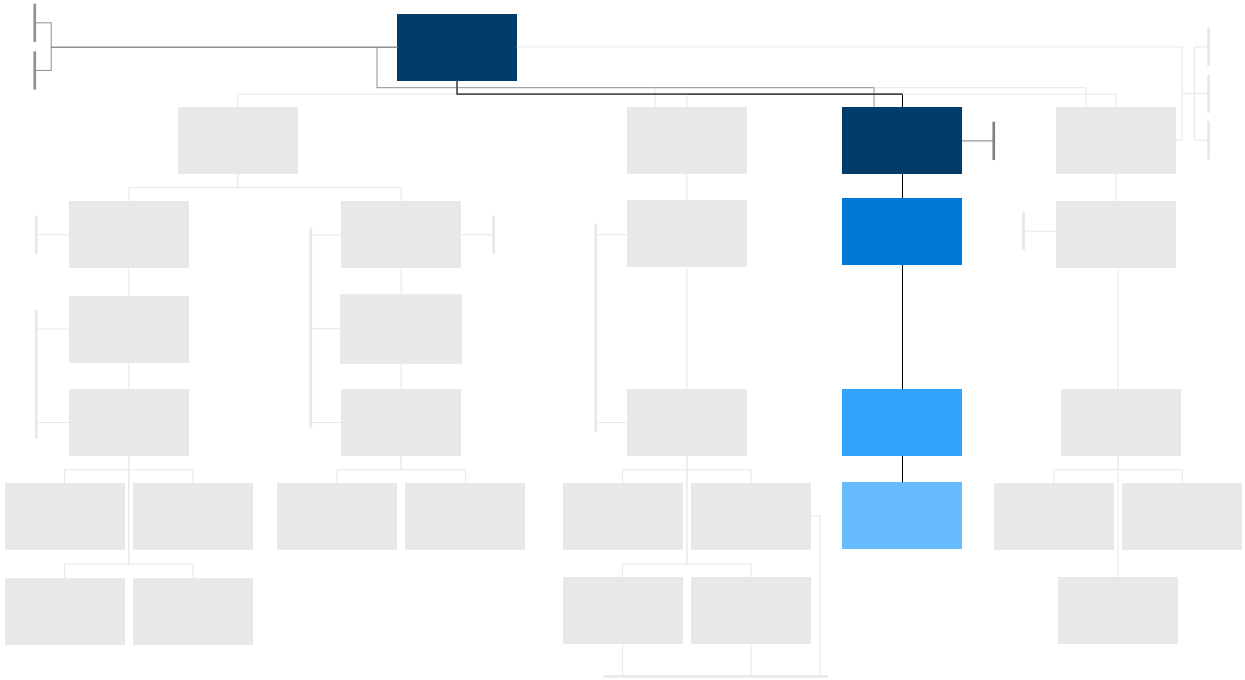
Supply Chain Due Diligence & Transparency

Transparency is key when it comes to improving due diligence measures in the supply chain. Over the last years we have intensively looked at your battery supply chains. From cell suppliers to mine sites. To improve their due diligence measures, we have audited them against international standards, provided training as well as corrective action plans to improve their performance step-by-step.

→View path

Co

Mercedes-Benz Theory of Change for Cobalt



Social and Economic Empowerment
Together with our project partner on the ground (Bon Pasteur) we try to address root causes that tackle child labour in the DRC. By providing safe spaces for children with access to education and health services, by training community members in new and existing income generating activities aside from mining as well as by raising awareness, support and training for communities in conflict management systems, mining law & code etc.

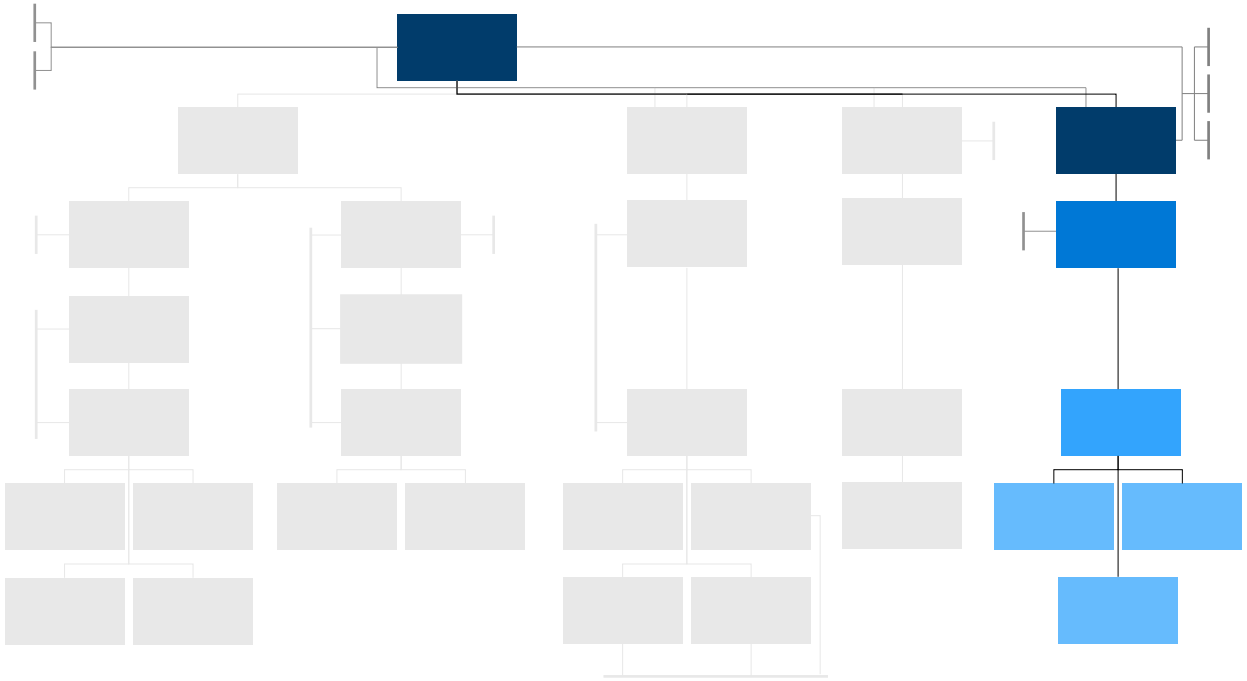
→ View path

Standard Development | Market Adoption | Supply Chain Due Diligence & Transparency | **Social and Economic Empowerment** | ASM Awareness Raising

Select path

Co

Mercedes-Benz Theory of Change for Cobalt



ASM Awareness raising

The ASM sector is often associated with the worst risks for people and the environment. Up to now, the ASM sector has not been given dedicated attention by the automotive industry. We want to change this by developing a position paper and participating in MSGs on standards and projects to learn how we as an OEM can sustainably contribute to improve the situation for workers on the ground.

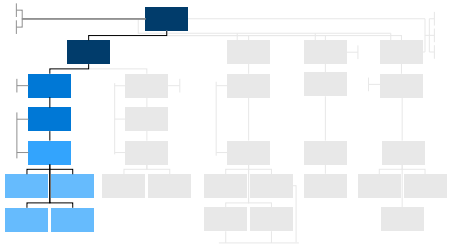
→View path

Standard Development | Market Adoption | Supply Chain Due Diligence & Transparency | Social and Economic Empowerment | **ASM Awareness Raising**

Select path

Co

Mercedes-Benz Theory of Change for Cobalt:
Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External Risk - high concentration of cobalt mining in countries with political instability or conflict.

Dependence on co-operation level of suppliers.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Impact
The ultimate aims are safe and fair working conditions for everyone working in cobalt mining and processing or in surrounding communities.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible practices of cobalt refining and mining industry.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continous improvement of their effectiveness.

Activity
Member of the RMI Emerging Minerals Group to roll out the new RMAP ESG standard among others.

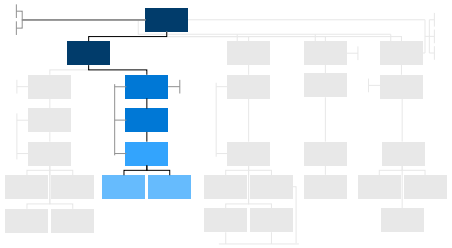
Activity
Develop position on quality criteria of effective standards.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Active support / participation in standards / initiatives as well as in public consultation processes of standards systems.

Co

Mercedes-Benz Theory of Change for Cobalt:
Market Adoption



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Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External Risk - high concentration of cobalt mining in countries with political instability or conflict.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Impact
The ultimate aims are safe and fair working conditions for everyone working in cobalt mining and processing or in surrounding communities.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible practices of cobalt refining and mining industry.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
IRMA on mining level or other equivalent standards approved by MB and adequate standards on refiner level are awarding requirements for battery cells containing cobalt.

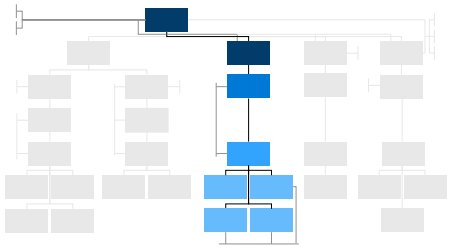
Activity
Updating of chapter for responsible procurement of raw materials in the RSS aligning all relevant regulations as well as OECD guidelines.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Co

Mercedes-Benz Theory of Change for Cobalt:

Supply Chain Due Diligence & Transparency



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Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External Risk - high concentration of cobalt mining in countries with political instability or conflict.

Dependent on co-operation level of suppliers and transparency. Audits are conducted on a risk-based approach and do not cover every supply chain actor.

Impact
The ultimate aims are safe and fair working conditions for everyone working in cobalt mining and processing or in surrounding communities.

Impact
Best possible due diligence practice for cobalt supply chains is established.

Outcome
Empowerment of actors along the cobalt supply chain to comply with high international due diligence standards.

Output
MB cobalt supply chain is known to the best of our efforts and audited against international due diligence standards. Empowerment of suppliers through due diligence training.

Activity
Looking at new emerging markets (Indonesia) with new ESG risks (especially E and S) as well as secondary cobalt.

Activity
Global Mapping. Audit & Training Programme.

Activity
Active monitoring of battery suppliers and empowerment to implement due diligence measures in the supply chain.

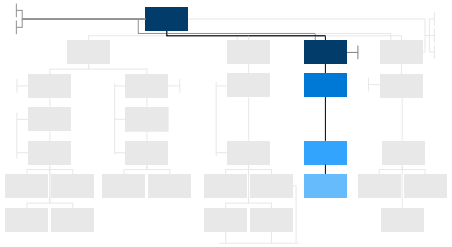
Activity
Collection of data on cobalt refiners with the help of RMI EMRTs.

Dependence on co-operation level of suppliers.

Co

Mercedes-Benz Theory of Change for Cobalt:

Social and Economic Empowerment of Mining Communities in DRC



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Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External Risk - high concentration of cobalt mining in countries with political instability or conflict.

Impact
The ultimate aims are safe and fair working conditions for everyone working in cobalt mining and processing or in surrounding communities.

Impact
We aim to adress root causes that tackle child labour in the DRC (extreme poverty, lack of community protection system and limited alternative livelihood opportunities for the families).

Child labour is often caused by extreme poverty. MB leverage to change that.

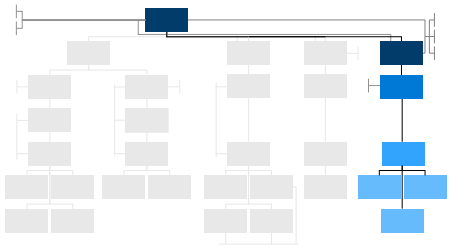
Outcome
- Creation of alternative livelihoods in targeted ASM communities
- Creation of safe spaces for children with access to education and health services
- Improved community cohesion and formalisation of cooperatives

Output
- Training in income-generating activities besides from ASM
- Enrolling children in protection, education and nutrition programmes
- Raising awareness, support and training for communities in conflict management systems, mining code, mining laws etc.

Activity
Project with Bon PAsteur on alternative livelihoods, education, medical care, community empowerment.

Co

Mercedes-Benz Theory of Change for Cobalt:
ASM Awareness raising



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Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External Risk - high concentration of cobalt mining in countries with political instability or conflict.

Dependence on co-operation / willingness of other actors in the industry.

Impact
The ultimate aims are safe and fair working conditions for everyone working in cobalt mining and processing or in surrounding communities.

Impact
Development and market adoption of standards and adequate measures adressing risks in ASM contribute to the improvement of the situation for artisanal and small-scale miners.

Outcome
Automotive industry engages in discussions on effective standards and adequate measures to address risks in ASM.

Output
Development of MB position, representation on international forums and participation in MSGs.

Activity
Participation in multi-stakeholder alliances promoting responsible ASM practices and discussions on adequate standards in targeted countries for target groups (e.g. miners & intermediaries).

Activity
Promote discussion within target groups for supporting responsible ASM projects.

Activity
Define position regarding presence of ASM material in supply chain.

Child labour is often caused by extreme poverty. MB leverage to change that.

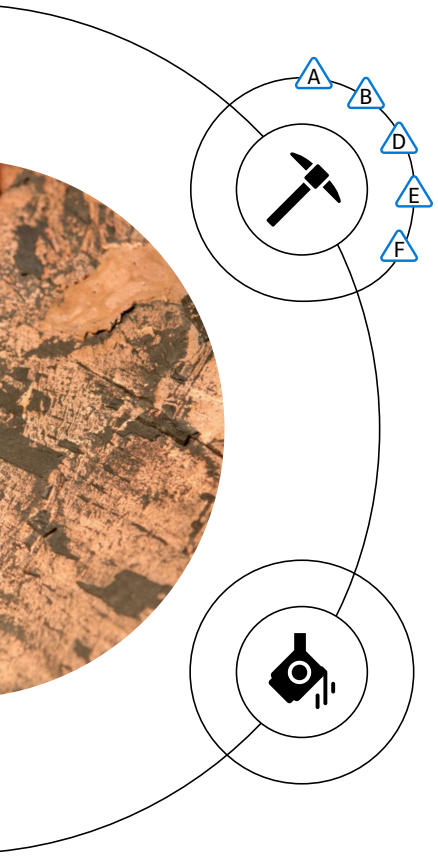
Existence of poverty alleviation measures and creation of alternative livelihoods.

Absence of or effectiveness of political regulatory frameworks, & removal of barriers to legalisation, formalisation, mobilisation for participation in standards in ASM.

Cu Copper

Copper is a relatively abundant element and occurs in a range of minerals. 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 share[1]

- Chile **23%**
- Peru **12%**
- DRC **12%**
- China **8%**
- United States **5%**

Smelting and Refining
Main processing countries[2]

- China **45%**
- Chile **8%**
- DRC **7%**
- Japan **6%**
- Russia **4%**

1 USGS 2024
2 USGS 2024

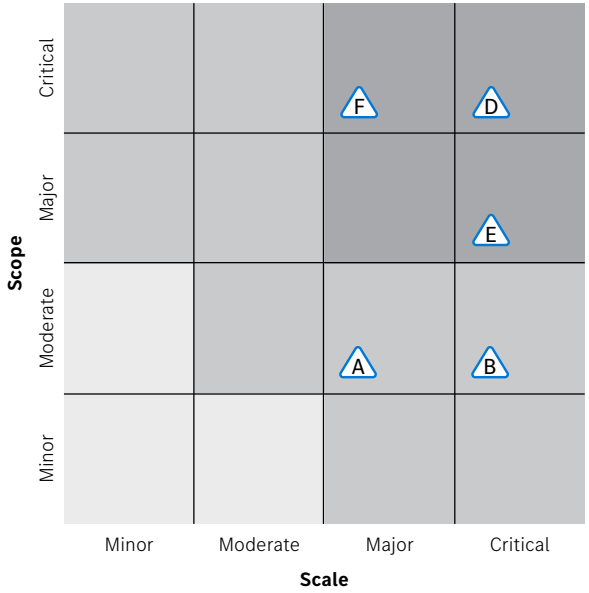
Identified Salient Risks

- 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
- High voltage battery
- Electric motor

Risk Analysis



Cu

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers
- Suppliers of focus parts: **26**
- Average DDQ rating:
  84% (EV battery)
  77% (E-Motor)
  65% (wiring harness)

Tier N / Systemic Risk

Copper mining is usually conducted as open pit mining at large-scale industrial mine sites over decades. The mining process of drilling, blasting and hauling is a logistical challenge in its own right. Significant amounts of ore and waste rock need to be moved, leading to dust emissions from both the mined material and heavy traffic on dirt roads. With diminishing grades in existing copper projects, geologically more complex deposits come into focus, some of which containing silica and arsenic as harmful substances to human health. Copper processing involves toxic substances such as sulphuric acid that require constant and flawless monitoring. Finally, the sheer exposition of sulphidic rock to rain water leads to the formation of sulphuric acid, which in turn dissolves metals from mineral-rich soils, potentially washing these toxic compounds into rivers and ground water.

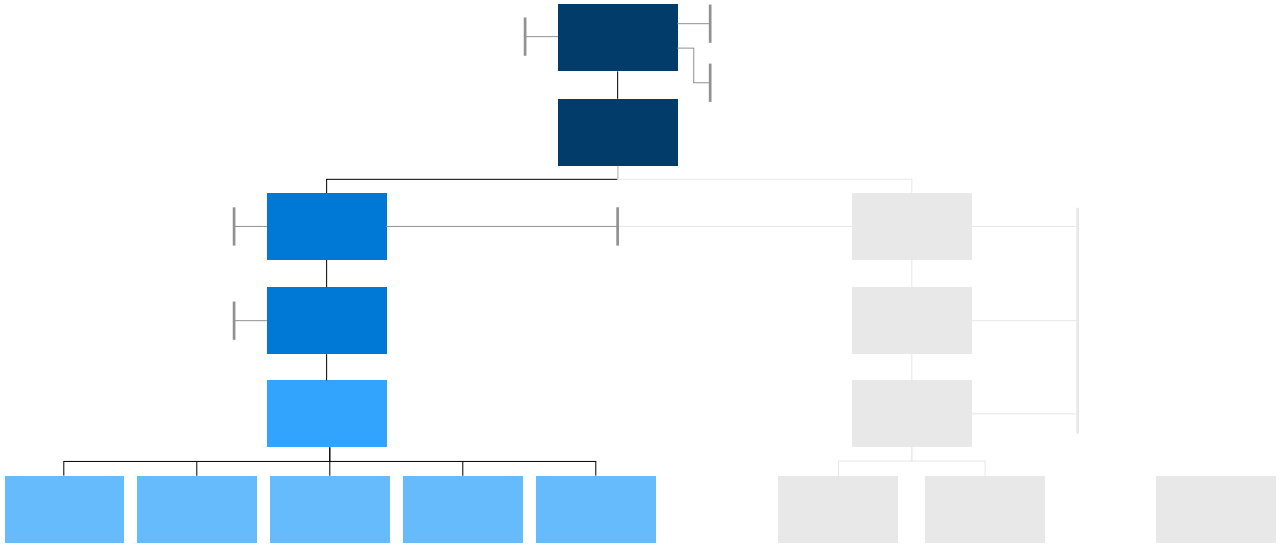
We have thus identified: Environmental risks with impact on human rights as a high risk area. With particular relevance in Chile, Peru and Indonesia, this is in conjunction with Community and indigenous rights and Excessive violence of public and private security forces. There is a history of chronic conflict around copper mining grounded in the adverse impacts on livelihoods as well as health and safety of communities in the vicinity of copper mines. In the past, some of these conflicts have been handled unprofessionally by security forces, leading to significant numbers of injuries and deaths among protesters.

To effectively mitigate these identified risks, the focus of our Theory of Change for Copper is based on our conviction of the importance of standards due to their significant potential of inducing change in this industry which is why we aim at promoting standard development and promote stringent sustainability standards such as Copper Mark and IRMA and their audits of mines. Given the potential connection between ASM and LSM in copper mining, we are also planning to deepen our understanding of this nexus.

Stakeholder Engagement
- Member of the automotive workgroup under the German National Action Plan for Business and Human Rights
- Dialogue with German NGO on opportunities to trace IRMA-audited copper along the value chain
- Dialogue with a university expert on Chile and indigenous peoples rights on the ToC

Cu

Mercedes-Benz Theory of Change for Copper



Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for refiners.

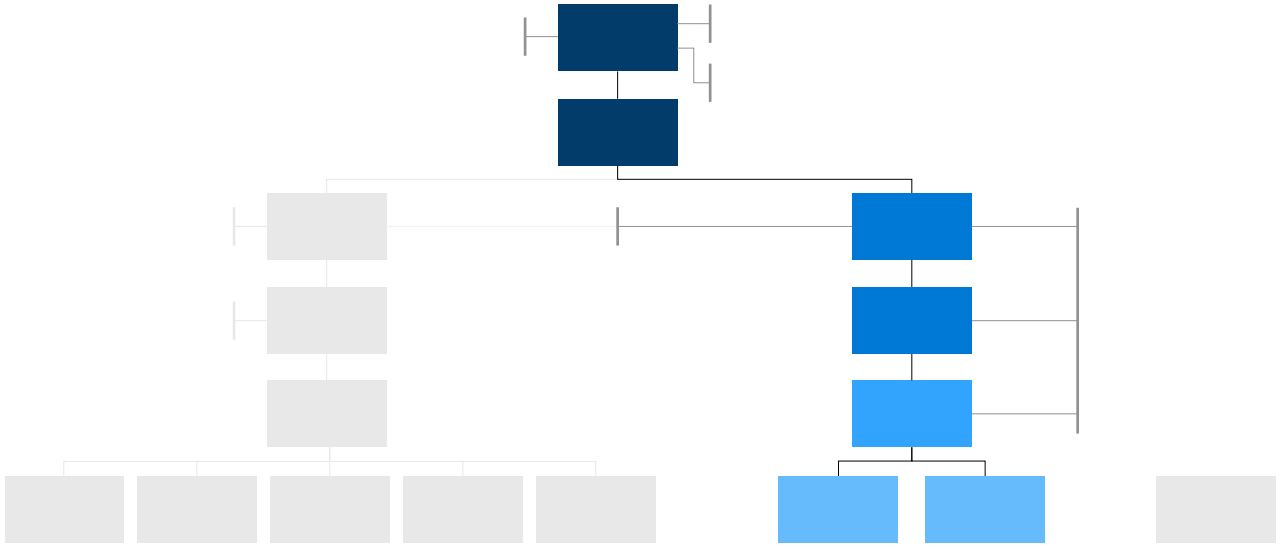
→View path

Standard Development | Market Adoption | Outlook

Select path

Cu

Mercedes-Benz Theory of Change for Copper



Market Adoption

Demand is the strongest driver for the uptake of standards such as IRMA or Copper Mark in raw material supply chains. We are planning to introduce awarding premises on adequate standards on mining/refining level for copper. In addition, to leverage the demand of the automotive industry, we have contributed to multi-stakeholder fora conferences such as the NAP Sector Dialogue for Copper, aspiring to define the value of the Copper Mark and IRMA.

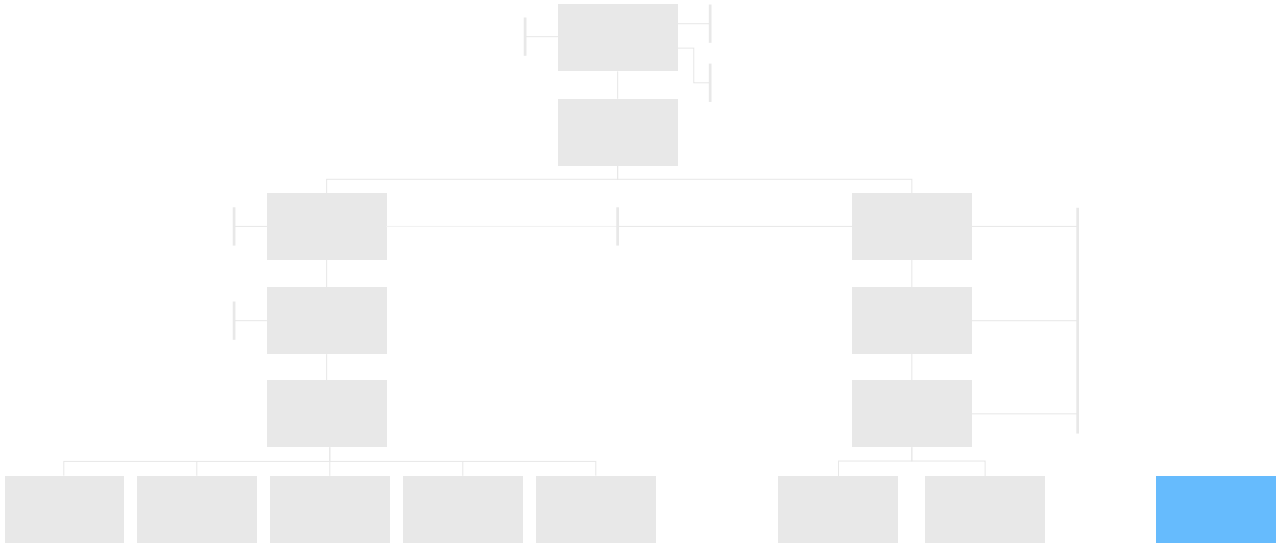
→ View path

Standard Development | **Market Adoption** | Outlook

Select path

Cu

Mercedes-Benz Theory of Change for Copper



Outlook
Although industrial copper mining dominates the global copper production, it is important to get a better understanding of artisanal and small-scale copper mining realities as an important source of income for local communities.

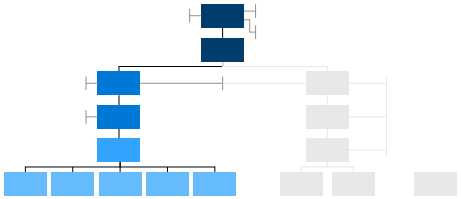
→View path

Standard Development | Market Adoption | **Outlook**

Select path

Cu

Mercedes-Benz Theory of Change for Copper: Standard Development



← Back

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The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry to implement improvements.
The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Dependent on willingness and co-operation of suppliers and MB leverage.

Dependent on the openness and willingness of the standard organisations to receive and implement feedback, as well as on how much other stakeholders demand further development.

Impact
The ultimate vision goes beyond Mercedes-Benz supply chains and scope and aims to mainstream respect of rights of indigenous peoples and mining communities in the copper industry.

Impact
Standards systems are established in the copper industry, effectively responding to human rights as well as environmental risks.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continuous improvement of their effectiveness.

Abandoned mines and tailings. Rehabilitation and compensation.

Regulatory recognition of ILO169 or UNDRIP Regulation of FPIC by states.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Activity
Develop position on quality criteria of effective standards.

Activity
Active support / participation in standards/ initiatives as well as public consultation processes of standards systems.

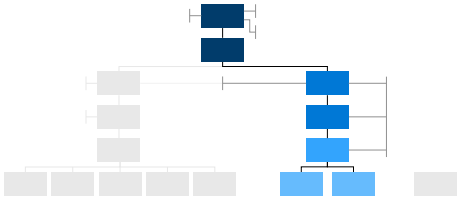
Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Member of the RMI Emerging Mineral Group and lead of the Graphite Working group to roll out the new RMAP ESG standard among others.

Activity
Assess and prioritise salient risk areas (including excessive use of violence by security), reference crucial elements such as Human Rights Defenders and FPIC, mandatory language around community and indigenous rights, and submit recommendations to fill gaps in audit protocols.

Cu

Mercedes-Benz Theory of Change for Copper: Market Adoption



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The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Impact
The ultimate vision goes beyond Mercedes-Benz supply chains and scope and aims to mainstream respect of rights of indigenous peoples and mining communities in the copper industry.

Impact
Standards systems are established in the copper industry, effectively responding to human rights as well as environmental risks.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
Participate in multi-stakeholder fora conferences e.g. NAP Sector Dialogue for Copper.

Activity
Adequate standards on mining and refining level approved by MB are awarding requirements.

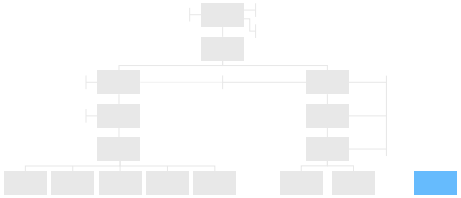
Abandoned mines and tailings. Rehabilitation and compensation.

Regulatory recognition of ILO169 or UNDRIP Regulation of FPIC by states.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Cu

Mercedes-Benz Theory of Change for Copper: Understanding of Artisanal & Small-scale Copper Mining



← Back

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Outlook:

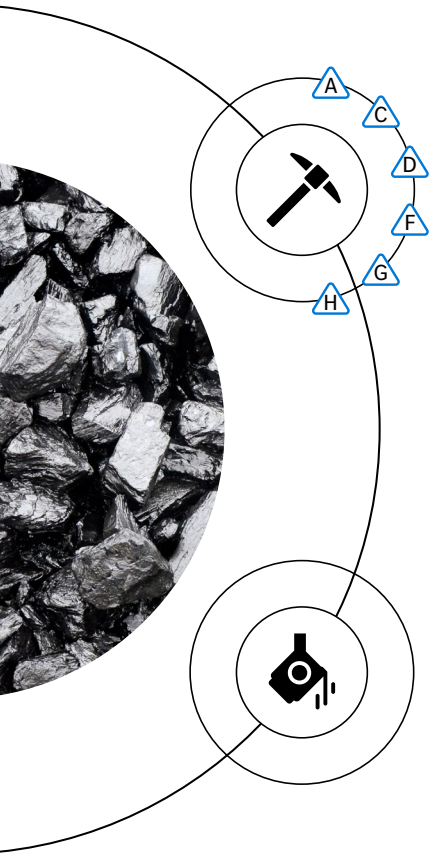
Understanding of artisanal & small-scale copper mining

Although industrial copper mining dominates the global copper production, it is important to get a better understanding of artisanal and small-scale copper mining realities as an important source of income for local communities. As ASM and industrial mining often operate side by side, this can lead to conflictual relationships. Given the severe human and environmental risks associated with artisanal and small-scale mining, we aim at getting a better insight of artisanal and small-scale copper mining, identifying risk areas as well as to reflect upon the ASM-LSM relationship and how this nexus is addressed by relevant standards. These insights should feed into a general position paper on the presence of ASM material in the supply chain.

C Graphite

Natural graphite is one of only a small number of elements that 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, steel making, power metallurgy and lithium-ion batteries. Its use in lithium-ion batteries will be a critical contribution to decarbonisation of the automotive industry and the introduction of battery electric vehicles.

Raw Material Risks



Mining and Beneficiation

Main graphite mining countries according to global market share[1]

- China **77%**
- Madagascar **7%**
- Mozambique **6%**
- Austria **5%**
- Russia **1%**

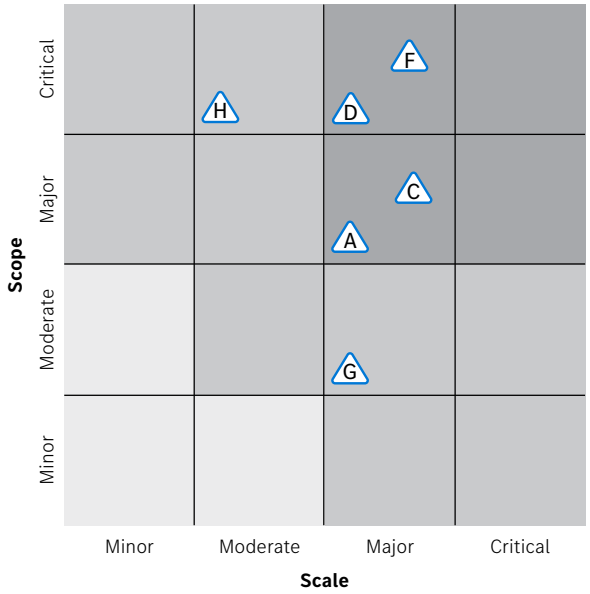
Identified Salient Risks

- 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

- Lithium-ion batteries

Risk Analysis



1 USGS 2024

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.

C

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers
- Suppliers of focus parts: **8**
- Average DDQ rating: **77%** (lithium-ion battery)
- Suppliers not meeting our requirements: **0**

Transparency and Supply Chain Due Diligence Audits along the Battery Cell Supply Chain
(Results 07/2023 - 06/2024):
- Identification of **346** suppliers and sub-suppliers from battery cell providers to mine sites
- Implementation of **54** audits along the entire battery supply chain (Tier 1 - mine)
- Among these **54** audits, **16** extensive environmental audits have been conducted, piloting our approach to environmental due diligence.
- **2** supplier training conducted

Tier N / Systemic Risk
Natural graphite, essential for its high conductivity and thermal stability, is predominantly mined through open pit and underground methods. Graphite ore is processed into a concentrate with 85-90% carbon content, and for applications like lithium-ion batteries in the automotive industry, further refinement to over 99% purity is necessary, though this process is costly and can waste up to 70% of the initial material. Besides natural graphite, synthetic graphite is also used. Produced from carbon-rich materials like petroleum coke, synthetic graphite offers high purity and customisable properties.

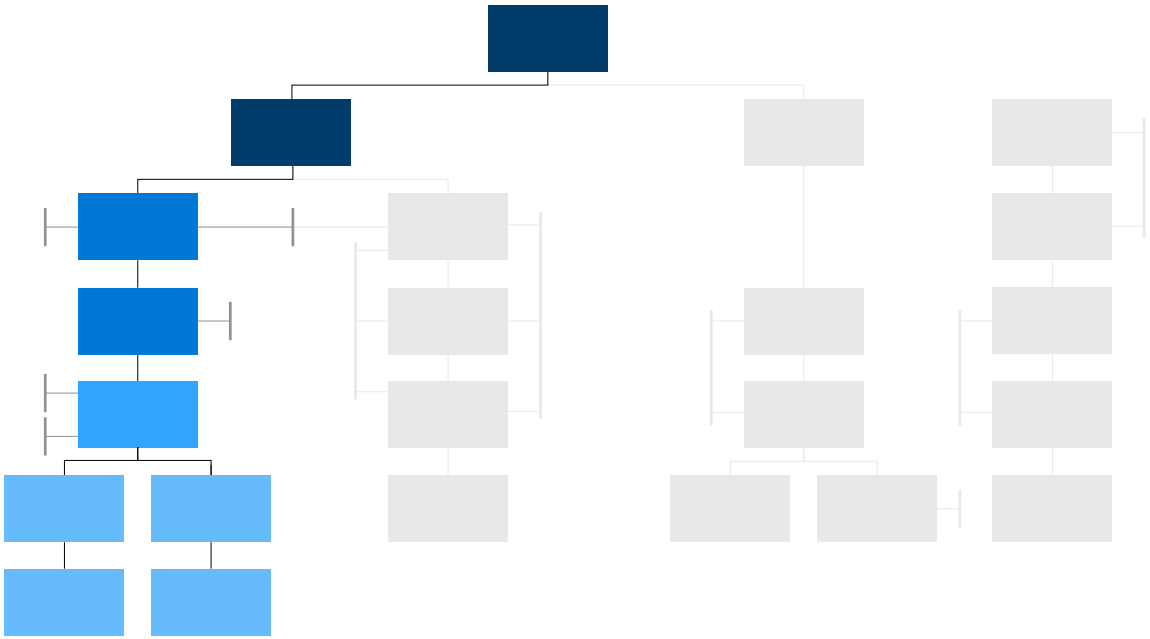
Four salient risk areas have been identified in graphite mining: Working conditions, including occupational health and safety, Community and indigenous rights, Modern slavery including forced labour, and Environmental risks with impact on human rights. These risks are prevalent in countries like China, Madagascar, and Mozambique, which account for 87% of global production. The risks are high due to the environmental impact of mining, insufficient community engagement, and land rights conflicts.

A significant concern is the widespread lack of sustainability standards in the graphite industry at both mining and refining levels, which could support the mitigation of the identified salient risk areas. Therefore, the focus of our Theory of Change for Graphite is on the development and the market adoption of adequate sustainability standards within the industry to address these concerns and reduce the negative impacts associated with graphite mining and processing.

Stakeholder Engagement
- Dialogue with the University of Michigan regarding the human rights risks with respect to natural graphite mining in Madagascar.
- Exchange with different stakeholders via the RMI Emerging Minerals Working Group for Graphite.

C

Mercedes-Benz Theory of Change for Graphite



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Fight Against Forced Labour

Select path

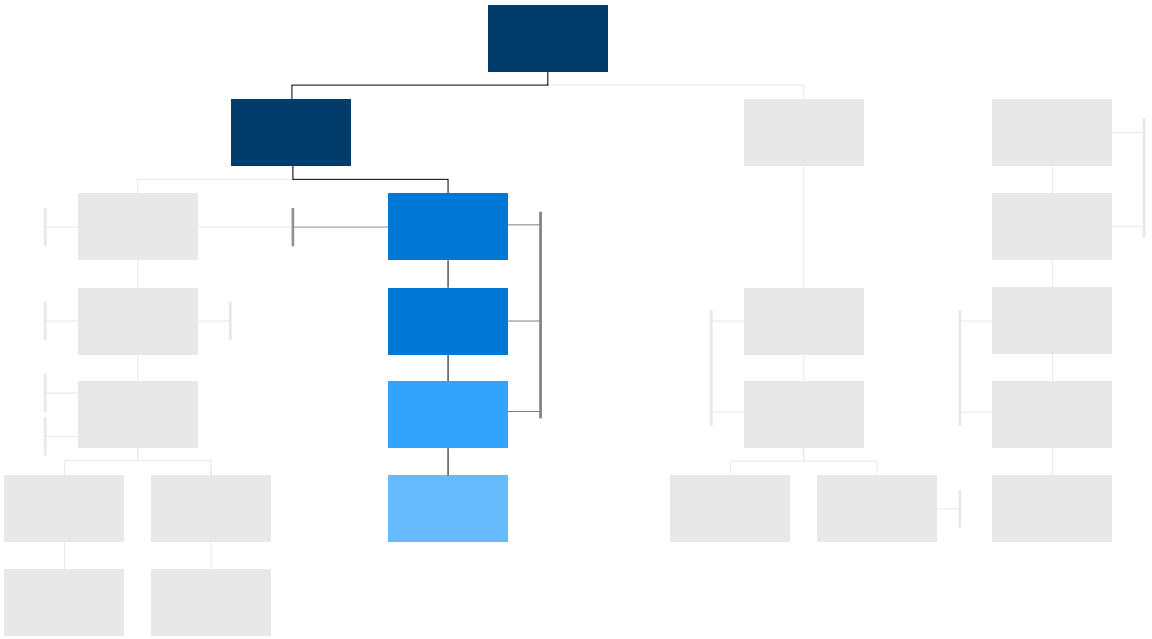
Standard Development

Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for refiners to establish fair and safe working conditions.

→ View path

C

Mercedes-Benz Theory of Change for Graphite



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Fight Against Forced Labour

Select path

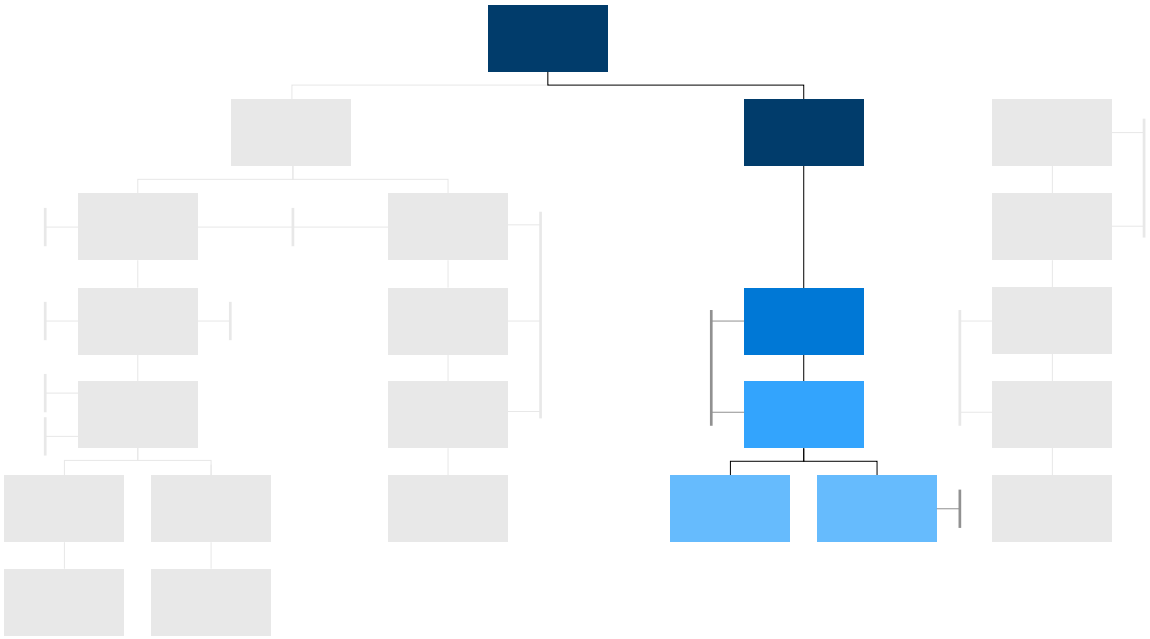
Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for IRMA audited mines achieving at least IRMA 50 as well as for refiners to undertake audits based on Mercedes-Benz approved standards. Our goal is to apply these awarding requirements in all of our sourcing activities of focus commodities.

→ View path

C

Mercedes-Benz Theory of Change for Graphite



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Fight Against Forced Labour

Select path

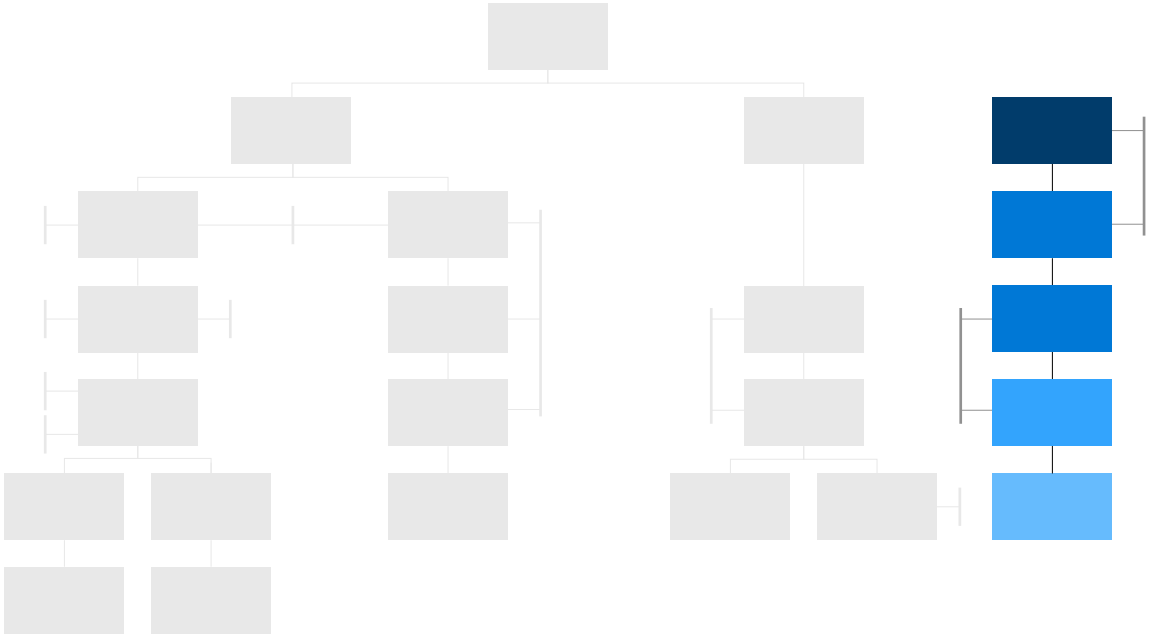
Supply Chain Due Diligence & Transparency

Transparency is key when it comes to improving due diligence measures in the supply chain. Over the last years we have intensively analysed our battery supply chains, from cell suppliers to mine sites. To improve their due diligence measures, we have audited them against international standards, provided training as well as corrective action plans to improve their performance in a step-by-step approach. By doing so, we can identify emerging risks at an early stage and empower supply chain actors to implement adequate human and environmental due diligence systems.

→View path

C

Mercedes-Benz Theory of Change for Graphite



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Fight Against Forced Labour

Select path

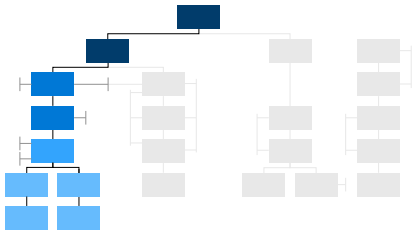
Fight Against Forced Labour

Mercedes-Benz operates according to the principle of “empowerment before withdrawal.” Should this not be possible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to eradicate modern slavery or forced labour in its supply chains. This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

→ View path

C

Mercedes-Benz Theory of Change for Graphite: Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the graphite industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of graphite refining and mining industry.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continous improvement of their effectiveness.

Dependent on willingness and co-operation of suppliers and MB leverage.

The use of so-called blended graphite in batteries (natural/ synthetic) complicates the traceability of the respective raw material streams and an adequate standard roll-out.

Different production methods in the synthetic and natural graphite sectors complicate the focus on a cross-graphite refining standard.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Dependent on the openness and willingness of the standard organisations to receive and implement feedback, as well as on how much other stakeholders demand further development.

Activity
Develop position on quality criteria of effective standards.

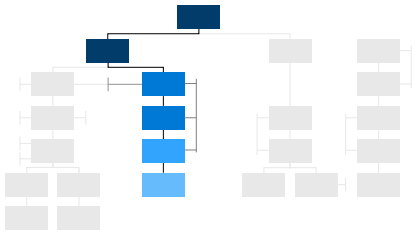
Activity
Active support / participation in standards/ initiatives as well as public consultation processes of standards systems.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Member of the RMI Emerging Mineral Group and lead of the Graphite Working group to roll out the new RMAP ESG standard among others.

C

Mercedes-Benz Theory of Change for Graphite: Market Adoption



← Back

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Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the graphite industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of graphite refining and mining industry.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

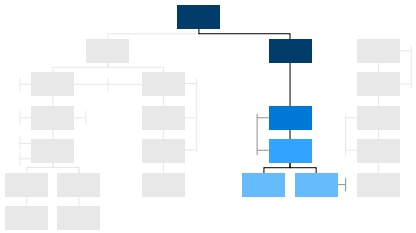
Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
IRMA on mining level or other equivalent standards approved by MB and adequate standards on refiner level are requirements for battery-related awards.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

C

Mercedes-Benz Theory of Change for Graphite:
Supply Chain Due Diligence & Transparency



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the graphite industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
Best possible Due Diligence practices for graphite supply chains are established.

Outcome
Empowerment of actors along the graphite supply chain to comply with high international due diligence standards on their own.

Dependent on co-operation level of suppliers and transparency. Audits are conducted on a risk-based approach and do not cover every supply chain actor.

Output
MB graphite supply chain is known to the best of our efforts and audited against international due diligence standards, empowerment of suppliers through due diligence training.

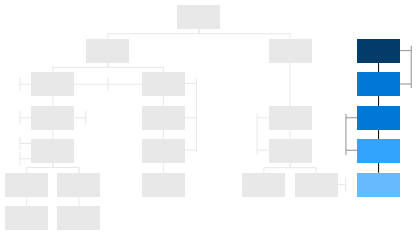
Activity
Global Mapping, Audit & Training Programme.

Activity
Active monitoring of battery suppliers and empowerment to implement due diligence measures in the supply chain.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

C

Mercedes-Benz Theory of Change for Graphite: Fight Against Forced Labour



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Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Mercedes-Benz follows the principle of "empowerment before withdrawal," aligning with the recommendations of NGOs. We believe in significantly improving the status quo rather than taking the easiest route. Therefore, instead of simply excluding suppliers when issues arise, we strive to collaborate with them to address the findings. Immediate exclusion might create the illusion of a "clean supply chain," but it wouldn't improve the situation for the workers and local people.

If collaboration is not feasible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to minimise the risk of modern slavery and forced labour.

This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

Impact
We strive to contribute to the mitigation of modern slavery, including forced labour in the Mercedes-Benz supply chain.

Outcome
The risk of modern slavery, including forced labour is mitigated for specific supply chains. Critical business relationships are terminated, if collabouration was not feasible and the approach of "empowerment before withdrawal" was not implementable.

Outcome
Measures to mitigate the risk of modern slavery, including forced labour, are established.

Output
Potential risk industry actors and hotspots are identified in the risk field of modern slavery including forced labour in our supply chain. Decision which measures need to be implemented to address the risk adequately is made.

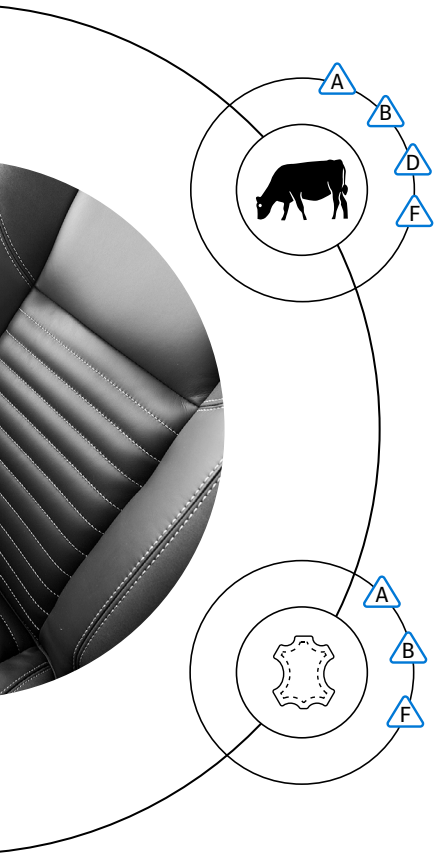
Activity
Usage of due diligence management systems, transparency tools in the supply chain and AI tools to identify potential risk industry actors and risk hotspots.

Mercedes-Benz aims to contribute to this vision. In order to tackle this often systemic problem effectively, also other industries beyond the automotive must also engage intensively with this issue to achieve the long-term objective of ending modern slavery including forced labour.

Leather

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.

Raw Material Risks



Cattle farming

› No detailed data available

Tanning

› No detailed data available

Identified Salient Risks

A Working Conditions, including Occupational Health and Safety

B Child Labour

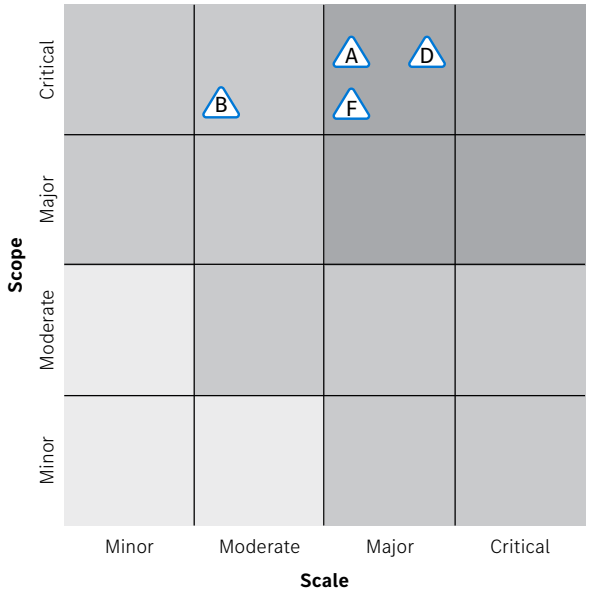
D Community and Indigenous Rights

F Environmental Risks with Impact on Human Rights

Focus Parts

› Leather for seat covers
› Leather for steering wheels
› Leather for other interior components

Risk Analysis



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Direct Business Partners
- Suppliers of focus parts: **6**
- Average DDQ rating: **62%** (Leather for different interieur parts)

Tier N / Systemic Risk

Leather production involves processing animal hides, primarily sourced as by-products from the meat and dairy industries. The hides undergo several stages, including pre-treatment, tanning, and finishing, to transform them into usable leather. The leather supply chain is global, with significant activities in regions such as Europe, South America, and Asia. Key countries involved in leather processing include Italy, China, India, and Brazil.

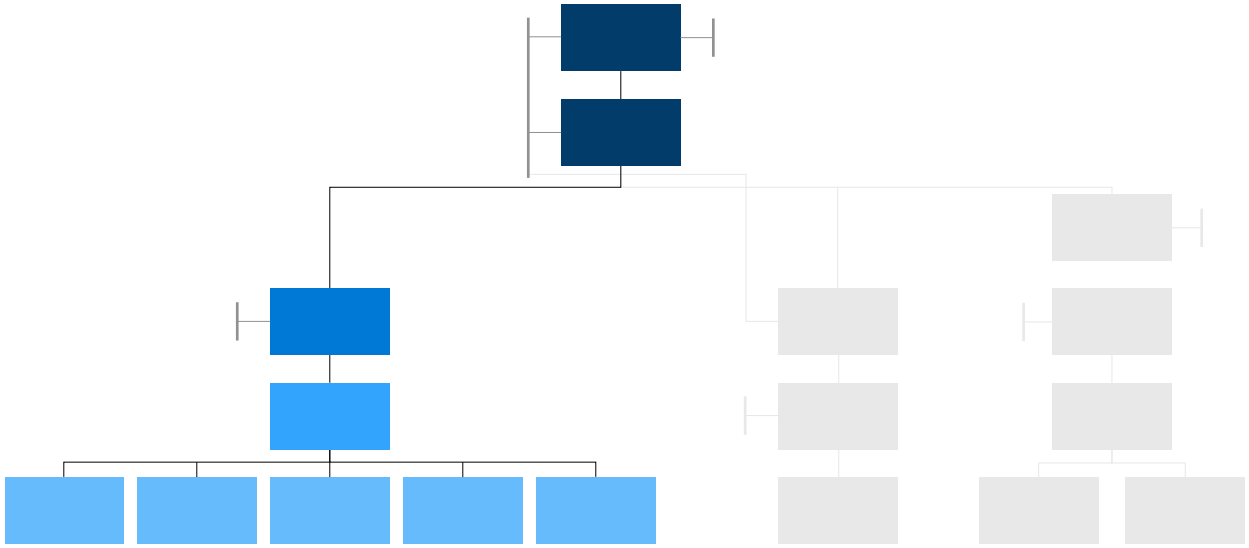
The leather supply chain faces several systemic risks. The primary environmental risks stem from the intensive livestock farming required for hide production, which can lead to deforestation, soil degradation, and loss of biodiversity. The tanning process, which often involves hazardous chemicals, poses significant risks to both the environment and human health. These chemicals can contaminate water sources and contribute to air pollution, impacting local communities and ecosystems. Additionally, the working conditions in tanneries and processing facilities can be poor, with inadequate health and safety measures for workers. Workers are often exposed to hazardous chemicals without adequate protective measures, leading to serious health issues. The lack of proper safety protocols and training increases the risk of accidents and long-term health problems.

Another concern is animal welfare. The sourcing of hides from the meat and dairy industries raises concerns about the treatment of animals. Ensuring that animals are treated humanely and that their welfare is prioritised is crucial to addressing this issue.

To address these risks, we are implementing a series of measures aimed at improving transparency and sustainability within our leather supply chain. These include supplier audits, enhanced due diligence processes, and collaboration with various stakeholders to promote higher environmental and social standards. By focusing on these areas, we aim to mitigate the identified risks and ensure a more responsible and sustainable leather supply chain.

Stakeholder Engagement
- Ongoing dialogue with suppliers and sub-suppliers on due diligence measures and efforts.
- Ongoing dialogue and discussions with NGOs

Mercedes-Benz Theory of Change for Leather



Best Practice Development
Developing best practices is crucial for transparency and risk mitigation in our leather supply chain. We compare risks, establish tracking systems in risk regions, and engage with stakeholders and suppliers. This helps detect risks like environmental pollution, worker safety issues, and animal welfare concerns early. Achieving full transparency depends on supplier co-operation. Long-term, we aim to reduce negative impacts and establish robust due diligence practices, relying on industry-wide improvements and co-operation.

→View path

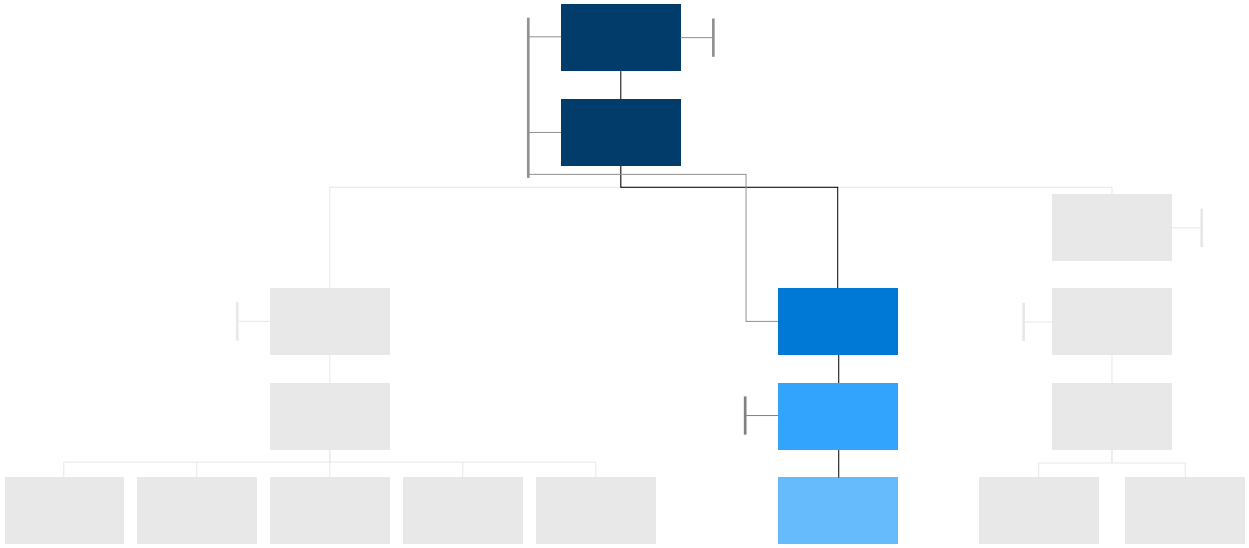
Best Practice Development

Supply Chain Due Diligence & Transparency

Standard Development

Select path

Mercedes-Benz Theory of Change for Leather



Supply Chain Due Diligence & Transparency
Transparency is key to improving due diligence measures in the supply chain. Over the past years, we have continuously and intensively analysed our leather supply chains from suppliers. To improve due diligence, we audit risk suppliers, support key component suppliers in responsible sourcing, promote best-case development, and use standards as awarding criteria. This approach helps us identify emerging risks early and empowers supply chain actors to implement adequate due diligence systems.

→ View path

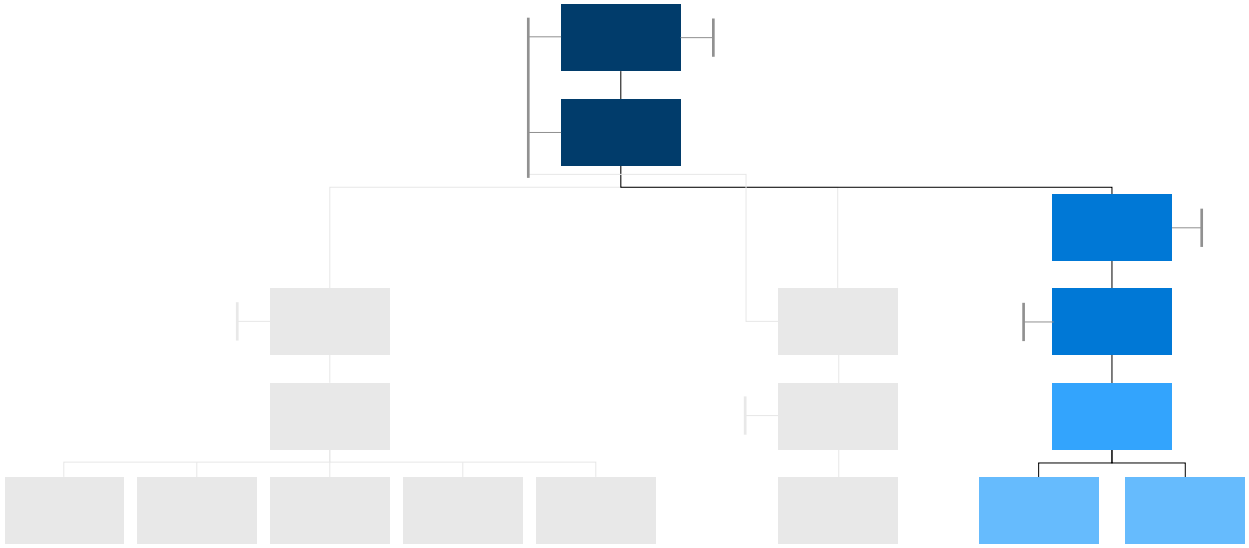
Best Practice Development

Supply Chain Due Diligence & Transparency

Standard Development

Select path

Mercedes-Benz Theory of Change for Leather



Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we will define in our ↗ Standard Guidance, which will be published in 2025.

→View path

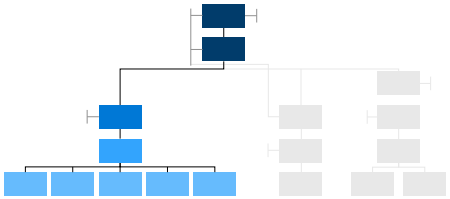
Best Practice Development

Supply Chain Due Diligence & Transparency

Standard Development

Select path

Mercedes-Benz Theory of Change for Leather:
Best Practice Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry to implement improvements.

Impact
The ultimate vision aims for the enforcement of high standards for animal and environmental protection and mainstream respect of human rights in the leather industry in regard to the automotive sector.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible due diligence practices for leather supply chains is established.

Dependent on willingness and co-operation of suppliers and MB leverage.

Outcome
Complete transparency of all suppliers in our identified risk areas is achieved and their compliance tracked.

Output
Continuous transparency and traceability of supply chains in identified risk regions, early detection of risks and comparison with additional risks are ensured.

The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Activity
Regularly exchange transparency information with stakeholders and suppliers, collaborating with local suppliers and NGOs to develop deforestation-free supply chains.

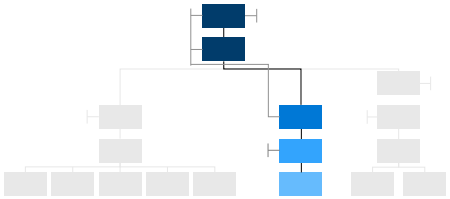
Activity
Engage with suppliers to establish and verify a tracking system in Brazil, ensuring traceability of leather to its origin.

Activity
Cooperating with our suppliers to establish "full cycle farms" where all stages of breeding occur on a single farm.

Activity
Conduct continuous assessment of additional risks in Brazil and other regions, documenting and verifying hide origins using satellite images and risk indicators.

Activity
Engage with suppliers to establish tracking systems and verification processes through third-party audits.

Mercedes-Benz Theory of Change for Leather:
Supply Chain Due Diligence & Transparency



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Impact
The ultimate vision aims for the enforcement of high standards for animal and environmental protection and mainstream respect of human rights in the leather industry in regard to the automotive sector.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible due diligence practices for leather supply chains is established.

Outcome
Empowerment of actors along the leather supply chain to comply with high international due diligence standards.

Potential risks are identified and targeted measures are implemented.

Dependent on co-operation level of suppliers and transparency – Audits are conducted on a risk-based approach.

Output
The Mercedes-Benz leather supply chain is known to the best of our efforts and audited against international due diligence standards.

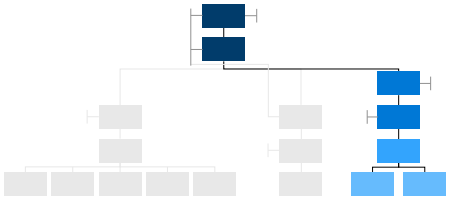
Suppliers are empowered through due diligence training, and risk suppliers are engaged in discussions to define and implement targeted measures.

Certificates and evidence are available and implemented.

Activity
Require contractual MB-specific obligations, including the "Leather Working Group" gold standard certification, disclosing the ecological footprint for tanneries, using chrome-free tanning agents, and adhering to the 5 freedoms of animal welfare for due diligence and adjust MB processes and supplier requirements on a risk-related basis.

The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Mercedes-Benz Theory of Change for Leather: Standard Development



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Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible due diligence practices for leather supply chains is established.

The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Dependent on willingness and co-operation of suppliers and MB leverage.

Dependent on the openness and willingness of the standard organisations to receive and implement feedback, as well as on how much other stakeholders demand further development.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continuous improvement of their effectiveness.

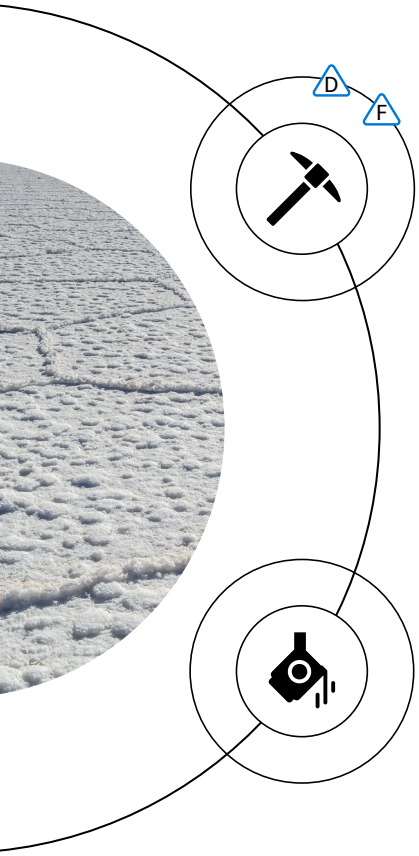
Activity
Active support/participation in standards/initiatives as well as in public consultation processes of standards systems.

Activity
Develop position on quality criteria of effective standards.

Li Lithium

Lithium is a soft, silvery-white light metal and 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 2022[1]

- Australia **47%**
- Chile **24%**
- China **18%**
- Argentina **5%**
- Brazil **3%**

Smelting and Refining

Main processing countries[2]

- China **69%**
- Chile **17%**
- Argentina **7%**

Identified Salient Risks

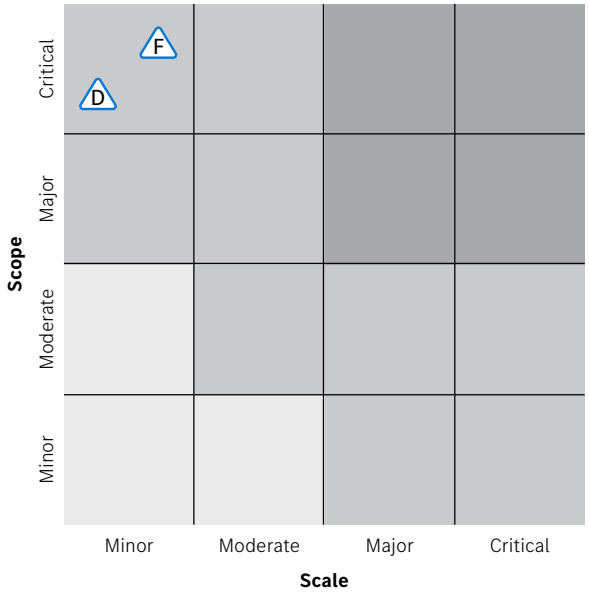
D Community and indigenous peoples' rights

F Environmental risks with impact on human rights

Focus Parts/Commodities

- Lithium-ion batteries

Risk Analysis



1 Based on USGS 2024
2 Refined lithium, production capacity by country, 2020 RMIS - Raw Materials Profiles (europa.eu)

Li

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- Suppliers of focus parts: **8**
- Average DDQ rating: **77%** (litium-ion battery)
- Suppliers implementing measures to improve DDQ score: **0**
- Results of our Battery Audit project see: → Mercedes-Benz Supply Chain Risk Profile Cobalt

Tier N / Systemic Risk

Lithium extraction involves hard rock mining from spodumene in granitic pegmatite deposits, common in Australia, Brazil, China, and Zimbabwe, and brine extraction from underground reservoirs, predominantly in arid regions like Argentina, Chile, and Bolivia. Hard rock mining requires processes such as drilling and blasting, with environmental concerns including land and water contamination from waste rock. Open-pit mining necessitates extensive land clearance, while underground mining reduces surface disturbance. Brine extraction, conducted mainly in water-scarce areas, is less invasive but raises concerns about water usage, involving solid waste and relying on pumping lithium-rich saltwater to the surface. Both methods require careful environmental management to mitigate impacts, and the increasing value of lithium could intensify unregulated artisanal mining, adding to these challenges.

In our supply chain analysis, we have identified South America as the main sourcing region, and therefore we are particularly focusing on the risks associated with brine extraction. We have identified and prioritised two salient risk areas for lithium: Community and indigenous rights and Environmental risks with impact on human rights. Livelihoods and cultural heritage of communities, including indigenous communities, located in the surrounding areas of the mining sites are potentially impacted by lithium mining as a result of the use of water resources in mining processes, leading to potentially harmful consequences for those affected.

To effectively mitigate these identified risks, there is a pursuit of high market adoption of demanding sustainability standards and audits of mines such as IRMA, as well as the facilitation of direct exchange between rights holders, stakeholders, and the originators of potentially negative impacts. This is why market adoption and standard development are two important pillars in our Theory of Change for Lithium. These are complemented by measures to increase supply chain transparency and a local project in the Salar de Atacama: the Responsible Lithium Partnership.

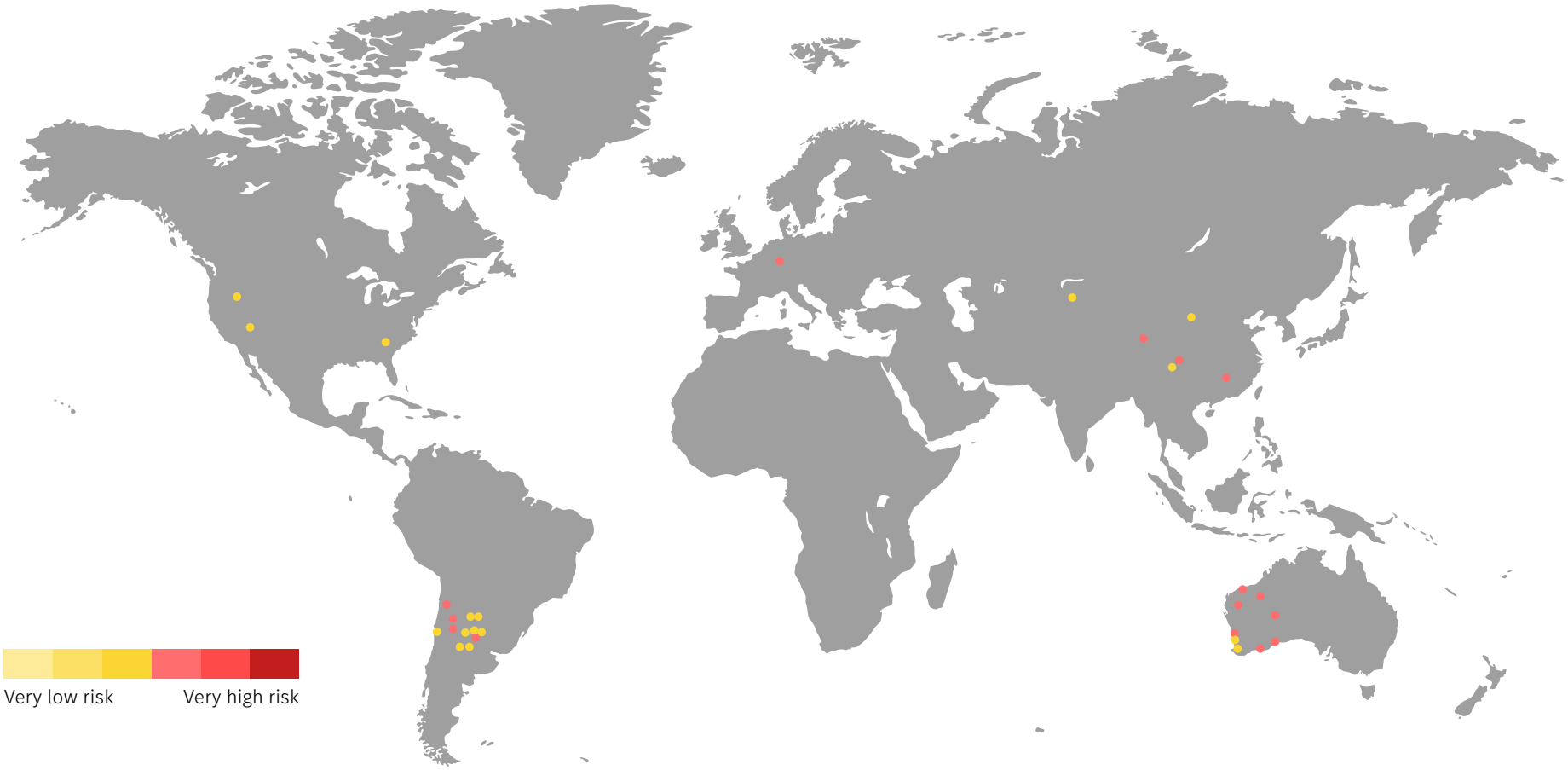
Stakeholder Engagement

- Discussions with NGOs and direct conversations with rightsholders on-site in the region of Salar de Atacama have confirmed the risks, in particular in relation to threats to the rights of indigenous peoples linked to negative impacts on the environment in South America.

Li

Identified Environmental Risks

Map of known actors in lithium mining/processing*



*No claim to completeness.
The risk classification was carried out using the WWF Biodiversity Risk Filter Suite.

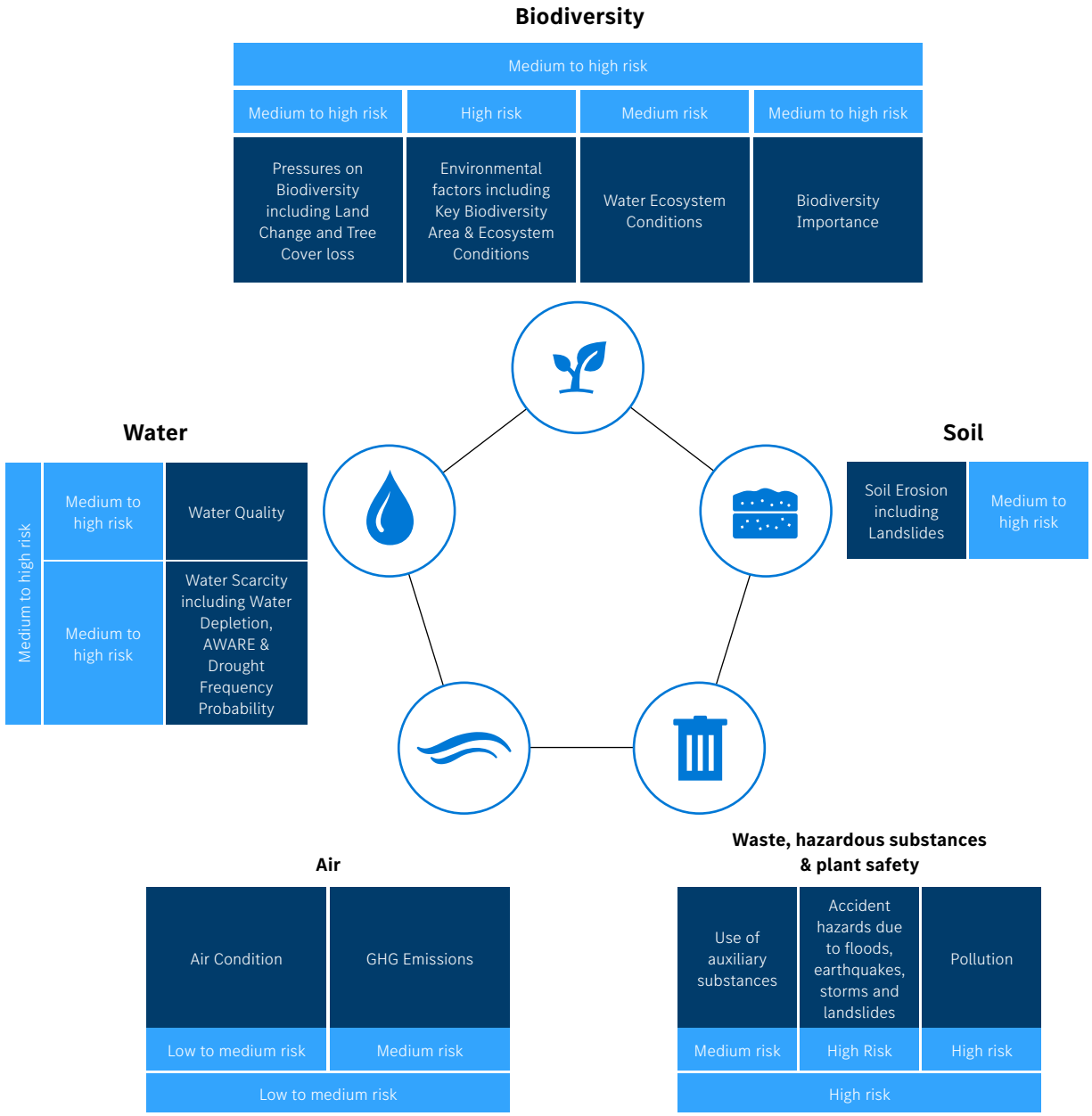
Li

Identified Environmental Risks

To better understand the environmental risks in the lithium supply chain, we conducted a detailed analysis to highlight and capture the risks for various risk areas. The focus was on abstract risk analysis, examining 12 known actors with a specific focus on the value chain stages of mining and initial processing. We analysed 36 sites using the WWF Risk Filter Suite to account for geographical conditions, with a focus on biodiversity and water.

These data were further supplemented by external data from the ↗ Environmental Criticality of Raw Materials analysis by the Federal Environment Agency to include risks related to the use of hazardous substances, pollution, and disaster hazards. Additionally, internal results were used to assess the greenhouse gas warming potential.

This analysis represents a first step, and we plan to include further information on environmental risks, such as soil condition and degradation, to create a more comprehensive picture. As a second step, we plan to incorporate specific Mercedes-Benz supply chain data into the analysis to determine not only systemic risks but also concrete risks in our supply chain.



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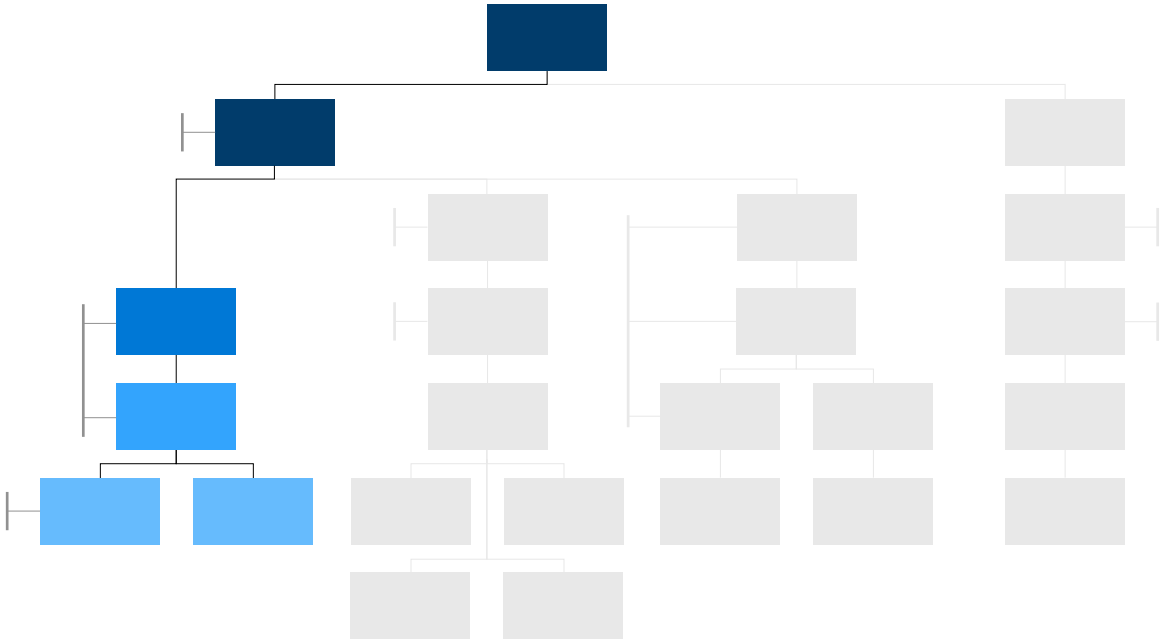
Mercedes-Benz Theory of Change for Lithium



Supply Chain Due Diligence & Transparency
Transparency is key when it comes to improve due diligence measures in the supply chain. Over the last years we have intensively analysed our battery supply chains from cell suppliers to mine sites. To improve their due diligence measures, we have audited them against international standards, provided training as well as corrective action plans to improve their performance in a step-by-step approach. By doing so, we can identify emerging risks at an early stage and empower supply chain actors to implement adequate human and environmental due diligence systems.

→View path

Supply Chain Due Diligence & Transparency

Standard Development

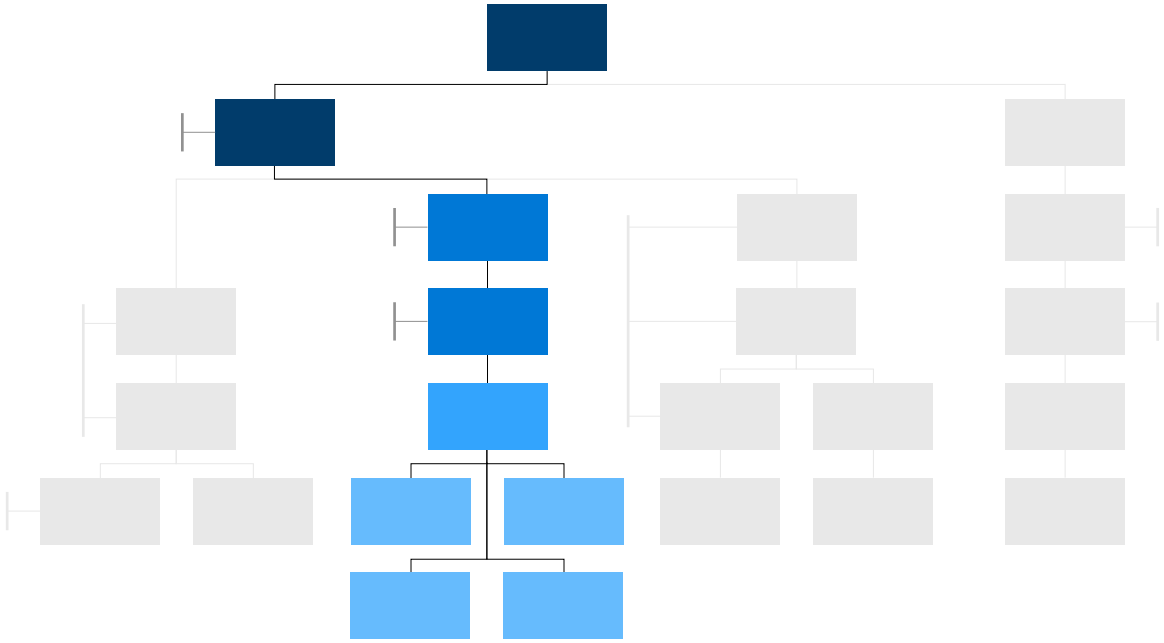
Market Adoption

Responsible Lithium Partnership - Mesa Multiactor

Select path

Li

Mercedes-Benz Theory of Change for Lithium



Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for refiners.

→View path

Supply Chain Due Diligence & Transparency

Standard Development

Market Adoption

Responsible Lithium Partnership - Mesa Multiactor

Select path

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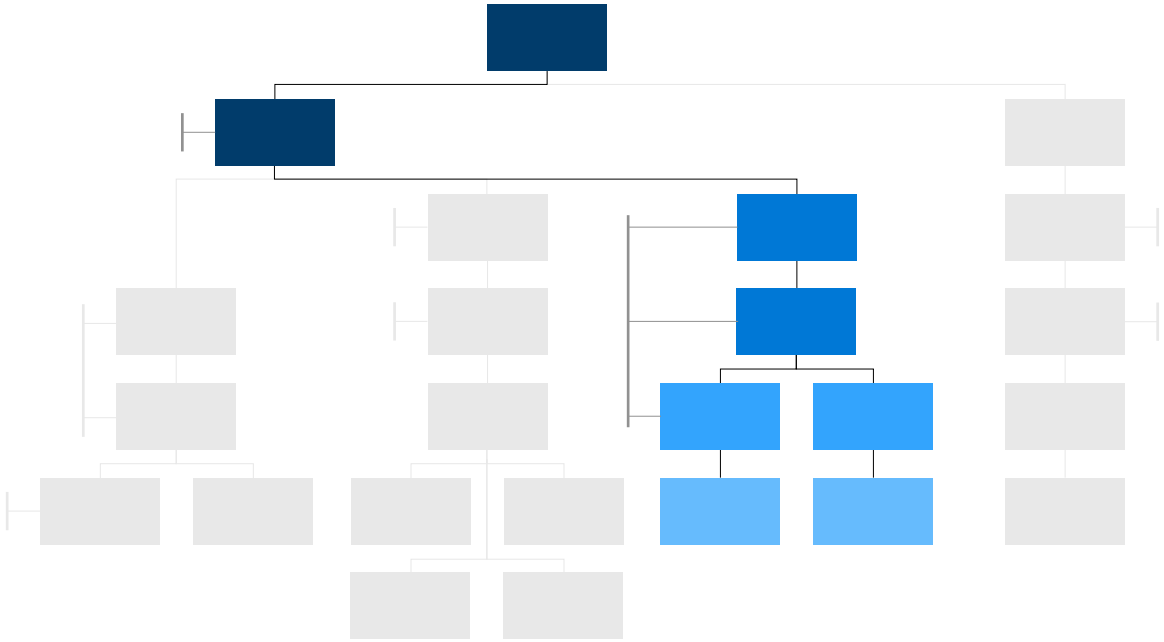
Mercedes-Benz Theory of Change for Lithium



Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for IRMA audited mines achieving at least IRMA 50 as well as for refiners to undertake audits based on Mercedes-Benz approved standards. Our goal is to apply these awarding requirements in all of our sourcing activities of focus commodities.

→ View path

Supply Chain Due Diligence & Transparency	Standard Development	**Market Adoption**	Responsible Lithium Partnership - Mesa Multiactor

Select path

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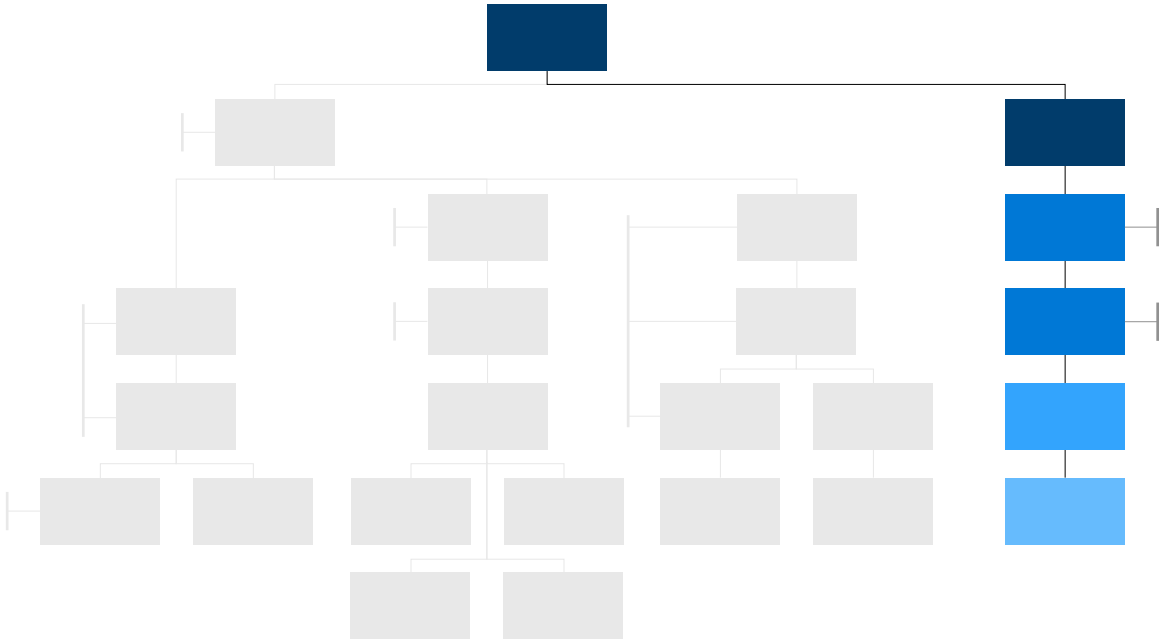
Mercedes-Benz Theory of Change for Lithium



Responsible Lithium Partnership - Mesa Multiactor
Our raw material assessment has identified the need for a hightened due diligence in Chile and to create a space for exchange between affected stakeholders and rightsholders and for solving conflicts for the critical lithium mining region in Chile's Salar de Atacama.

→ The Responsible Lithium Partnership was initiated with several other companies to work towards responsible water management in Chile's Salar de Atacama and is intended to foster dialogue and increase trust among local stakeholders, generating and synthesising scientific facts and seeking collective solutions to reduce negative impacts on environment and communities.

→ View path

Supply Chain Due Diligence & Transparency

Standard Development

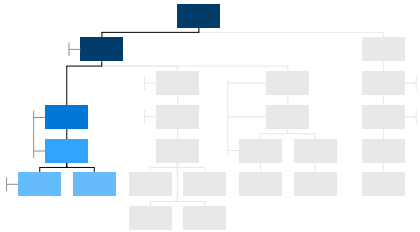
Market Adoption

Responsible Lithium Partnership - Mesa Multiactor

Select path

Li

Mercedes-Benz Theory of Change for Lithium:
Supply Chain Due Diligence & Transparency



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Dependent on co-operation level of suppliers and transparency. Audits are conducted on a risk-based approach and do not cover every supply chain actor.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the lithium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of lithium refining and mining industry.

Outcome
Empowerment of actors along the lithium supply chain to comply with high international due diligence standards on their own.

Output
MB lithium supply chain is known to the best of our efforts and audited against international due diligence standards, Empowerment of suppliers throughdue diligence training.

Activity
Active monitoring of battery suppliers and empowerment to implement due diligence measures in the supply chain.

Activity
Global Mapping, Audit & Training Programme.

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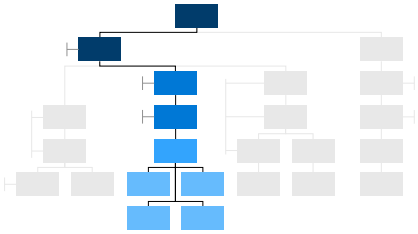
Mercedes-Benz Theory of Change for Lithium: Standard Development



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Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Dependent on willingness and co-operation of suppliers and MB leverage.

Dependent on the openness and willingness of the standard organisations to receive and implement feedback, as well as on how much other stakeholders demand further development.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the lithium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of lithium refining and mining industry.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continuous improvement of their effectiveness.

Activity
Develop position on quality criteria of effective standards.

Activity
Active support / participation in standards/ initiatives as well as public consultation processes of standards systems.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Member of the RMI Emerging Minerals Group to roll out the new RMAP ESG standard among others.

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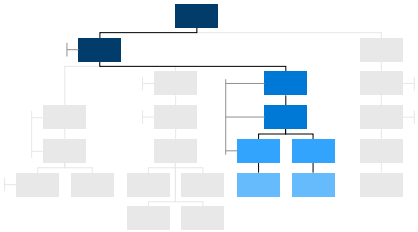
Mercedes-Benz Theory of Change for Lithium: Market Adoption



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the lithium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of lithium refining and mining industry.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Outcome
Standards have achieved a critical market coverage.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing equirements (standards) are established in awarding requirements.

Output
Promoting relevance and acceptance of standards e.g. Cross-national recommendations for responsible lithium mining.

Activity
IRMA on mining level or other equivalent standards approved by MB and adequate standards on refiner level are requirements for battery-related awards.

Activity
Participate in multi-stakeholder fora conferences e.g. NAP Sector Dialogue for Lithium.

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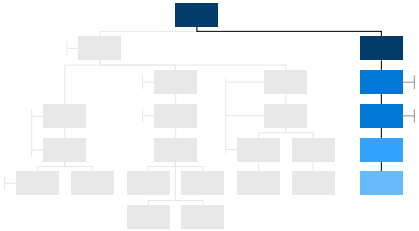
Mercedes-Benz Theory of Change for Lithium:

Responsible Lithium Partnership - Mesa Multiactor



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Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the lithium industry, even beyond the scope of Mercedes-Benz-specific supply chains.

Impact
We aim to enhance the quality of life for communities in mining areas.

Outcome
Continuous exchange of polluters of negative effects with stakeholders and rights holders

Dependent on the willingness to cooperate and economic/ political conditions of the country of production

Outcome
Resolving local conflicts and collaboration on projects

Project adapted only to local conditions and only limitedly transferable to other risk areas

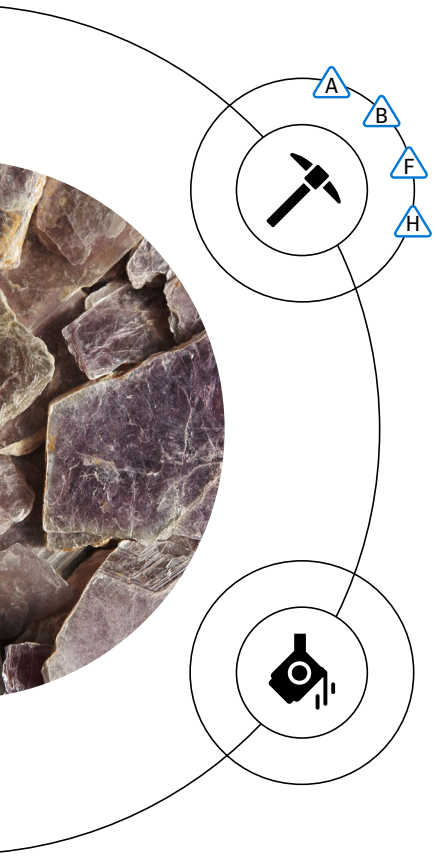
Output
Multi-stakeholder dialogue fosters a shared understanding of hydrogeology, leading to consensus on prioritised water efficiency actions

Activity
Collaborate with other stakeholders to create a local multi-stakeholder exchange platform in Chile.

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*

For 2023 (Scrap & Flake)
- China **26%**
- Finland **19%**
- Madagascar **15%**
- USA **12%**
- Canada **5%**
- India **4%**

Smelting and Refining
Main processing countries**

- India
- Madagascar
- China
- USA
- Finland

Identified Salient Risks

A Working conditions, including occupational health and safety

B Child labour

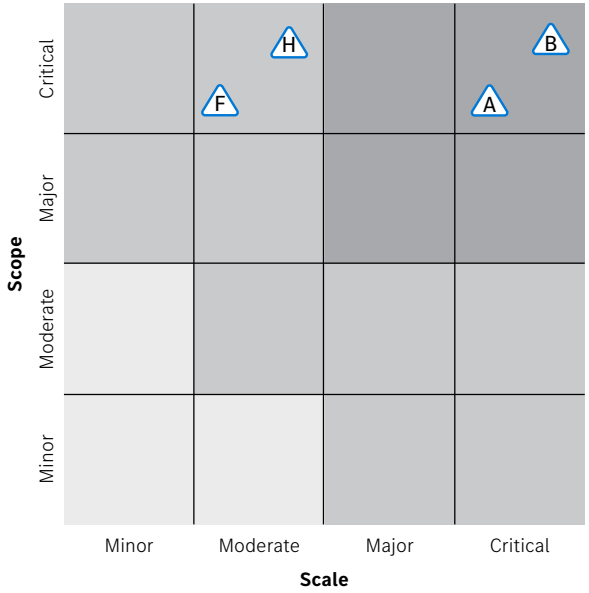
F Environmental risks with impact on human rights

H Serious human rights abuses

Focus Parts/Commodities

- Brake pad
- Mica mat
- Paint

Risk Analysis



*There is a lack of transparency in mica mining business which makes it impossible to accurately provide data on global market share for countries. However, it is clear that India is a major actor in the mica business, as well as Madagascar and China, but the numbers are inconsistent (SOMO).
**As there is a lack of transprency the mica sourcing, there are no accurate data on processing countries as well.

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Direct Business Partners

- Suppliers of focus parts: **19**
- Average DDQ rating:
  58% (paint)
  83% (mica mat)
  66% (brake pad)
- **71%** (brake calipers)
- Suppliers implementing measures to improve DDQ score: **3**

Tier N / Systemic Risk

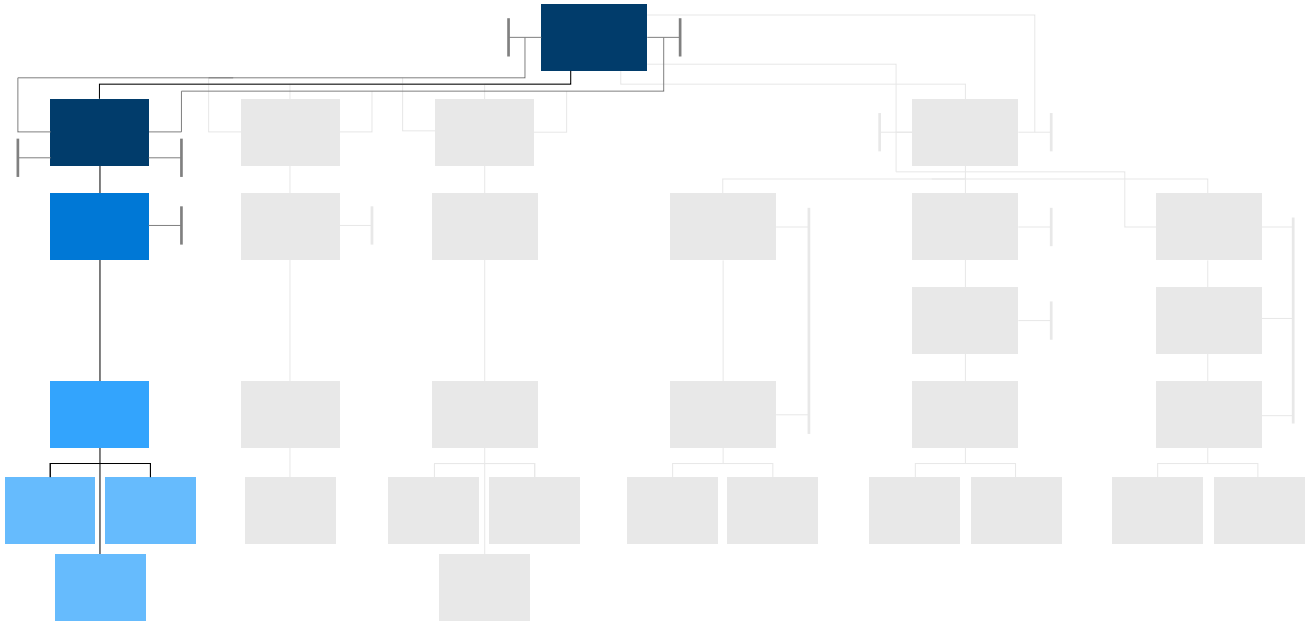
In our supply chain analysis, we have identified and prioritised two significant risk areas for mica: Working conditions, including occupational health and safety, and Child labour. Both have been rated as high risk in terms of scale and scope. The mica-mining countries, India and Madagascar, heavily rely on artisanal and small-scale extraction, which is fraught with high risks of labour abuses and the use of child labour. Illegal mica mines are particularly dangerous, often lacking preventive measures, leading to collapses that result in deaths and severe injuries. The root causes of child labour and poor working conditions are multifaceted, including weak enforcement of legal frameworks, the remoteness and poverty of mining areas, and a lack of health and education services and infrastructure.

To effectively mitigate these identified risks, we have joined the Responsible Mica Initiative and are actively participating in various action groups. These groups focus on advancing standards, supply chain transparency, community empowerment, and promoting education and legal frameworks. Through the initiative, we support projects that enhance transparency and minimise risks associated with mica extraction. Furthermore, we support projects with Terre des Hommes that promote education and empowerment of mining communities. Additionally, we engage in ongoing dialogue with suppliers and sub-suppliers on due diligence measures and efforts. We also participate in multi-stakeholder alliances to promote responsible ASM practices and discuss adequate standards in targeted areas. Through these initiatives, we aim to improve working conditions and eradicate child labour in the mica supply chain. Our efforts focus on creating a more responsible and sustainable mica supply chain, ensuring that the benefits of mica mining are shared more equitably and that the negative impacts are significantly reduced.

Stakeholder Engagement

- Member of the Responsible Minerals Initiative's workplace standards for traceability, community empowerment and workplace standards action group
- Ongoing dialogue with tier-1 and tier-2 suppliers
- Discussions with international NGOs that are active in implementing projects for the Responsible Minerals Initiative (RMI), as well as engagements with local processors and communities, including village residents on-site during field visits in India

Mercedes-Benz Theory of Change for Mica



ASM Awareness Raising

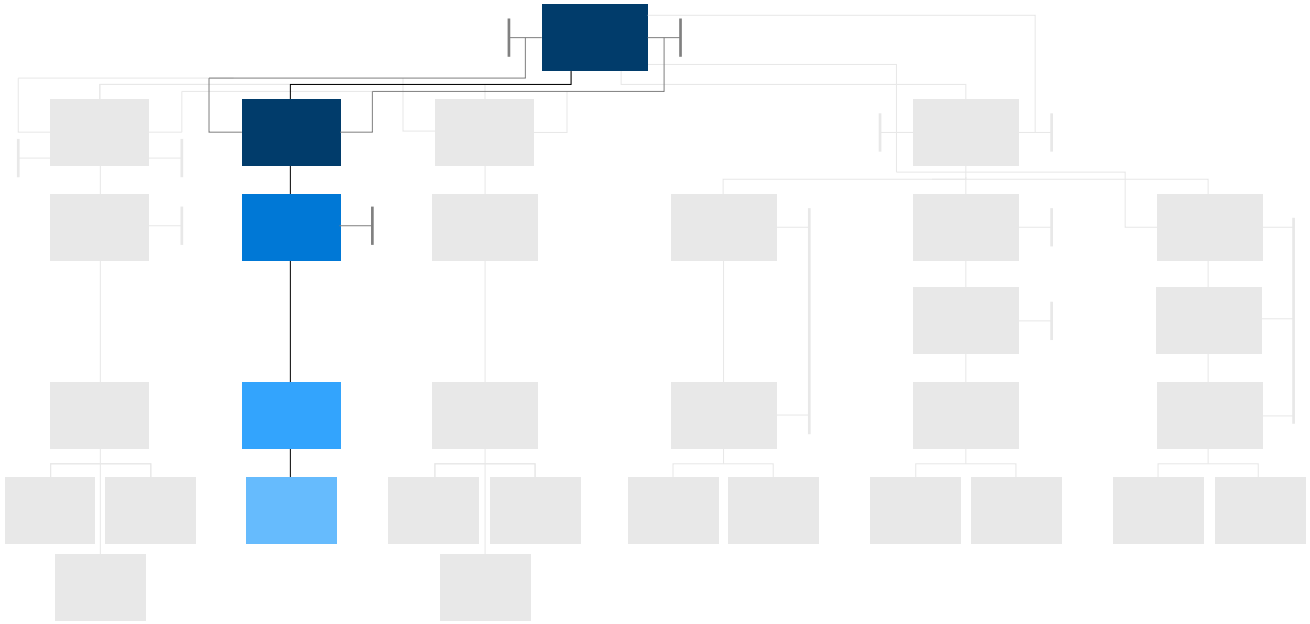
The ASM sector is often associated with the worst risks for people and the environment. Up to now, the ASM sector has not been given dedicated attention by the automotive industry. We want to change this by developing a position paper and participating in MSGs on standards and projects to learn how we as an OEM can sustainably contribute to improve the situation for workers on the ground.

→View path

ASM Awareness Raising | Legal Framework Promotion | Empowerment of Mining Communities in Risk Areas | Supply Chain Due Diligence & Transparency | Standard Development | Market Adoption

Select path

Mercedes-Benz Theory of Change for Mica



ASM Awareness Raising

Legal Framework Promotion

Empowerment of Mining Communities in Risk Areas

Supply Chain Due Diligence & Transparency

Standard Development

Market Adoption

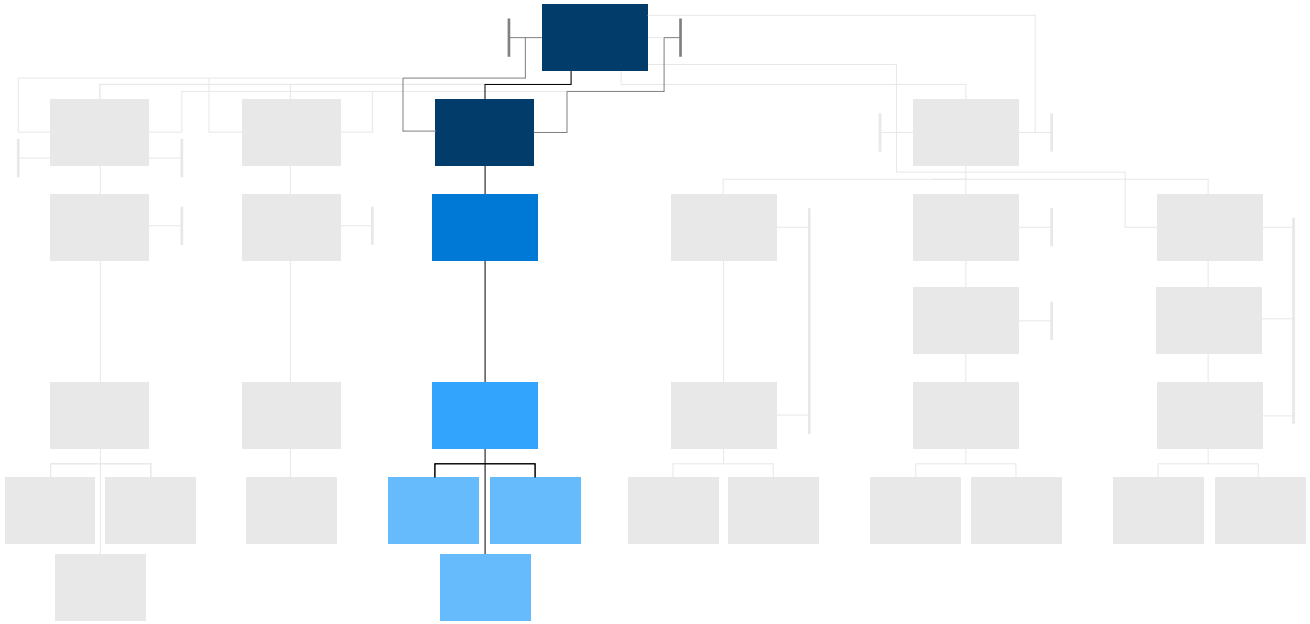
Select path

Legal Framework Promotion

Promoting legal frameworks is essential for addressing challenges in the mica supply chain. In order to address this, we are engaging as a member of the Responsible Mica Initiative (RMI) with working groups that aim to focus on the topic of legalising mining through political dialogue. This effort aims to increase awareness and support for mining legalisation among policymakers and stakeholders. However, our influence is limited, and achieving impact depends on industry-wide co-operation and political decisions.

→ View path

Mercedes-Benz Theory of Change for Mica



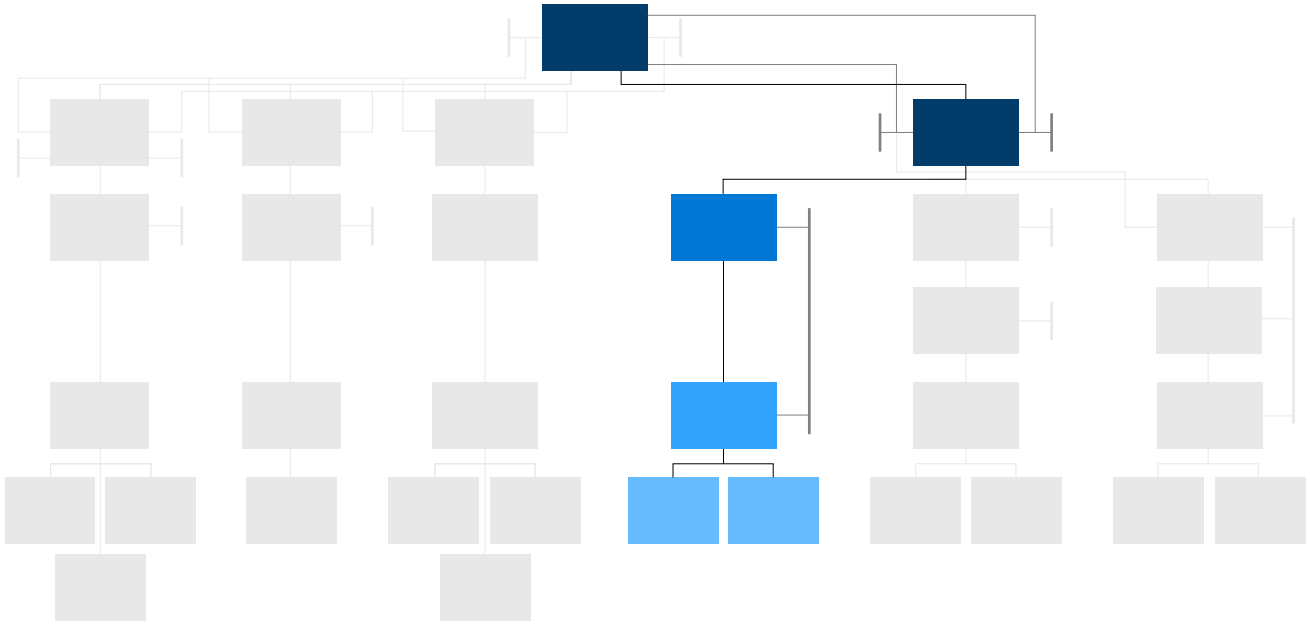
Empowerment of Mining Communities in Risk Areas
Together with our project partners on the ground we try to address root causes that tackle child labour and ASM-related systemic risks as towards occupational health and working conditions. By providing safe spaces for children with access to education, by promoting alternative income for community members as well as by awareness raising, support and training for communities towards rights and possibilities.

→View path

ASM Awareness Raising | Legal Framework Promotion | **Empowerment of Mining Communities in Risk Areas** | Supply Chain Due Diligence & Transparency | Standard Development | Market Adoption

Select path

Mercedes-Benz Theory of Change for Mica



ASM Awareness Raising

Legal Framework Promotion

Empowerment of Mining Communities in Risk Areas

Supply Chain Due Diligence & Transparency

Standard Development

Market Adoption

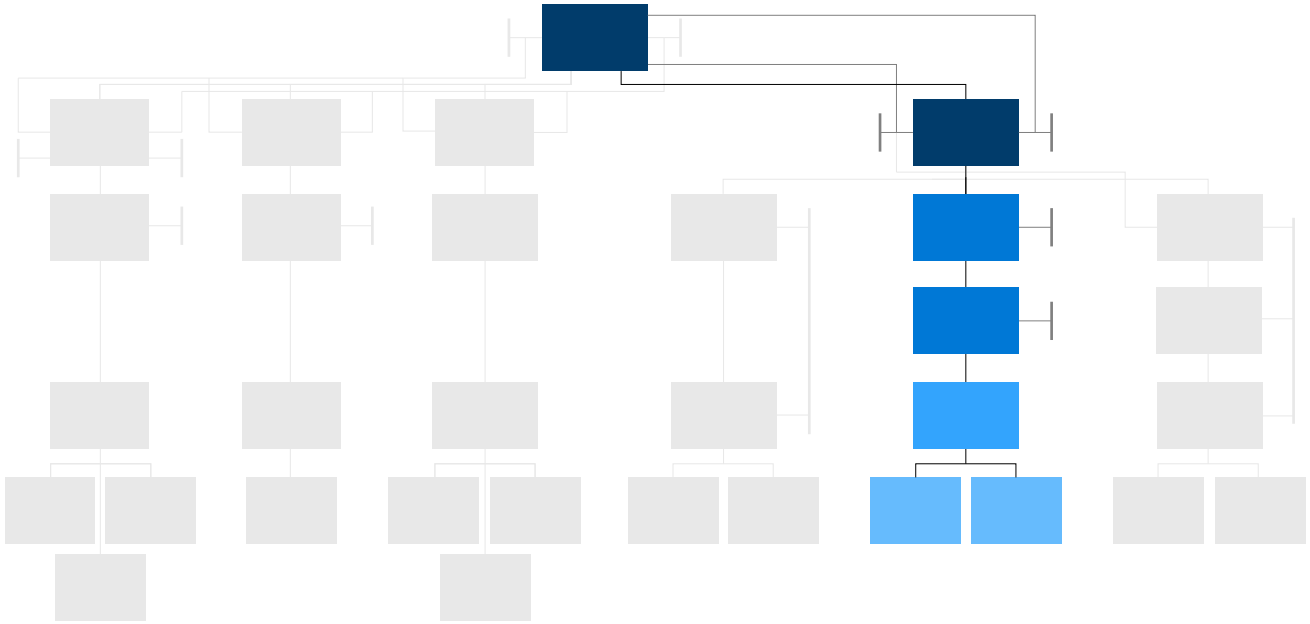
Select path

Supply Chain Due Diligence & Transparency

Transparency is key to improving due diligence measures in the supply chain. Over the past years, we have continuously and intensively analysed our mica supply chains from suppliers. To improve due diligence, we audit risk suppliers, support key component suppliers in responsible sourcing, and use standards as awarding criteria. This approach helps us identify emerging risks early and empowers supply chain actors to implement adequate due diligence systems.

→ View path

Mercedes-Benz Theory of Change for Mica



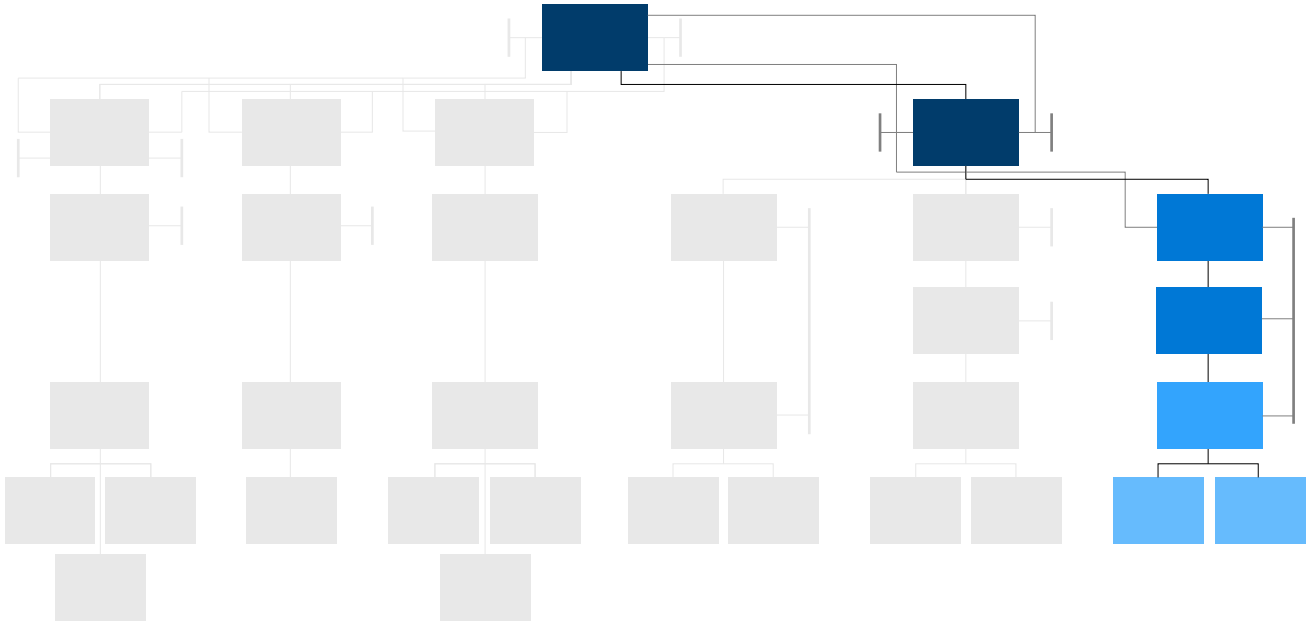
Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the “Global Workplace Responsible Sourcing, Environmental, Health and Safety Due Diligence Standard for Mica Processors”.

→ View path

ASM Awareness Raising	Legal Framework Promotion	Empowerment of Mining Communities in Risk Areas	Supply Chain Due Diligence & Transparency	**Standard Development**	Market Adoption

Select path

Mercedes-Benz Theory of Change for Mica



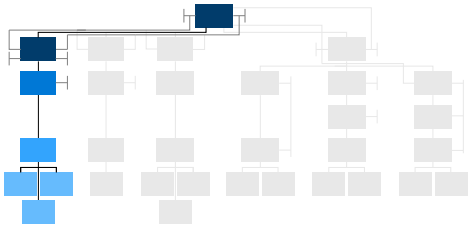
Market Adoption
Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for commodities including mica. Our goal is to apply these awarding requirements in all our focus commodities.

→View path

ASM Awareness Raising | Legal Framework Promotion | Empowerment of Mining Communities in Risk Areas | Supply Chain Due Diligence & Transparency | Standard Development | **Market Adoption**

Select path

Mercedes-Benz Theory of Change for Mica:
ASM Awareness Raising



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry to implement improvements.

Absence of or effectiveness of political regulatory frameworks, & removal of barriers to legalisation, formalisation, mobilisation for participation in standards in ASM.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the mica industry, extending beyond Mercedes-Benz-specific supply chains to create a widespread positive impact.

Existence of poverty alleviation measures and creation of alternative livelihoods.

Impact
Development and market adoption of standards and adequate measures addressing risks in ASM contribute to the improvement of the situation for artisanal and small-scale miners.

Child labour is often caused by extreme poverty. MB leverage to change that.

Outcome
Automotive industry engages in discussions on effective standards and adequate measures to address risks in ASM.

Dependence on co-operation / willingness of other actors in the industry.

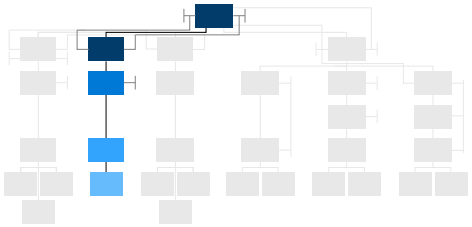
Output
Development of MB position, representation on international forums and participation in MSGs.

Activity
Define position regarding the presence of ASM material in the supply chain.

Activity
Promote discussion within target groups for supporting responsible ASM projects.

Activity
Participation in multi-stakeholder alliances promoting responsible ASM practices and discussions on adequate standards in targeted countries for target groups (e.g. miners & intermediaries).

Mercedes-Benz Theory of Change for Mica: Legal Framework Promotion



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Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the mica industry, extending beyond Mercedes-Benz-specific supply chains to create a widespread positive impact.

Impact
Establishment of legal frameworks that create the conditions for safe and fair working environments and reduce systemic environmental and human rights risks.

Existence of poverty alleviation measures and creation of alternative livelihoods.

Outcome
Increased awareness and support for the legalisation of mining among policymakers and relevant stakeholders.

Limited influence of Mercedes-Benz.

Output
Promotion of a legal framework through political exchanges and the development and submission of policy recommendations.

Activity
Participation in working groups as a member of the Responsible Mica Initiative (RMI) to promote legal frameworks and advocate for the legalisation of mining through political exchanges.

← Back

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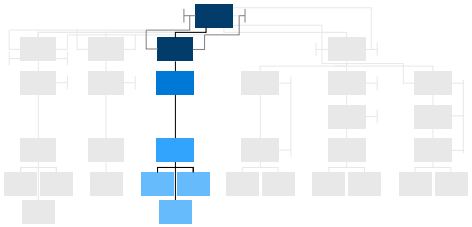
Mercedes-Benz Theory of Change for Mica: Empowerment of Mining Communities in Risk Areas



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Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the mica industry, extending beyond Mercedes-Benz-specific supply chains to create a widespread positive impact.

Impact
We aim to improve the quality of life of mining communities and address root causing child labour in the mica industry in risk countries.

Existence of poverty alleviation measures and creation of alternative livelihoods.

Outcome
- Long-term social and economic empowerment
- Creation of alternative livelihoods in targeted ASM communities
- Creation of safe spaces for children with access to education and health services
- Added Value for ASM Miners and Dispersion and scaling of Results

Output
- Internal expectations regarding added value are addressed
- Enrolment of children in protection and education programmes
- Implementation of alternative livelihood according to local needs
- Awareness raised and guidance provided for communities regarding rights and protection possibilities
- Impressions and evaluation of on-site measures and subsequent strategy adaptation.

Activity
Participation in and promotion of the community employment projects of the Responsible Mica Initiative (RMI) on alternative livelihoods and education in India.

Activity
Participation in the working group of the Responsible Mica Initiative (RMI), which promotes community empowerment projects in Madagascar on supporting mining communities to gain access to education, health care, water and complementary income.

Activity
Project with Terre des Hommes with a focus on promoting education.

← Back

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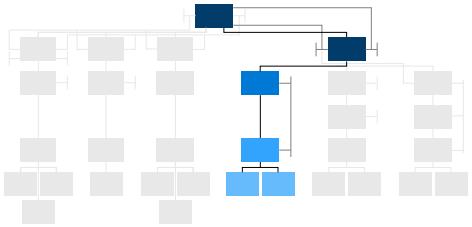
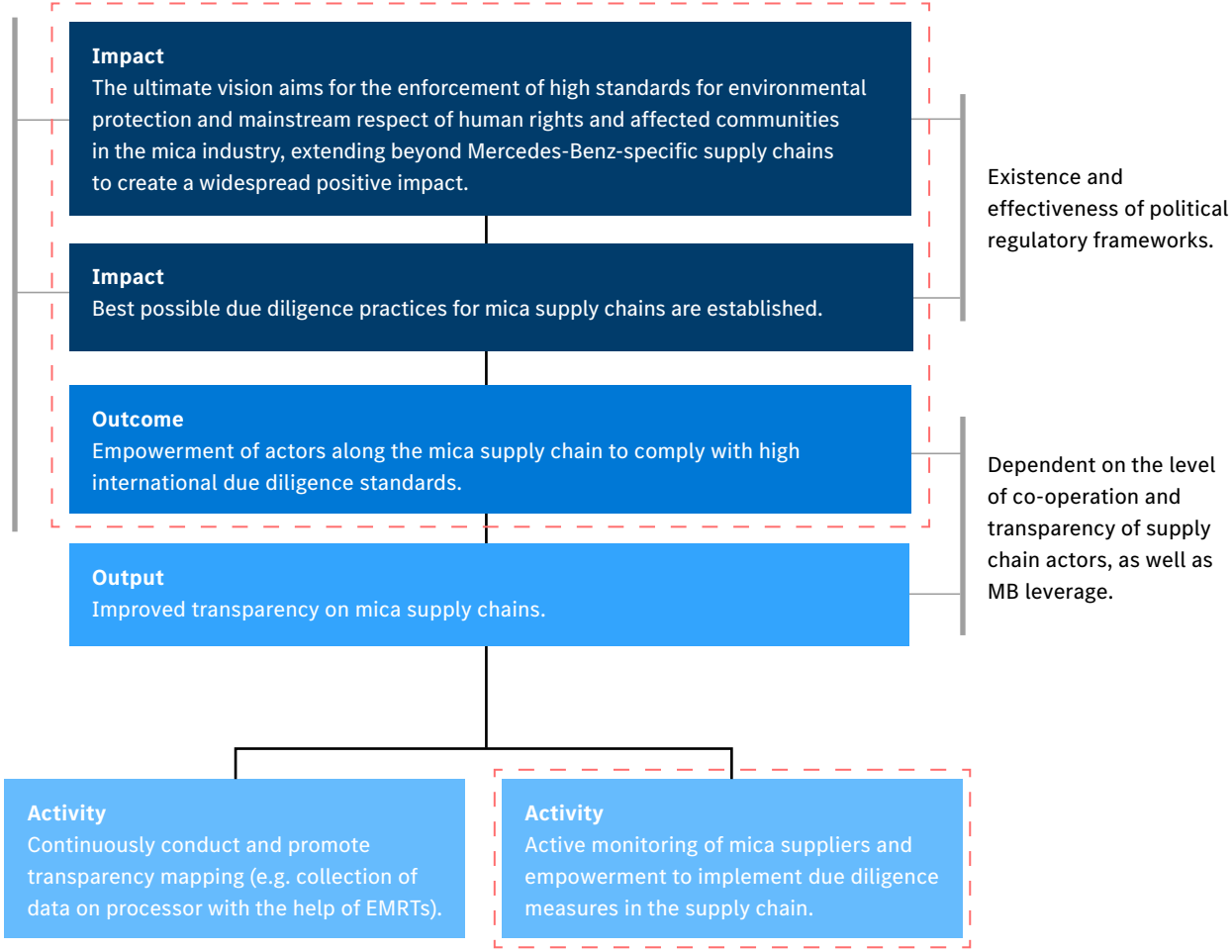
Mercedes-Benz Theory of Change for Mica:
Supply Chain Due Diligence & Transparency



The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry (i.e. critical nodes) to implement improvements.
The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.



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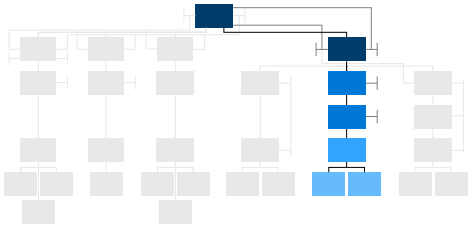
Mercedes-Benz Theory of Change for Mica: Standard Development



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The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the mica industry, extending beyond Mercedes-Benz-specific supply chains to create a widespread positive impact.

Impact
Best possible due diligence practices for mica supply chains are established.

Existence and effectiveness of political regulatory frameworks.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Dependence on co-operation level of suppliers.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Output
Contribution to the development of adequate standards systems and engagement on continuous improvement of their effectiveness.

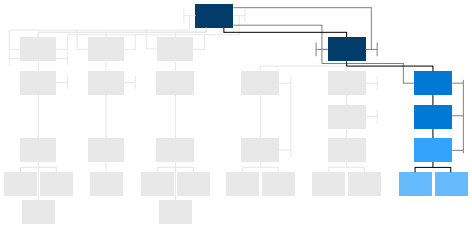
Activity
Develop position on quality criteria of effective standards.

Activity
Active support/participation in standards/ initiatives as well as in public consultation processes of standards systems.

← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Mercedes-Benz Theory of Change for Mica: Market Adoption



The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry (i.p. critical nodes) to implement improvements.
The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
The ultimate vision aims for the enforcement of high standards for environmental protection and mainstream respect of human rights and affected communities in the mica industry, extending beyond Mercedes-Benz-specific supply chains to create a widespread positive impact.

Impact
Best possible Due Diligence practices for mica supply chains are established.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
Adequate standards on processor level approved by MB are awarding requirements for focus components containing mica.

Activity
Conformity with OECD aligned standards approved by MB on processor level is an awarding requirement for commodities containing mica in the RSS.

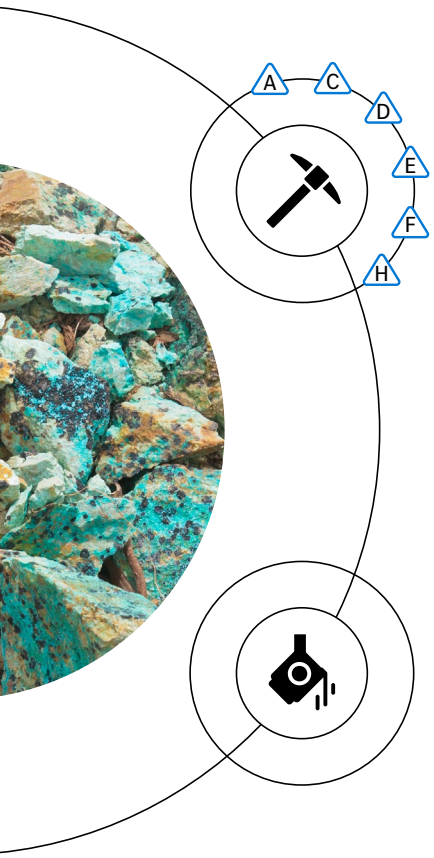
Existence and effectiveness of political regulatory frameworks.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Ni Nickel

Nickel is most commonly used as an alloying element in stainless steel. It enhances important properties such as formability, weldability and ductility, while increasing corrosion resistance in certain applications. Nickel has also long been widely used in batteries. It is expected that the demand for the material will continue to increase drastically due to its use for the energy transition, especially in EV batteries.

Raw Material Risks



Mining and Beneficiation

Main nickel mining countries according to global market share[1]

- Indonesia **50%**
- Philippines **11%**
- New Caledonia **6%**
- Russia **5%**
- Canada **5%**

Smelting and Refining

Main processing countries[2]

- Indonesia **33%**
- China **25%**
- Japan **7%**
- Russia **5%**
- Canada **5%**

1 USGS 2024
2 RMIS – Raw Materials Information System

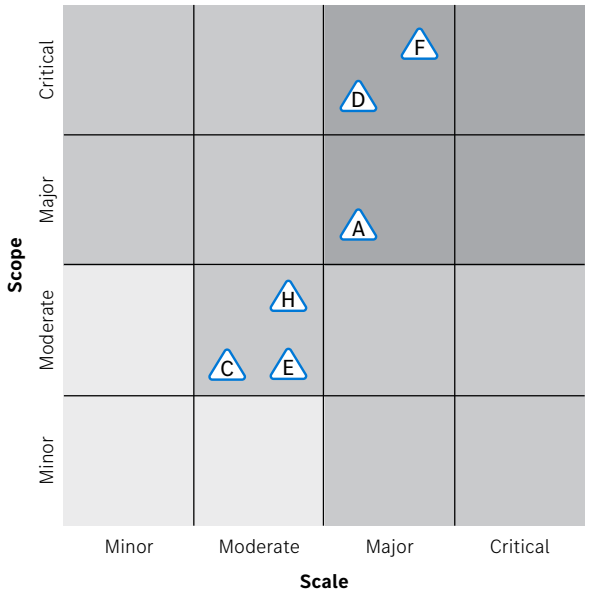
Identified Salient Risks*

- A Working conditions, including occupational health and safety
- 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
- Exhaust system

Risk Analysis



Ni

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

- Suppliers of focus parts:
  7 (Lithium-ion batteries)
  6 (Exhaust system)
- Average DDQ rating:
  77% (Lithium-ion batteries)
  63% (Exhaust system)
- Suppliers implementing measures to improve DDQ score: **1**

Transparency and Supply Chain Due Diligence Audits along the Battery Cell Supply Chain
(Results 07/2023 - 06/2024):

- Identification of **346** suppliers and sub-suppliers from battery cell providers to mine sites
- Implementation of **54** audits along the entire battery supply chain (Tier 1 - mine)
- Among these **54** audits, **16** extensive environmental audits have been conducted, piloting our approach to environmental due diligence.
- **2** supplier training conducted

Tier N / Systemic Risk

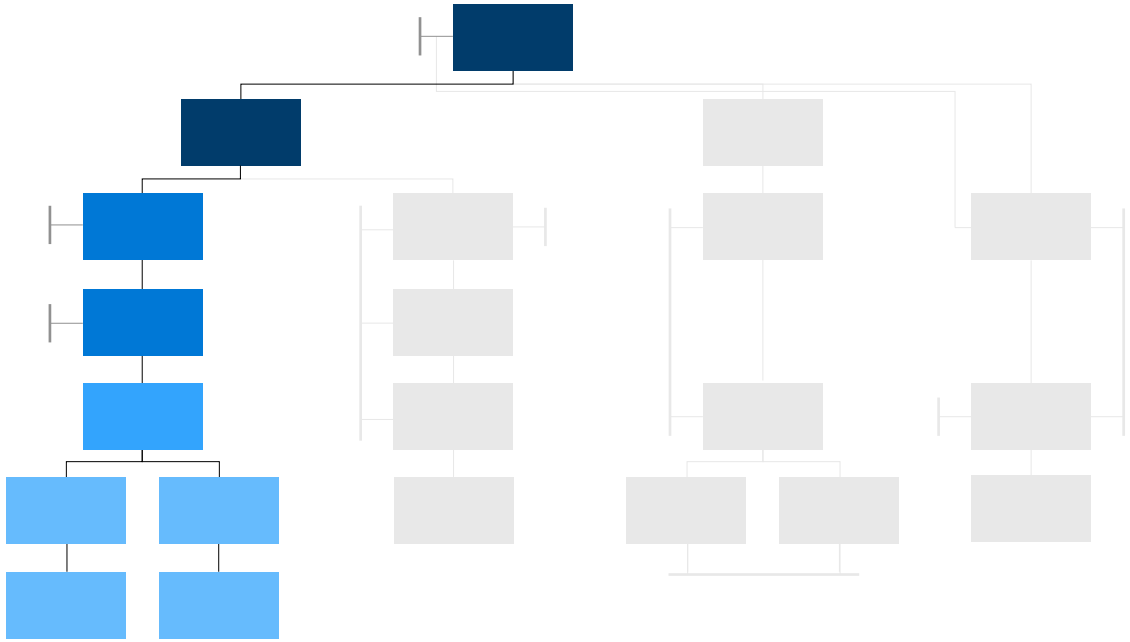
Nickel originates 60% from mining of laterites ores and 40% from sulphides ores and can be mined open-pit or in underground mines. Nickel mining is an industrial activity, since no effective techniques exists for small-scale mining. Indonesia has become the world's largest producer and currently holds a share of 50%. Indonesia mainly has laterite ores requiring open-pit operations. To extract the nickel from the laterite ores, hydrometallurgical or pyrometallurgical techniques are required. These include High Pressure Acid Leach (HPAL) processes. Indonesia also processes the ore directly into a nickel-intermediate (MHP), which has become a viable and cost-effective alternative to produce battery-grade nickel. We have identified Indonesia in Mercedes-Benz supply chains and have prioritised three salient-risk areas: Working conditions, including occupational health and safety, Community and indigenous rights and Environmental risks with impact on human rights. In terms of environmental risks, the disposal of toxic tailings from HPAL processing facilities is a recurrent theme. Air, soil, and water pollution as well as waste management are also detrimental risks. Open-pit operations have resulted in extensive deforestation and threatening biodiversity. Social issues occur around damages to indigenous peoples. Community and indigenous rights often clash with land use and alternative livelihoods including the failure to provide sufficient or secure work, FPIC, grievance, failure to respect workers' rights as well as anti-union activities. Concerns about labour rights and working conditions are considerable at refining operations, where serious safety risks resulting in fatal accidents have been reported. To effectively mitigate these identified risks, there is a pursuit of high market penetration of demanding sustainability standards and audits which effectively address those risks. Following our approach of empowerment before withdrawal, we see the strong need for a collaborative effort to mitigate against adverse impacts of nickel mining and processing on human rights and the environment.

Stakeholder Engagement

- Member of the Nickel Working Group of the Responsible Minerals Initiative (RMI)
- Member of the Nickel Group of Drive Sustainability
- Ongoing dialogue with Industry Initiatives on status quo and trends in nickel sector
- Ongoing sustainability dialogues with suppliers and sub-suppliers on due diligence measures and efforts

Ni

Mercedes-Benz Theory of Change for Nickel



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Nickel Project Indonesia

Select path

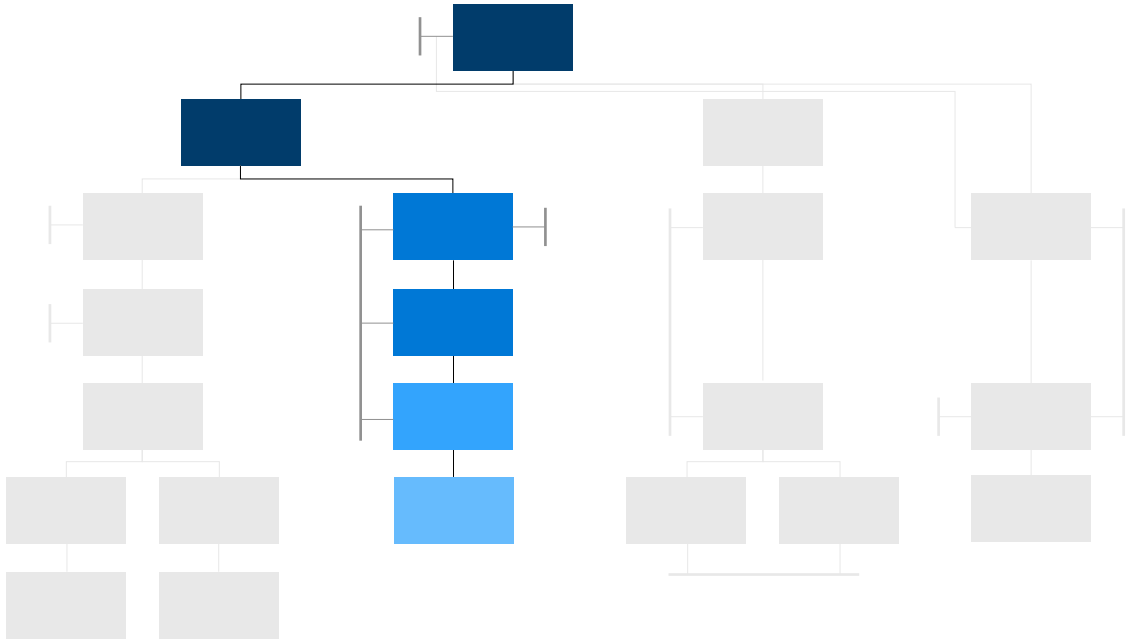
Standard Development

Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for refiners.

→View path

Ni

Mercedes-Benz Theory of Change for Nickel



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Nickel Project Indonesia

Select path

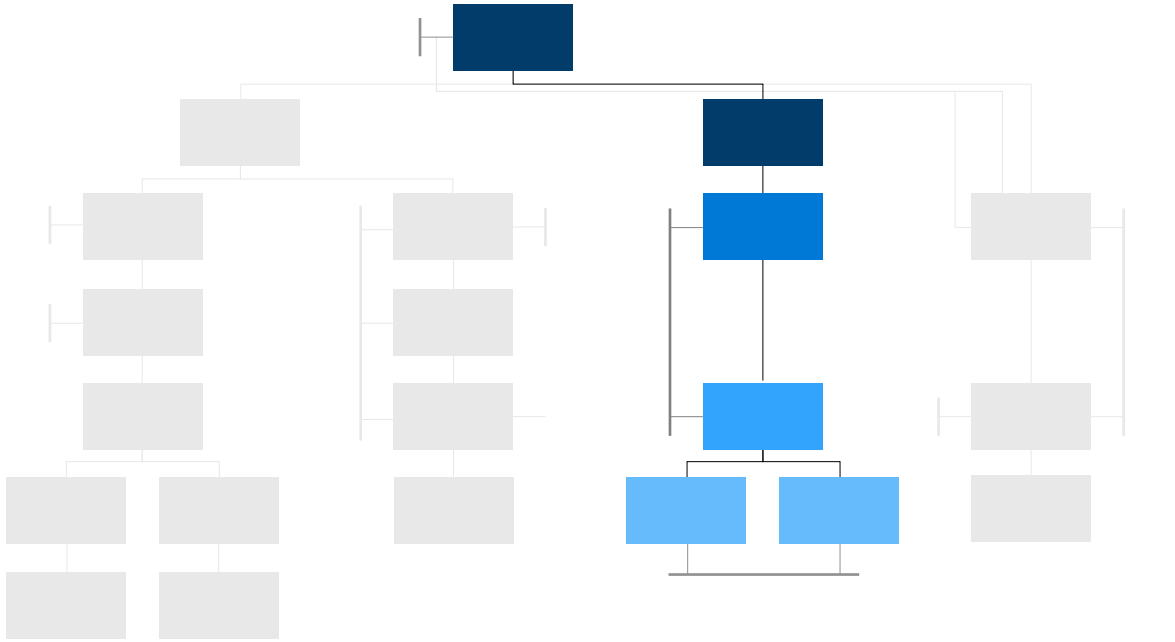
Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for IRMA audited mines achieving at least IRMA 50 as well as for refiners to undertake audits based on Mercedes-Benz approved standards. Our goal is to apply these awarding requirements in all of our sourcing activities of focus commodities.

→ View path

Ni

Mercedes-Benz Theory of Change for Nickel



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Nickel Project Indonesia

Select path

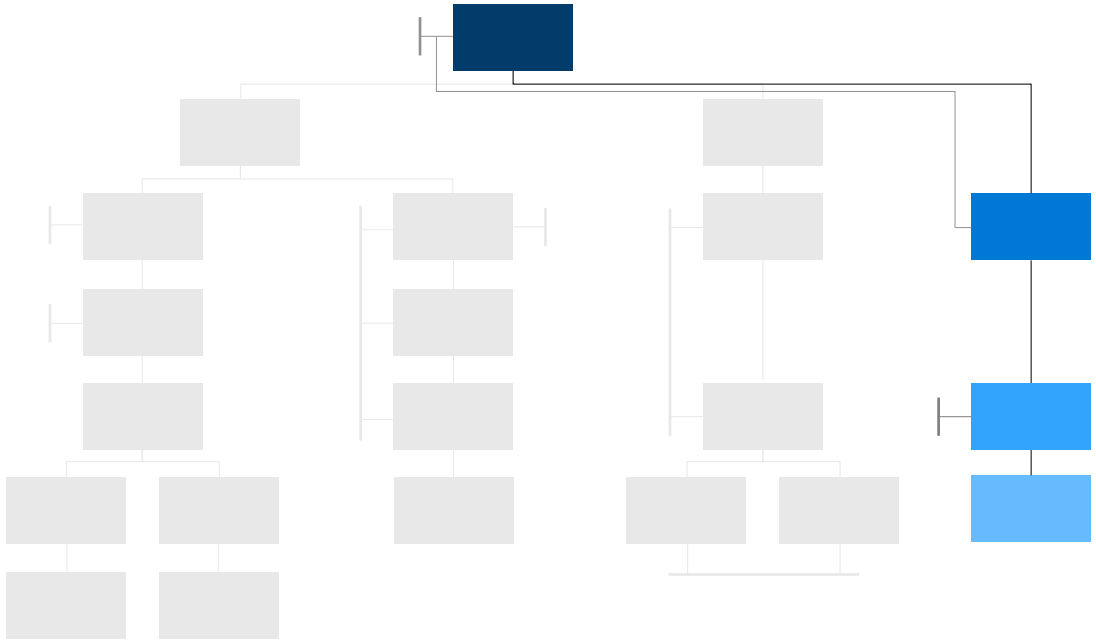
Supply Chain Due Diligence & Transparency

Transparency is key when it comes to improving due diligence measures in the supply chain. Over the last years we have intensively looked at your battery supply chains. From cell suppliers to mine sites. To improve their due diligence measures, we have audited them againt international standards, provided training as well as corrective action plans to improve their performance step-by-step.

→View path

Ni

Mercedes-Benz Theory of Change for Nickel



Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

Nickel Project Indonesia

Select path

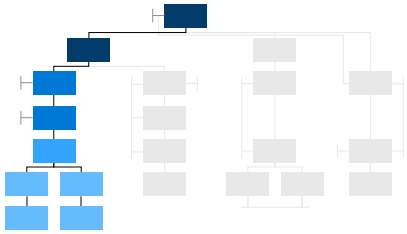
Nickel Project Indonesia

Currently mining and processing in Indonesia is associated with negative social and environmental impacts. However, Indonesia has become an integral part of nickel supply chains and will continue to grow in importance in the coming years. Following our approach of empowerment before withdrawal, we aim for a collective action to strengthen ESG management practices in mining and processing in Indonesia.

→View path

Ni

Mercedes-Benz Theory of Change for Nickel: Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Impact
Nickel production (in Indonesia) operates in compliance with the best available human rights and environmental due diligence measures and can thus contribute to sustainable and inclusive growth.

Dependence on co-operation level of suppliers.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible practices of nickel refining and mining industry.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Development of adequate standards systems and engagement on continuous improvement of their effectiveness.

Activity
Member of the RMI Emerging Minerals Group to roll out the new RMAP ESG standard among others.

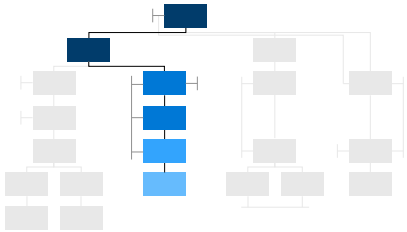
Activity
Develop position on quality criteria of effective standards.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Active support / participation in standards / initiatives as well as in public consultation processes of standards systems.

Ni

Mercedes-Benz Theory of Change for Nickel: Market Adoption



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Impact
Nickel production (in Indonesia) operates in compliance with the best available human rights and environmental due diligence measures and can thus contribute to sustainable and inclusive growth.

Impact
Long-term reduction of negative social and environmental impacts and establishment of best possible practices of nickel refining and mining industry.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

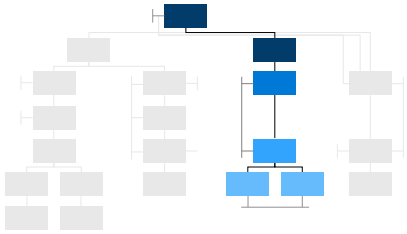
Activity
IRMA on mining level or other equivalent standards approved by MB and adequate standards on refiner level are awarding requirements for battery-related awards.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Ni

Mercedes-Benz Theory of Change for Nickel:

Supply Chain Due Diligence & Transparency



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Impact
Nickel production (in Indonesia) operates in compliance with the best available human rights and environmental due diligence measures and can thus contribute to sustainable and inclusive growth.

Impact
Best possible due diligence practice for nickel supply chains is established.

Dependent on co-operation level of suppliers and transparency. Audits are conducted on a risk-based approach and do not cover every supply chain actor.

Outcome
Empowerment of actors along the nickel supply chain to comply with high international due diligence standards.

Output
MB nickel supply chain is known to the best of our efforts and audited against international due diligence standards. Empowerment of suppliers through due diligence training.

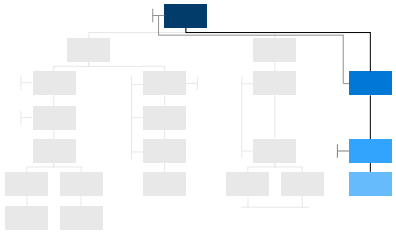
Activity
Global Mapping. Audit & Training Programme.

Activity
Active monitoring of battery suppliers and empowerment to implement due diligence measures in the supply chain as well as implementation of standards such as IRMA by MB.

Dependence on co-operation level of suppliers.

Ni

Mercedes-Benz Theory of Change for Nickel:
Nickel Project Indonesia



Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

Stakeholder participation risk: Willingness / openness other actor.

Impact
Nickel production (in Indonesia) operates in compliance with the best available human rights and environmental due diligence measures and can thus contribute to sustainable and inclusive growth.

Outcome
Improvement of ESG management practices in mining and processing in Indonesia

Output
Co-operation successful. Implementation of on-the-ground ESG project.

Activity
Necessity for Collective Action to strengthen ESG management practices in mining and processing in Indonesia.

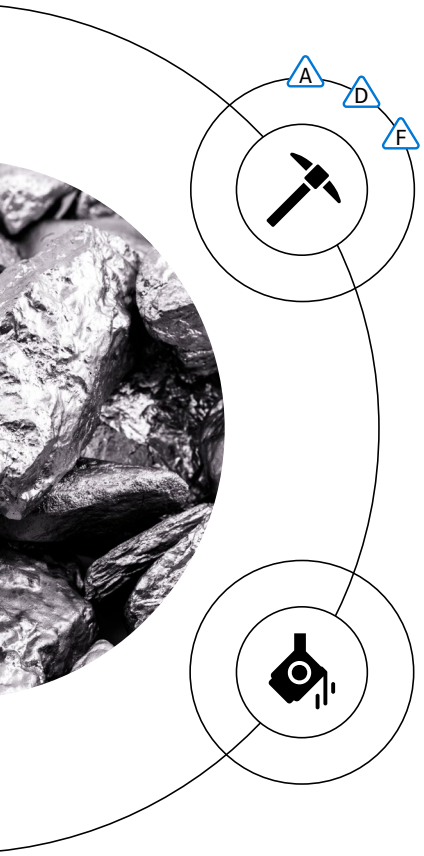
← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Pt Pd Rh PGMs

Platinum, Palladium and Rhodium will be referred to as Platinium 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 share[1]

- South Africa **49%**
- Russia **30%**
- Zimbabwe **9%**
- United States **6%**
- Canada **4%**

Smelting and Refining
Main processing countries

- No data available

Identified Salient Risks

A Working conditions, including occupational health and safety

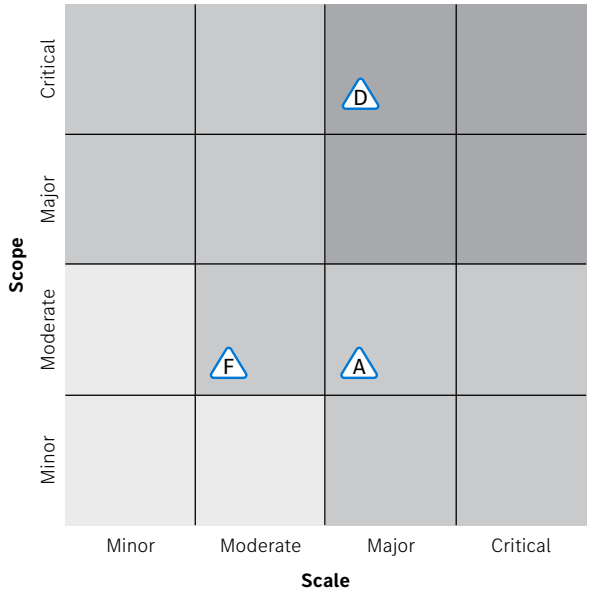
D Community and indigenous peoples' rights

F Environmental risks with impact on human rights

Focus Parts/Commodities

- Catalytic converter

Risk Analysis



1 USGS 2024, Reserves, Worldwide

Pt Pd Rh

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).

Tier N / Systemic Risk

PGM mining is conducted using both open pit and underground mining methods. The process involves drilling, blasting and hauling as well as a series of concentration steps before the the metallurgical processing. Human rights risks in PGM mining are inextricably linked to the context in which the extraction takes place in South Africa. This includes historic lines of conflict from apertheid, a poverty driven in-migration of unskilled workers, growing informal settlements lacking basic infrastructure, unemployment, high levels of violence including sexual violence against women. We have prioritised Community and indigenous rights as the outstanding salient risk area.

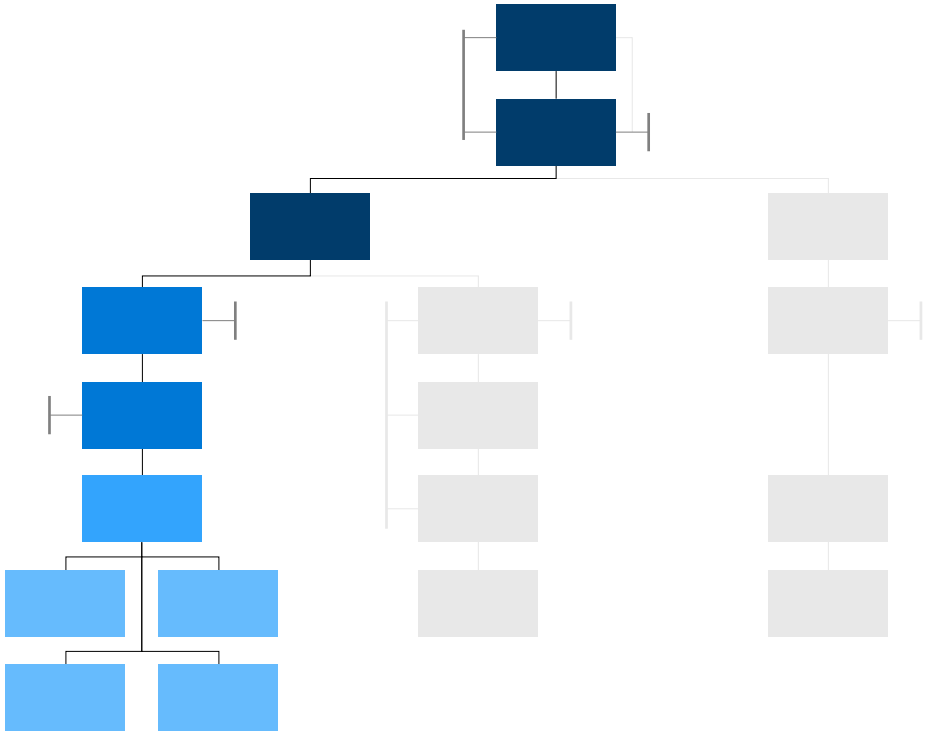
Through business relationships, Mercedes-Benz is directly and indirectly connected to PGM mining in South Africa. This leads us to also consider the lower rated risk areas: environental risks with impact on human rights as well as working conditions including operational health and safety. To effectively mitigate the identified risks there is a pursuit of high market penetration of demanding sustainability standards and audits which effectively address those risks. At the same time, we need to consider the diminishing leverage of Mercedes-Benz on the production of PGMs. Platin, Palladium and Rhodium have a single usecase in ICE verhicles. With the gradual roll-out of BEVs catalytic converters will be phased out in the foreseeable future.

Stakeholder Engagement

- Dialogues with all PGM producers
- Dialogues with three researchers from two South African universities on the reasearch focus of community development and violence in South Africa
- Dialogue with a German NGO as subject matter expert
- Dialogue with a PGM industry association
- Continued exchange with PGM miners in a time when the demand for PGMs will decrease significantly from year to year due to the phase-out of conventional verhicles and therefore catalytic converters

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs



Standard Development | Market Adoption | Effective DDMS

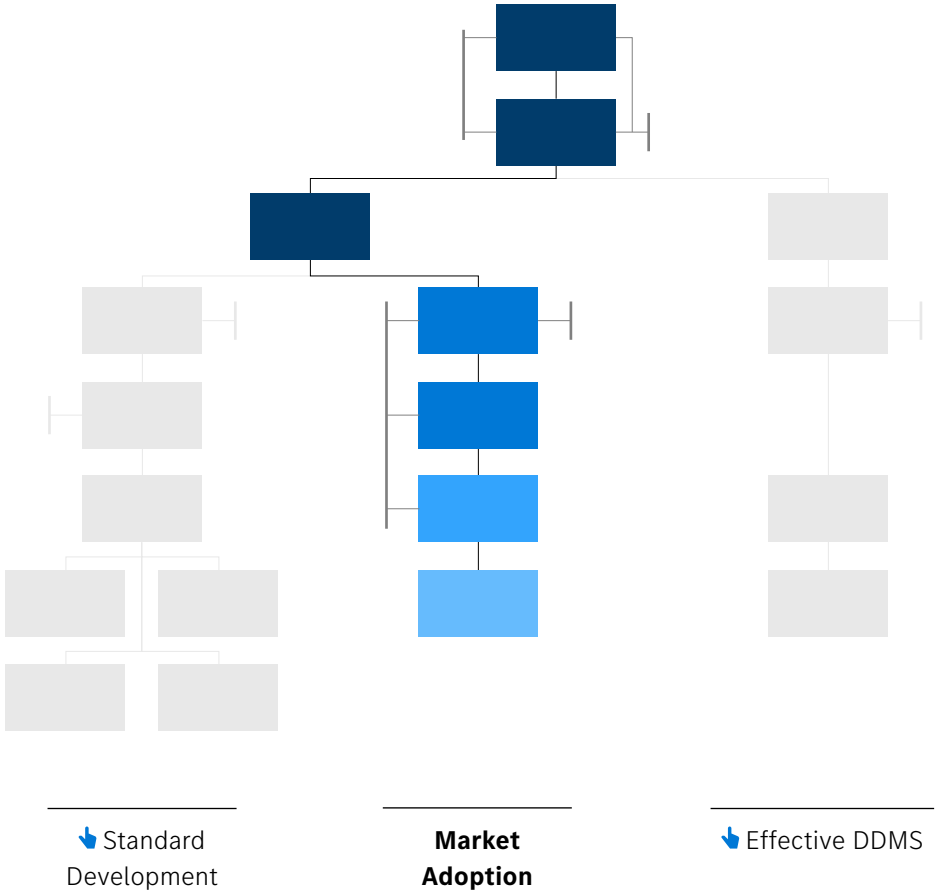
Select path

Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. There is no established best practice yet on how to involve affected rightsholders in audit processes. With IRMA leading the way to establishing this best practice, we have provided funding for a project to pilot additional community engagement activities, channels and methods.

→ View path

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs



Select path

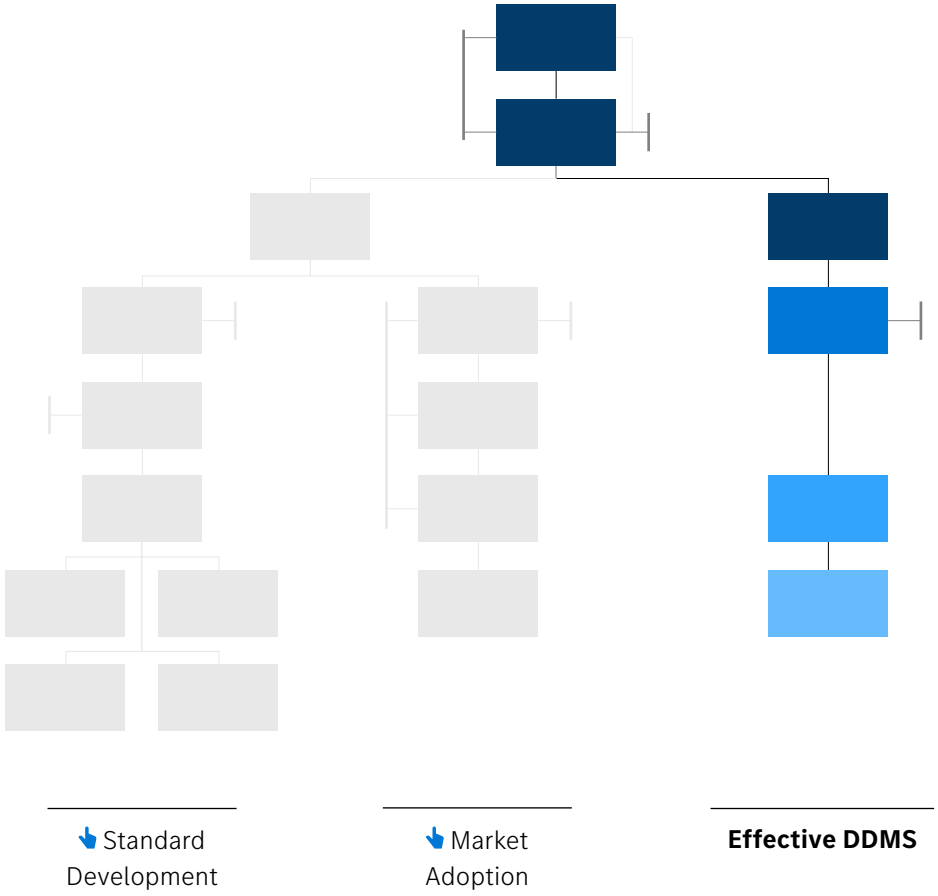
Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced awarding premises for IRMA audited mines achieving at least IRMA 50. In addition, we have initiated a traceability pilot to be assured on the basis of the new IRMA Chain of Custody standard.

→View path

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs



Select path

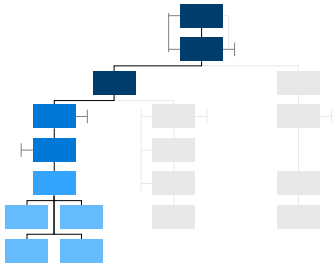
Effective DDMS

With chronic conflict and reoccurring violence likely to remain a risk, it is of outmost importance to have adequate due diligence management systems in place. We have therefore introduced a requirement to source exclusively from suppliers that have obtained a responsible sourcing certificate through the London Platinum and Palladium Market (LPPM).

→ View path

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs: Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External risk – high concentration of PGM mining in SA (Apartheid legacies., Heavy reliance on mining industries as a provider of basic services, Mining Legacies, Rehabilitation and compensation, poverty driven in-migration pressure.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Impact
The ultimate aim is that PGM production creates a net-positive impact on the socio-economic development in South Africa.

Impact
We are aiming for a significant reduction of potential for violence and conflict around PGM mining in South Africa.

Challenging social context (poverty, crime and organised crime).

Impact
Best possible mining practice in vulnerable settings (South Africa) has been established.

Outcome
Standards systems are effective to mitigate human rights and environmental risks.

Dependence on co-operation level of suppliers.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continuous improvement of their effectiveness.

Activity
Active support / participation in standards / initiatives as well as in public consultation processes of standards systems.

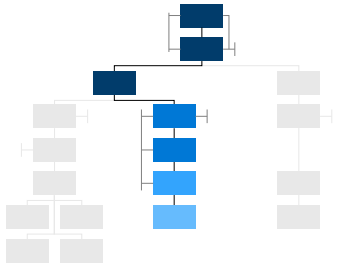
Activity
Pilot on implementation of IRMA CoC Standard.

Activity
Develop position on quality criteria of effective standards.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs: Market Adoption



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External risk – high concentration of PGM mining in SA (Apartheid legacies), Heavy reliance on mining industries as a provider of basic services, mining legacies, rehabilitation and compensation, poverty driven in-migration pressure.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Impact
The ultimate aim is that PGM production creates a net-positive impact on the socio-economic development in South Africa.

Impact
We are aiming for a significant reduction of potential for violence and conflict around PGM mining in South Africa.

Impact
Best possible mining practice in vulnerable settings (South Africa) has been established.

Outcome
Standards have achieved a critical market coverage with a focus on South Africa.

Outcome
A strong demand for audited material drives market adoption of standards.

Output
Sourcing requirements asking for IRMA (IRMA 50) or equivalent are established as awarding criteria.

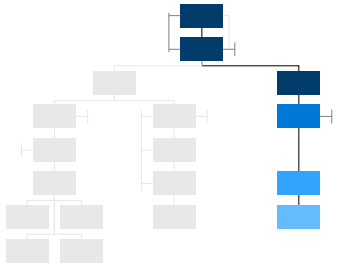
Activity
IRMA or equivalent standard is defined as sourcing requirement and scope of application.

Challenging social context (poverty, crime and organised crime).

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Pt **Pd** **Rh**

Mercedes-Benz Theory of Change for PGMs: Effective DDMS



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Outside of MB scope alone. Dependence to fulfil this impact on the willingness of the whole industry to improve.

External risk – high concentration of PGM mining in SA (Apartheid legacies), Heavy reliance on mining industries as a provider of basic services, mining legacies, rehabilitation and compensation, poverty driven in-migration pressure.

Impact
The ultimate aim is that PGM production creates a net-positive impact on the socio-economic development in South Africa.

Impact
We are aiming for a significant reduction of potential for violence and conflict around PGM mining in South Africa.

Challenging social context (poverty, crime and organised crime).

Impact
Strong due diligence management systems are established along the supply chain, effectively responding to risks of violence and conflict.

Outcome
PGM refiners in the Mercedes-Benz supply chain have implemented processes that comply with established good practice of the OECD Guidelines.

Dependence on co-operation level of suppliers and sub-suppliers.

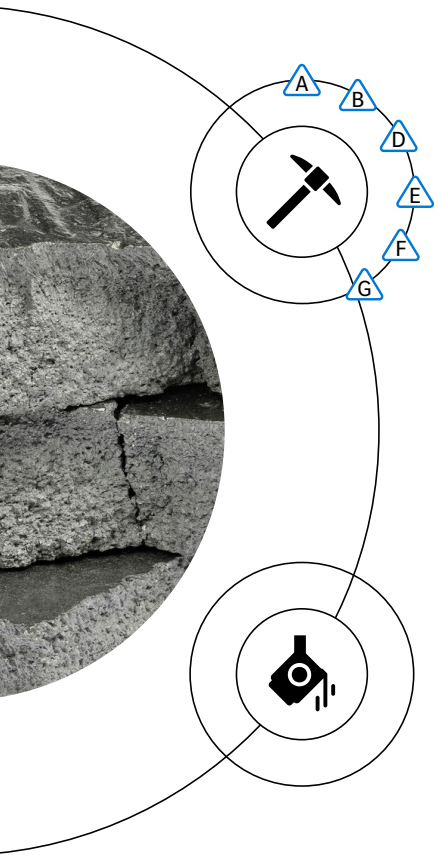
Output
Roll out sourcing requirement for LPPM Responsible Sourcing Certificate.

Activity
LPPM as sourcing requirement and scope of certification.

REEs

Rare earth elements (REEs) occur globally but can only be mined economically under certain conditions. The processing industry is highly concentrated in China. In the car, they play various roles. This overview is focused on heavy rare earths elements (HREEs) which are used in magnets in both the electrical motor and loudspeakers.

Raw Material Risks



Mining and Beneficiation

Main REEs mining countries according to global market share[1]

- China **68%**
- USA **12%**
- Myanmar **11%**
- Australia **5%**
- Thailand **2%**

Smelting and Refining

Main processing countries*

- China
- Malaysia

1 USGS 2024

*As there is a lack of transparency the REEs business, there are no accurate data on processing countries. IEA 2024, Oxford Energy

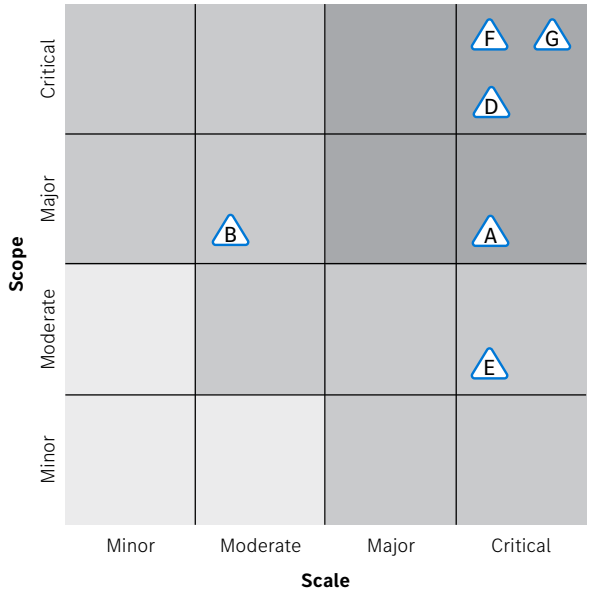
Identified Salient Risks

- A Working conditions incl. occupational health and safety
- B Child labour
- D Community and indigenous rights
- E Excessive violence by private and public security forces
- F Environmental risks with impact on human rights
- G Business conduct in conflict areas and high risk areas (CAHRAs)

Focus Parts/Commodities

- Electric motor
- Loudspeaker

Risk Analysis



Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

› This data is not yet available for REEs as group.

Tier N / Systemic Risk

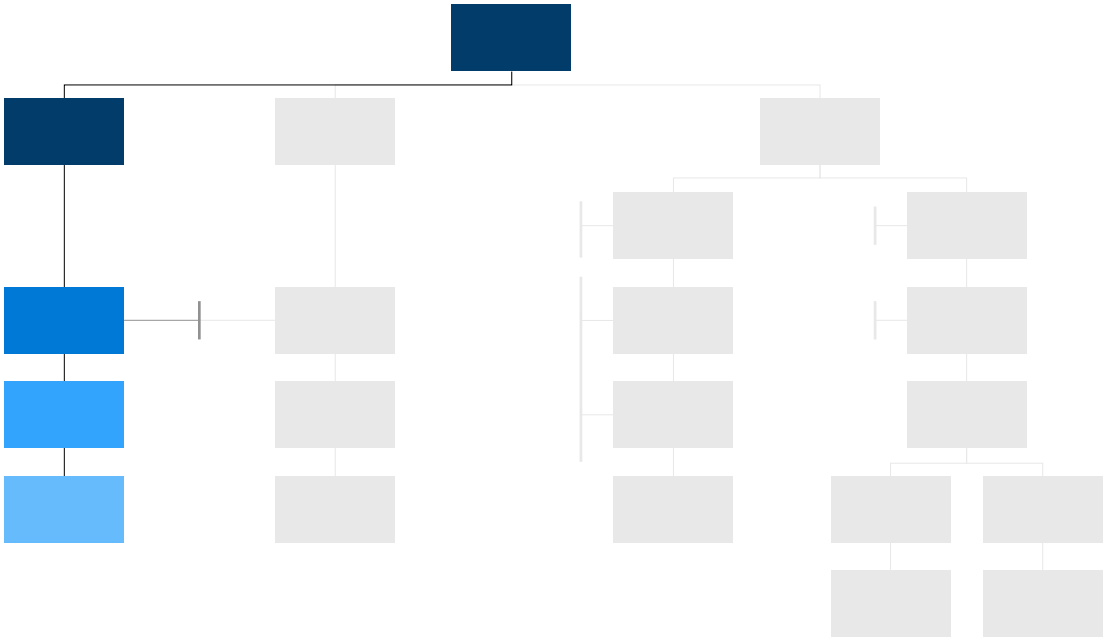
Mineable rare earth deposits occur in different forms from granite rock to beach sands – some of which are geologically associated with radioactive elements. Mining methods accordingly differ significantly across the globe. In many cases, rare earth elements are by-products of mines targeting other raw materials such as iron ore. The following description is focused on the production of heavy rare earth elements (HREEs), which to a significant degree, are produced from ion-absorbing clays using a leaching process. The production of HREEs in Myanmar has seen a strong uptake in recent years. The unregulated mining activies carry significant and diverse risks for the environment and human rights. It is likely that non-state militias control and profit from the extraction. Accordingly, all identified salient risk areas have been rated high risk.

Therefore, the focus of our Theory of Change for REEs is based on a mix of reducing the consumption and demand for rare earth elements in our products, as well as emphasising the market adoption of stringent sustainability standards and audits of mines. Additionally, we actively support the further development of adequate sustainability standards.

Stakeholder Engagement

- Ongoing dialogue with international NGOs on REE mining in Myanmar
- Dialogue with a university researcher on REE mining in Myanmar
- Dialogue with a German research institution on responsible REE production and recycling
- Dialogue with magnet producers and REE processors on the potential to establish closed loop systems
- Dialogue with a wind turbine producer on promoting responsible production of REEs
- Dialogue with magnet producers and REE processors to ensure a long-term secure supply chain without dependencies on a single third country
- Dialogue with potential magnet producers and recycler for recycling of inhouse production scraps to improve the circular economy
- Memorandum of Understanding with TSR Recycling GmbH & Co.KG to gain a deeper understanding of the potential of post-consumer materials in Europe and recover of secondary materials through so-called ↗ “urban mining”.

Mercedes-Benz Theory of Change for REEs



Phase out HREEs

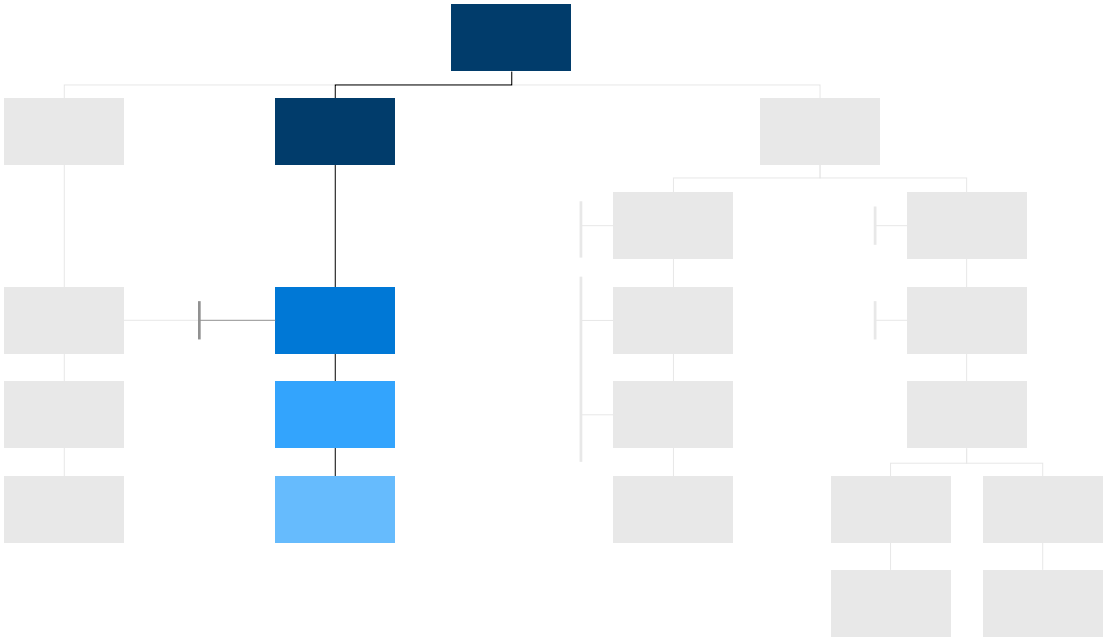
↗ Technical concepts have been developed to significantly reduce the required share of HREEs in magnets in the electric motor to almost 0 %.

→ View path

Phase out HREEs | Circularity | Market Adoption | Standard Development

Select path

Mercedes-Benz Theory of Change for REEs



Phase out HREEs | **Circularity** | Market Adoption | Standard Development

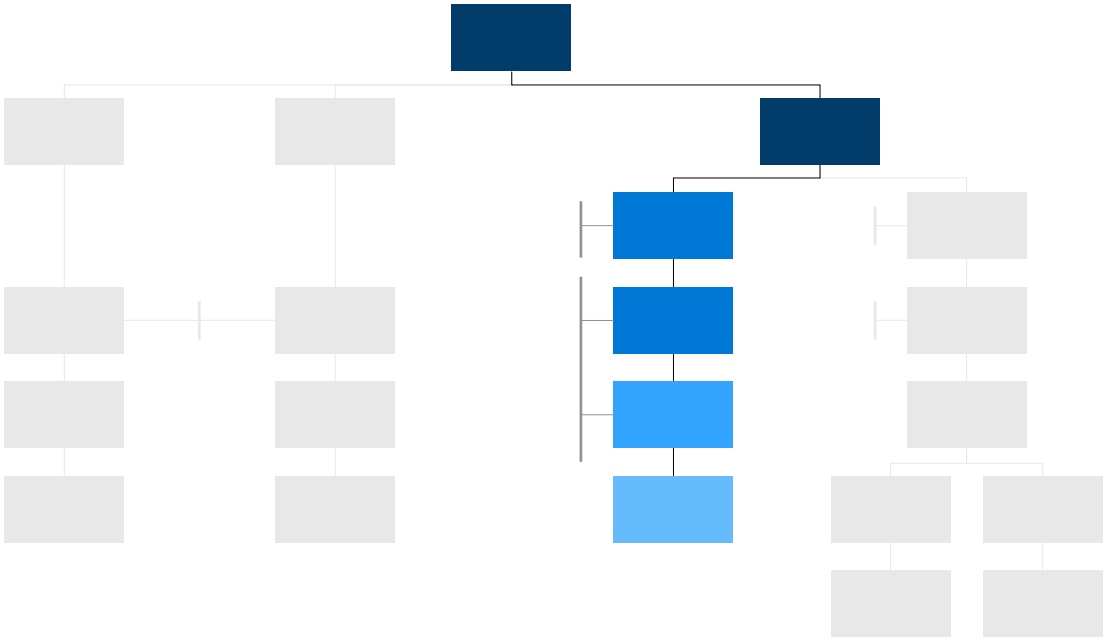
Select path

Circularity

The recycling industry for magnets is in its infancy with particular economical challenges in the dismantling of complex parts such as electric motors. Mercedes-Benz aims to design electric motors so that end-of-life magnets can be economically dismantled and fed back into the material flow.

→View path

Mercedes-Benz Theory of Change for REEs



Phase out HREEs | Circularity | **Market Adoption** | Standard Development

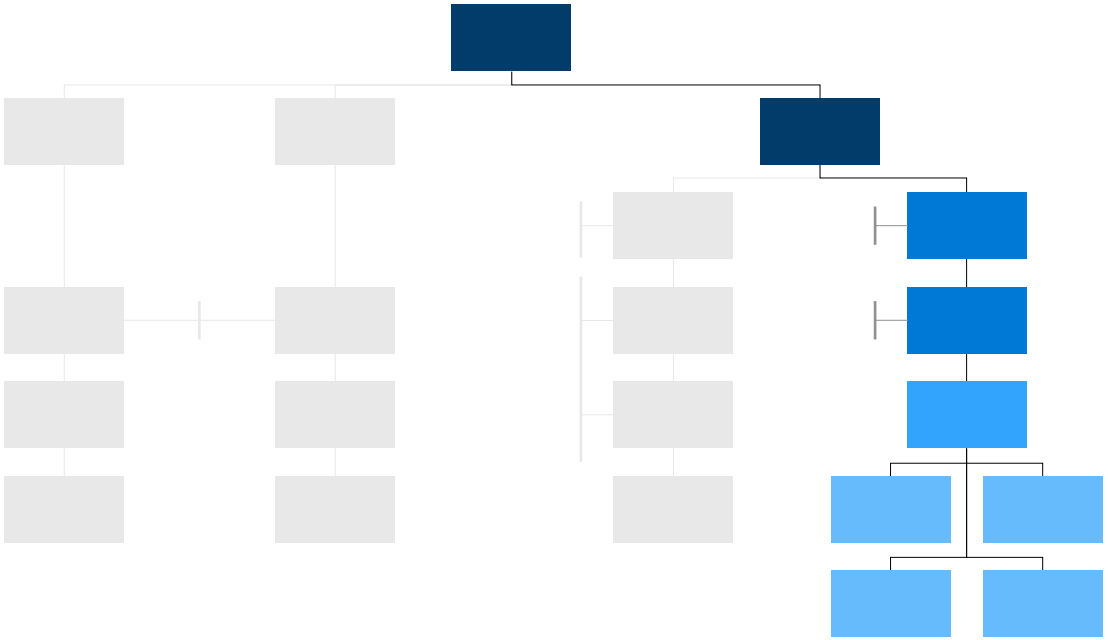
Select path

Market Adoption

Demand is the strongest driver for the uptake of standards in raw material supply chains. We therefore plan to introduce awarding premises for new projects related to REE focus part being contracted to materials sourced with adequate standards on mining level approved by MB.

→View path

Mercedes-Benz Theory of Change for REEs



Phase out HREEs | Circularity | Market Adoption | **Standard Development**

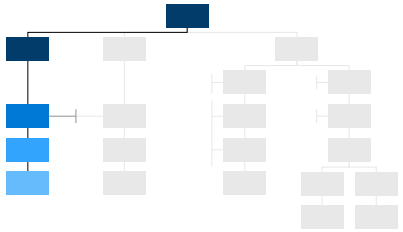
Select path

Standard Development

Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance.

→View path

Mercedes-Benz Theory of Change for REE:
Phase out HREEs



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
We aim to contribute to the transformation of the REE producing industry based on the principles of human rights and environmental responsibility.

Impact
We aim to reduce our demand for risk-prone material.

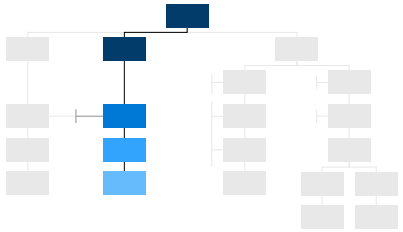
Outcome
Significant reduction of HREEs in key applications.

Circularity strategies of other REE reliant industries.

Output
Implement technical concepts for line commodities.

Activity
Define strategy to reduce HREEs in key applications.

Mercedes-Benz Theory of Change for REE: Circularity



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Circularity strategies of other REE-reliant industries.

Impact
We aim to contribute to the transformation of the REE producing industry based on the principles of human rights and environmental responsibility.

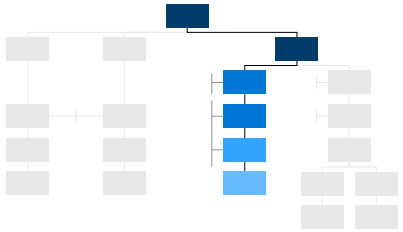
Impact
We aim to maximise the availability of secondary materials.

Outcome
Significantly improved availability of secondary rare earths from end-of-life vehicles.

Output
Establish technical concepts for the commodity design and prospective material flows.

Activity
Define strategy "design to recycle" for effective recycling of end-of-life magnets from electric motors.

Mercedes-Benz Theory of Change for REE: Market Adoption



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
We aim to contribute to the transformation of the REE producing industry based on the principles of human rights and environmental responsibility.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of rare earth refining and mining industry.

Outcome
Standards have achieved a critical market coverage.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

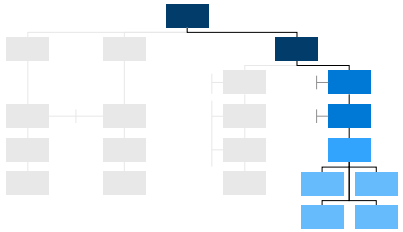
Outcome
Strong demand for audited material drives market adoption of standards.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
Adequate standards on mining and refiner level approved by MB are awarding requirements.

Mercedes-Benz Theory of Change for REE: Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Impact
We aim to contribute to the transformation of the REE producing industry based on the principles of human rights and environmental responsibility.

Impact
We aim to reduce the negative social and environmental impacts and establish the best possible practices of rare earth refining and mining industry.

Dependent on willingness and co-operation of suppliers and MB leverage.

Outcome
Standards have achieved a critical market coverage.

Dependent on the openness and willingness of the standard initiatives to receive and implement feedback, as well as demand and collaboration interest of other (automotive) industry actors for further improvements.

Outcome
Strong demand for audited material drives market adoption of standards.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
Member of the RMI Emerging Minerals Group to roll out the new RMAP ESG standard among others.

Activity
Develop position on quality criteria of effective standards.

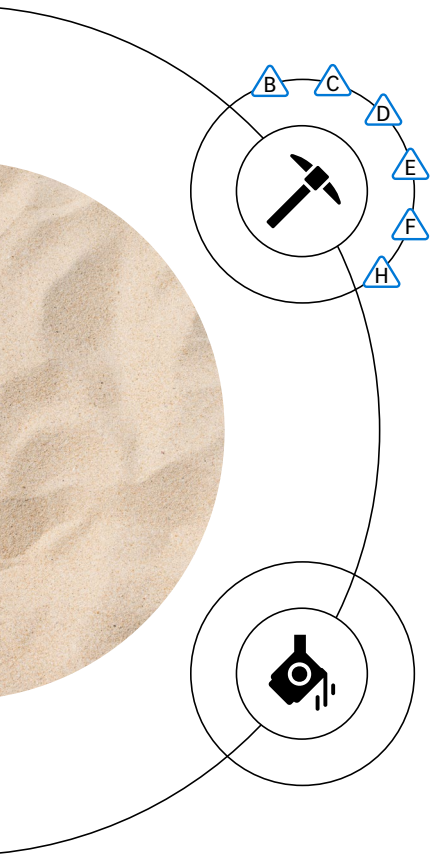
Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Active support / participation in standards / initiatives as well as in public consultation processes of standards systems.

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 aluminium 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 share[1]

- China
- USA
- Spain
- Netherlands
- Italy

Smelting and Refining

Silicon Production[2]

- China **71%**
- Brazil **11%**
- Norway **7%**
- France **4%**
- Russia **2%**

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

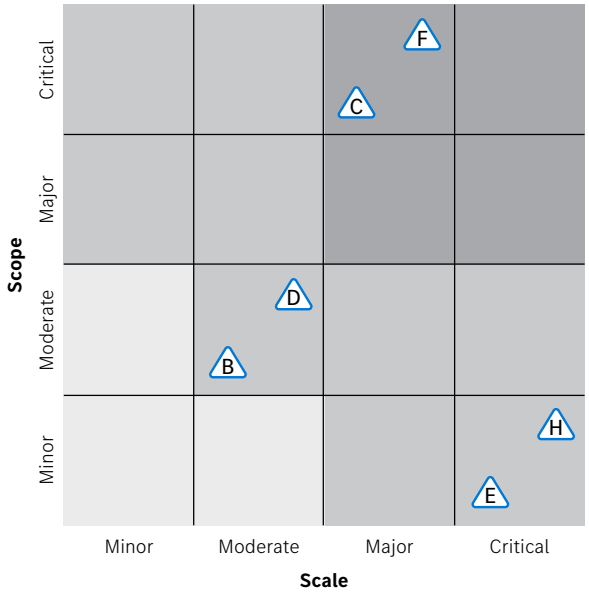
F Environmental risks with impact on human rights

H Serious human rights abuses

Focus Parts/Commodities

- Glass
- Aluminium silicon alloys
- Semiconductors

Risk Analysis



1 USGS 2024
Due to the often very local and non-transparent sand market, it is not possible to give an exact percentage.
2 USGS 2024

Si

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers
- Currently in the assessment process
- Suppliers of focus parts: **30**
- Average DDQ rating: **39%**

Tier N / Systemic Risk

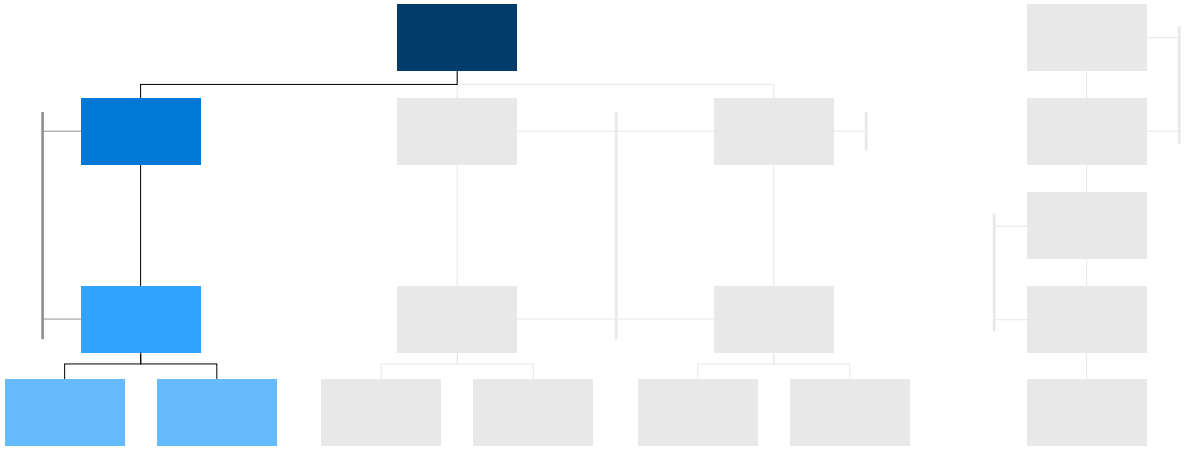
Silica sand, primarily composed of silicon dioxide (SiO_2), is mined from open-pit operations, quarries, or through dredging. It is essential for producing glass, ceramics or in foundry casting. Metallurgical silicon, derived from silica sand, is produced through high-temperature reduction in electric arc furnaces using carbon materials like coal or coke. This silicon is crucial for aluminium alloys, silicones, and semiconductor-grade silicon. China is the leading producer of silica sand and metallurgical silicon, utilising extensive open-pit mining, quarries, and dredging operations, followed by processing in electric arc furnaces.
Two salient risk areas have been identified in the silica sand/silicon industry: Modern slavery including forced labour and Environmental risks with impact on human rights. These risks are prevalent in countries like China, Vietnam, Cambodia and Malaysia. The environmental risks occur mostly due to unregulated and illegal sand dredging and insufficient water management. The potential for modern slavery including forced labour in the silicon sector has been identified as a high risk.

Through our analyses and the exchange with experts from academia and civil society, it has been recognised that the there is a lack of knowledge in public about the risks of sand mining and industry actors also show significant knowledge gaps with regard to responsible sourcing in the sand value chains. Our Theory of Change for Silicon therefore focuses on raising awareness of the risks of sand mining in expert forums, participating in the development of best practices with a focus on the environment for the sand industry, empowering our own supply chain with regard to responsible sourcing in the sand value chain.

Stakeholder Engagement
- Sustainability dialogues with all relevant glass suppliers

Si

Mercedes-Benz Theory of Change for Silicon



Supply Chain Due Diligence & Transparency
MB aims to empower its supply chains through targeted analyses of local silica sand supply chains and by supporting selected key component suppliers in responsible sourcing, with a focus on environmental risk mitigation.

→View path

Supply Chain Due Diligence & Transparency

Best Practices Development

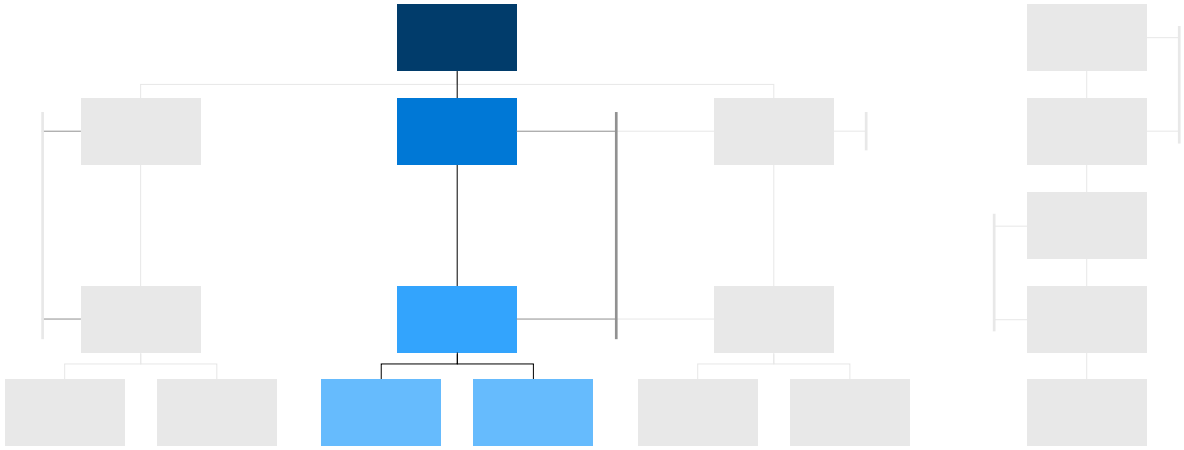
Awareness Raising

Fight Against Forced Labour

Select path

Si

Mercedes-Benz Theory of Change for Silicon



Best Practices Development
MB seeks to play an active role in shaping responsible sourcing guidances int the silica sand supply chains by participating in public consultations and multi-stakeholder discussions, aiming to develop best practice guidelines that will contribute to the effective mitigation of environmental risks.

→View path

Supply Chain Due Diligence & Transparency

Best Practices Development

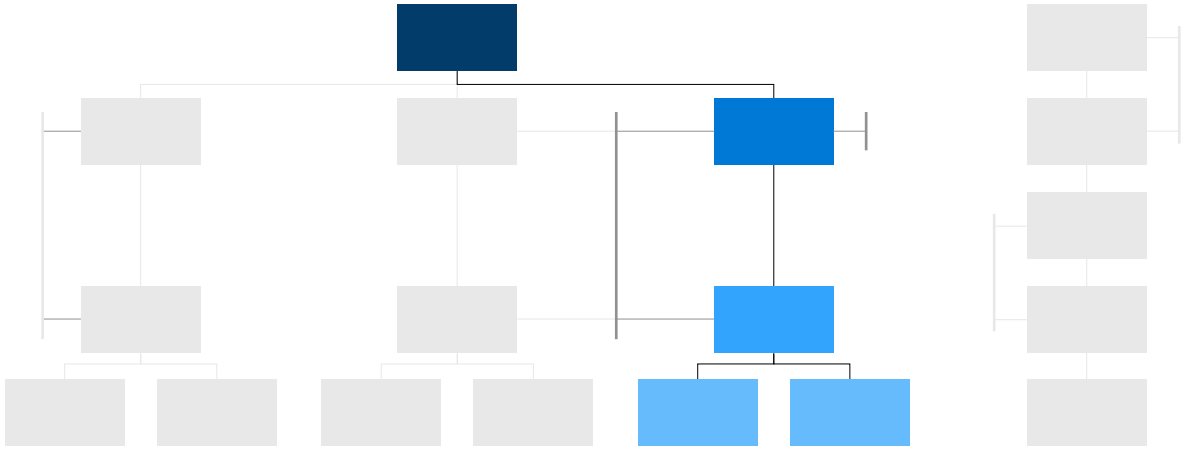
Awareness Raising

Fight Against Forced Labour

Select path

Si

Mercedes-Benz Theory of Change for Silicon



Awareness Raising
Raising awareness about environmental due diligence practices and the importance of sustainably managed sand supply chains is a topic where Mercedes-Benz contributes by informing stakeholders and other industry actors on best practices to address the impacts of unregulated sand extraction via panels and expert forums.

→ View path

Supply Chain Due Diligence & Transparency

Best Practices Development

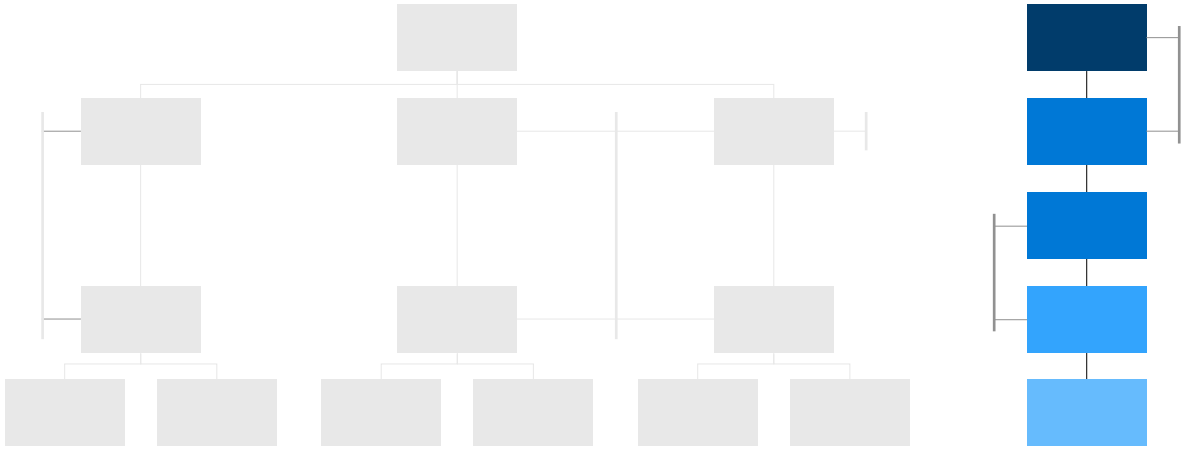
Awareness Raising

Fight Against Forced Labour

Select path

Si

Mercedes-Benz Theory of Change for Silicon



Supply Chain Due Diligence & Transparency

Best Practices Development

Awareness raising

Fight Against Forced Labour

Select path

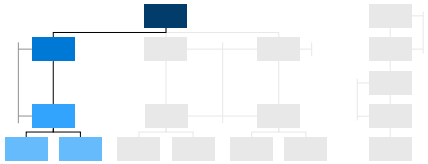
Fight Against Forced Labour

Mercedes-Benz operates according to the principle of “empowerment before withdrawal.” Should this not be possible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to eradicate modern slavery or forced labour in its supply chains. This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

→ View path

Si

Mercedes-Benz Theory of Change for Silicon:
Supply Chain Due Diligence & Transparency



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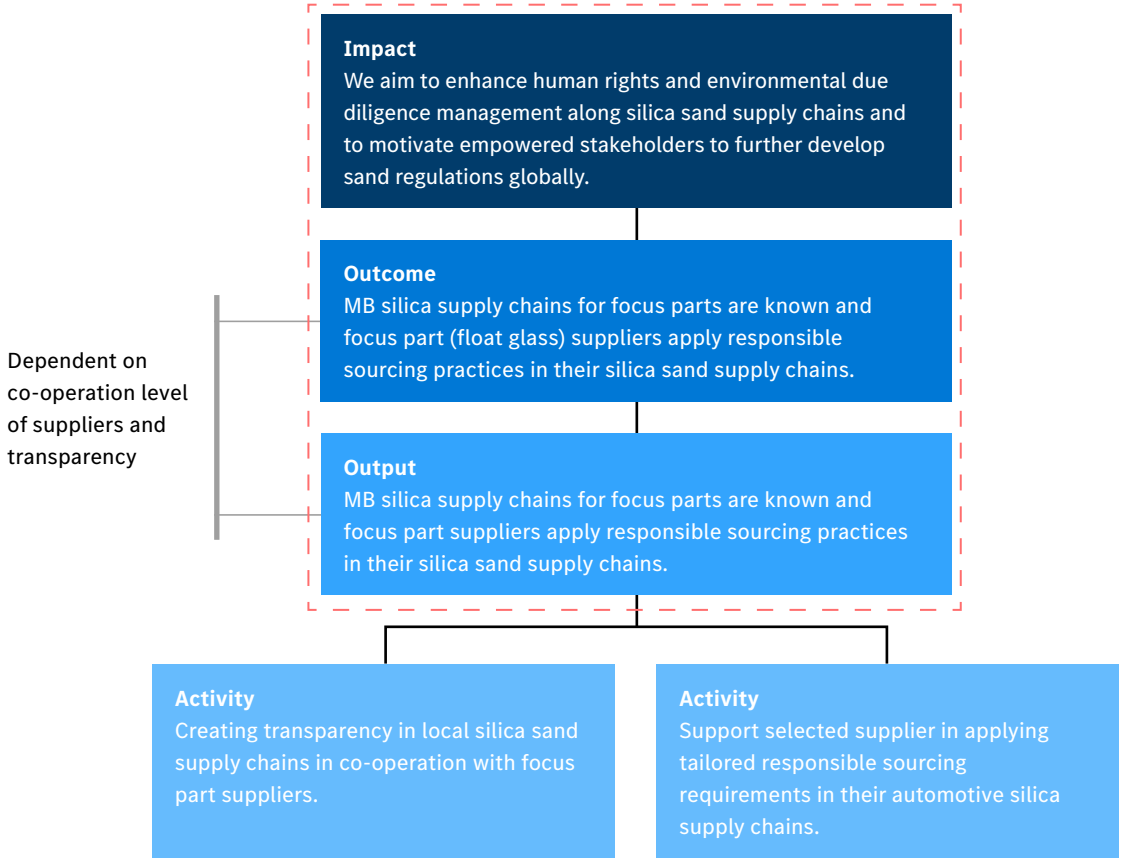
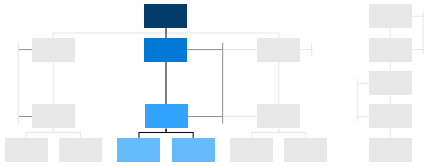


Si

Mercedes-Benz Theory of Change for Silicon:
Best Practices Development



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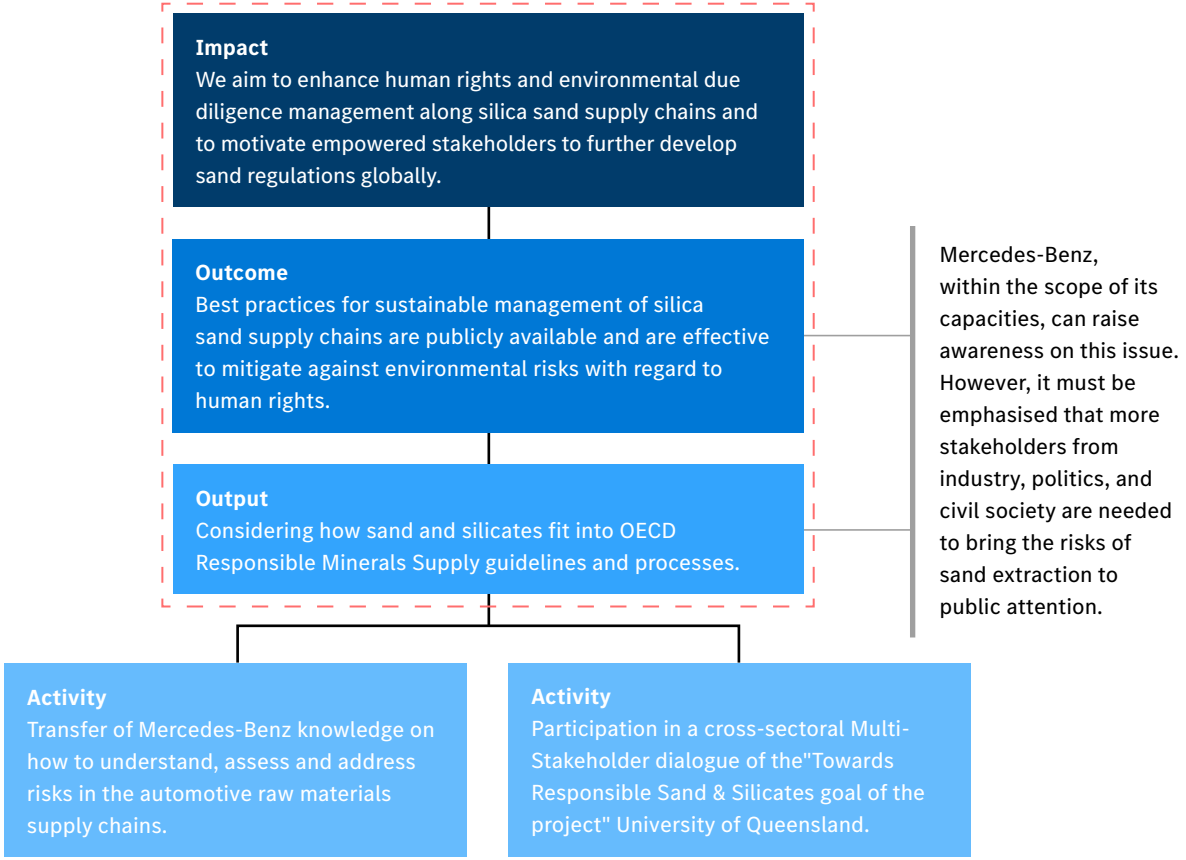
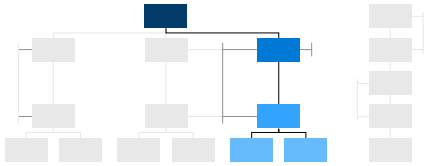


Si

Mercedes-Benz Theory of Change for Silicon: Awareness Raising



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Mercedes-Benz, within the scope of its capacities, can raise awareness on this issue. However, it must be emphasised that more stakeholders from industry, politics, and civil society are needed to bring the risks of sand extraction to public attention.

Impact
Global and local regulation of the sand sector, along with pressure from empowered stakeholders, mitigates the environmental impact of sand extraction. This results in enhanced management of environmental issues and human rights conditions in affected areas.

Outcome
Relevant stakeholders, industry actors, regulators etc. are aware of best practicesfor tackling the effects of unregulated sand extraction and aim to drive policies and promote responsible industry conduct.

Output
Create awareness of Environmental Due Diligence practices and the importance of sustainable managed sand supply chains in the automotive industry.

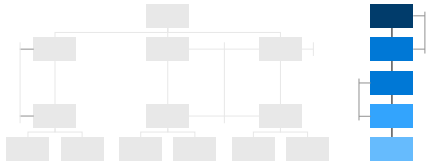
Activity
Position paper on environmental due diligence, biodiversity risks and sustainability in silica sand supply chain.

Activity
Participation in discussion forums, expert conferences, panels to raise awareness for sustainability in the silica sand supply chains.For example: OECD Conference for Responsible Minerals

Halting or regulating the extraction from active sediment areas involves setting strict guidelines and monitoring to protect these ecologically sensitive zones from the adverse effects of mining activities. Mercedes-Benz does not see itself in a position to be involved in such technical questions.

Si

Mercedes-Benz Theory of Change for Silicon:
Fight Against Forced Labour



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

Mercedes-Benz follows the principle of "empowerment before withdrawal," aligning with the recommendations of NGOs. We believe in significantly improving the status quo rather than taking the easiest route. Therefore, instead of simply excluding suppliers when issues arise, we strive to collaborate with them to address the findings. Immediate exclusion might create the illusion of a "clean supply chain," but it wouldn't improve the situation for the workers and local people.

If collaboration is not feasible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to minimise the risk of modern slavery and forced labour.

This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

Impact
We strive to contribute to the mitigation of modern slavery, including forced labour in the Mercedes-Benz supply chain.

Outcome
The risk of modern slavery, including forced labour is mitigated for specific supply chains. Critical business relationships are terminated, if collabouration was not feasible and the approach of "empowerment before withdrawal" was not implementable.

Outcome
Measures to mitigate the risk of modern slavery, including forced labour, are established.

Output
Potential risk industry actors and hotspots are identified in the risk field of modern slavery including forced labour in our supply chain. Decision on which measures need to be implemented to address the risk adequately is made.

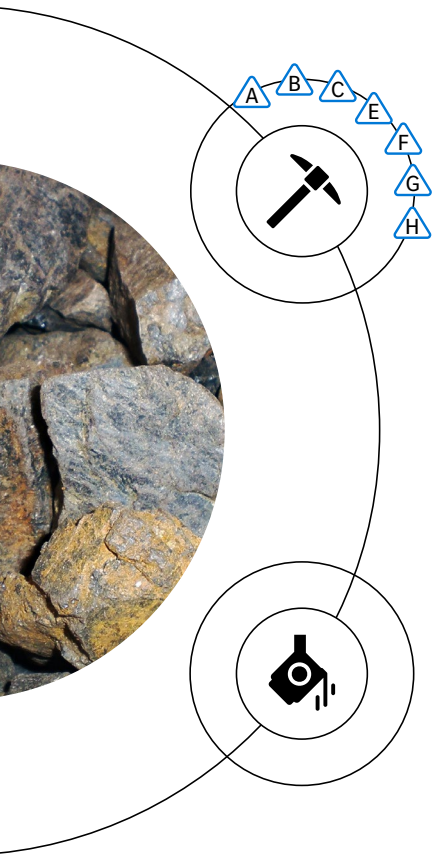
Activity
Usage of due diligence management systems, transparency tools in the supply chain and AI tools to identify potential risk industry actors and risk hotspots.

Mercedes-Benz aims to contribute to this vision. In order to tackle this often systemic problem effectively, other industries beyond the automotive must also engage intensively with this issue to achieve the long-term objective of ending modern slavery including forced labour.

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 contributing to financing conflict in Conflict-Affected and High-Risk countries (CAHRAs). 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

Tantalum (Ta) [1]
- DRC **41%**
- Rwanda **22%**
- Brazil **15%**
- Nigeria **5%**
- China **4%**

Tin (Sn) [2]
- China **24%**
- Myanmar **17%**
- Indonesia **18%**
- Peru **8%**
- DRC **7%**

Tungsten (W) [3]
- China **81%**
- Vietnam **5%**
- Russia **3%**
- North Korea **3%**
- Bolivia **2%**

Gold (Au) [4]
- China **13%**
- Australia **11%**
- Russia **11%**
- Canada **7%**
- United States **6%**

Smelting and Refining
Main processing countries

- Precise production data is not available

1. Tantalum USGS, 2024, 2. Tin USGS, 2024,
3. Tungsten USGS, 2024, 4. Gold USGS, 2024

Focus Parts/Commodities*
- Battery busbar
- On board charger
- Wiring harness
- Selected electronic control units
- Airbag & seat belt tensioner
- Ultrasonic motion sensor

Identified Salient Risks

A Working conditions, including occupational health and safety

B Child labour

C Modern slavery, including forced labour

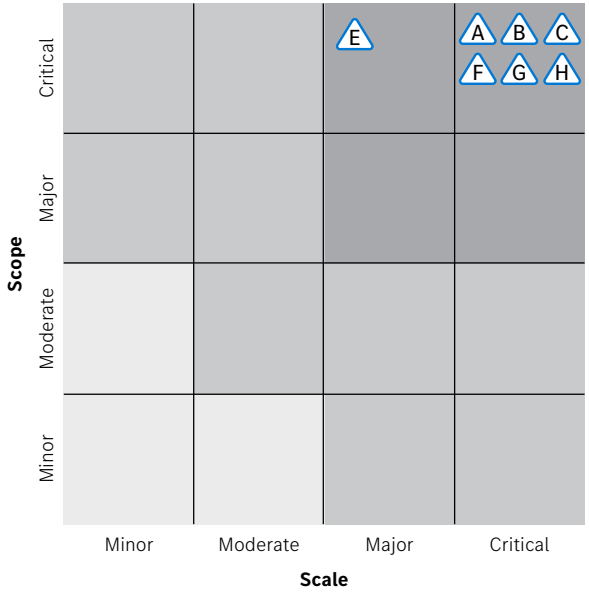
E Excessive violence by private and public security forces

F Environmental risks with impact on human rights

G Business conduct in CAHRAS

H Serious human rights abuses

Risk Analysis*



*The focus part commodities refer to tin and gold

Ta Sn W Au

Mercedes-Benz Supply Chain: Risk Profile

Tier 1 / Suppliers

› This data is not yet available for 3TG as group.

Tier N / Systemic Risk

Based on differing chemical and physical properties as well as geological conditions of deposits of these four materials, mining and processing techniques as well as geographic deposits vary. A common feature of these commodities is the relatively high share of artisanal and small-scale mining (ASM) alongside large-scale industrial mining (LSM) in global primary production. For instance, it is estimated that around 20% of the world's gold production originates from ASM.

ASM operations often use manual mining methods with limited or no mechanised equipment. Miners often lack necessary personal protective equipment (PPE), leaving them vulnerable to serious health and safety risks, including dust and gas inhalation, prolonged exposure to contaminated water, or fatal consequences from ground collapses. ASM also has a strong environmental impact due to the use of harmful chemicals (e.g. mercury and cyanide in artisanal and small-scale gold mining) or inadequate waste management among others that can harm both ecosystems and human health.

Due to the strong presence of ASM in Conflict-Affected and High-Risk Areas (CAHRAs), we consider 3TG to be of high-risk for a wide range of Salient Risk areas, including: Child and Forced labour. This is exacerbated by the fact that ASM often operates informally, which makes workers even more vulnerable to threats from militia and criminal activities. Given the lack of alternative livelihoods, ASM is often the only economically viable activity.

To mitigate these risks, our Theory of Change for 3TG includes different pillars – like standard development and their market adoption including those for smelters and refiners as critical nodes in the 3TG supply chain. We also pursue their market adoption through specific sourcing requirements and aim at monitoring their implementation. Given the severity of ASM impacts, we also want to encourage the automotive industry to take action on mitigating ASM risks.

Stakeholder Engagement

- Dialogue with multi-stakeholder alliances working on ASM
- Dialogue with an international research institution on peace and conflict surveillance
- Dialogue with industry peers on risk mitigation in 3TG sector and ASM topics
- Dialogue with different NGOs implementing ASM projects on the ground
- Dialogue with suppliers raising awareness on ASM
- Dialogue with university expert understanding ASM dynamics

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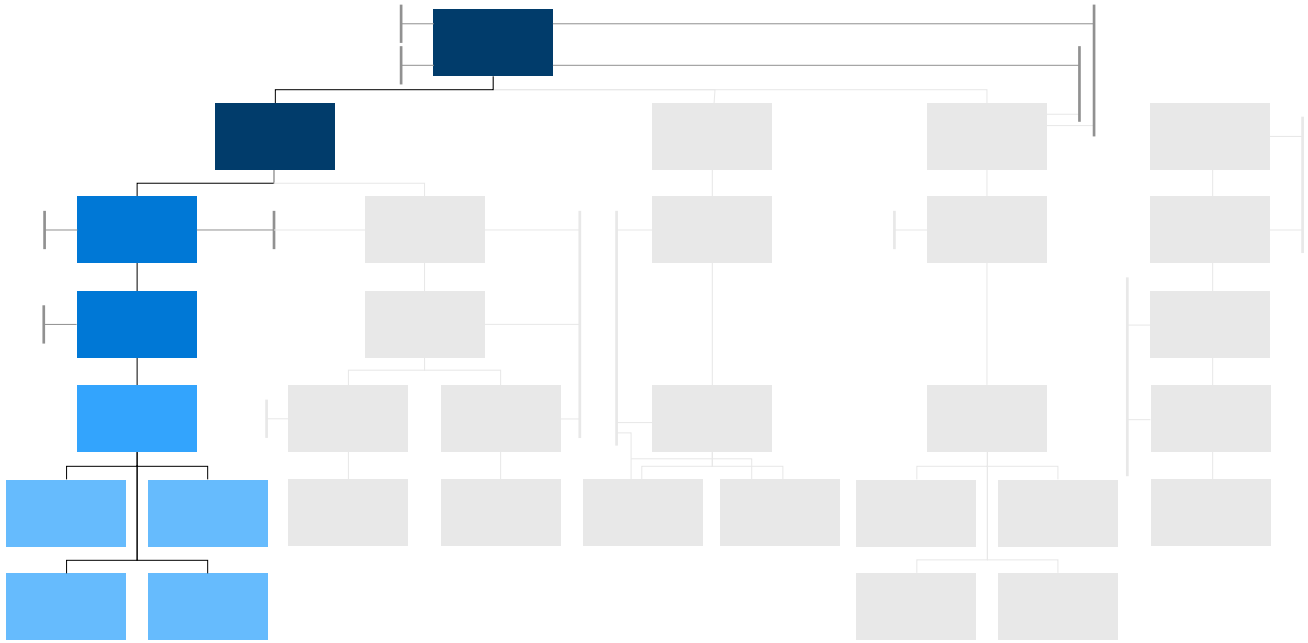
Mercedes-Benz Theory of Change for 3TG



Standard Development
Standards hold significant potential to identify risks, induce and monitor continuous improvement. We are committed to improving the existing standards by actively supporting review rounds by providing input to fulfil the quality criteria we have defined in our ↗ Standard Guidance. We are therefore actively supporting the development of the new RMI RMAP ESG standards for smelters & refiners.

→View path

Standard Development | Market Adoption | Supply Chain Due Diligence & Transparency | ASM Awareness Raising | Fight Against Forced Labour

Select path

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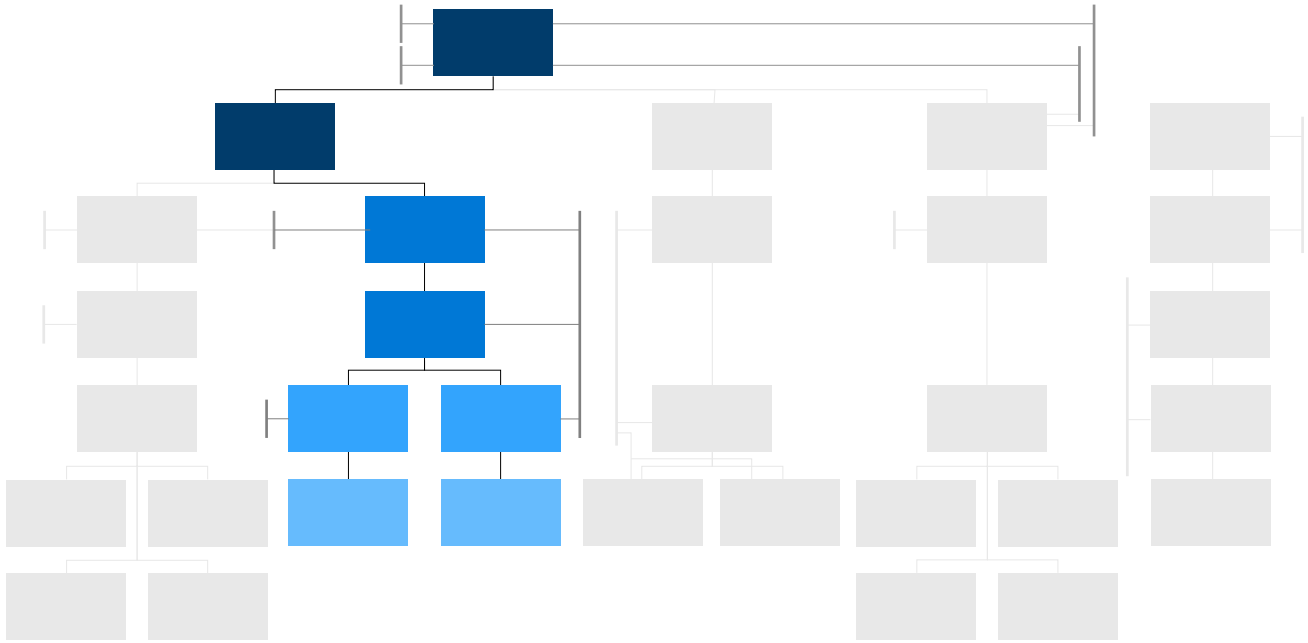
Mercedes-Benz Theory of Change for 3TG



Market Adoption
Demand is the strongest driver for the uptake of standards in raw material supply chains. We have thus introduced requirements related to 3TG smelters or refiners to conform with the RMI RMAP ESG standard or other equivalent OECD aligned standard. This is embedded in our Responsible Sourcing Standards.

→View path

Standard Development | **Market Adoption** | Supply Chain Due Diligence & Transparency | ASM Awareness Raising | Fight Against Forced Labour

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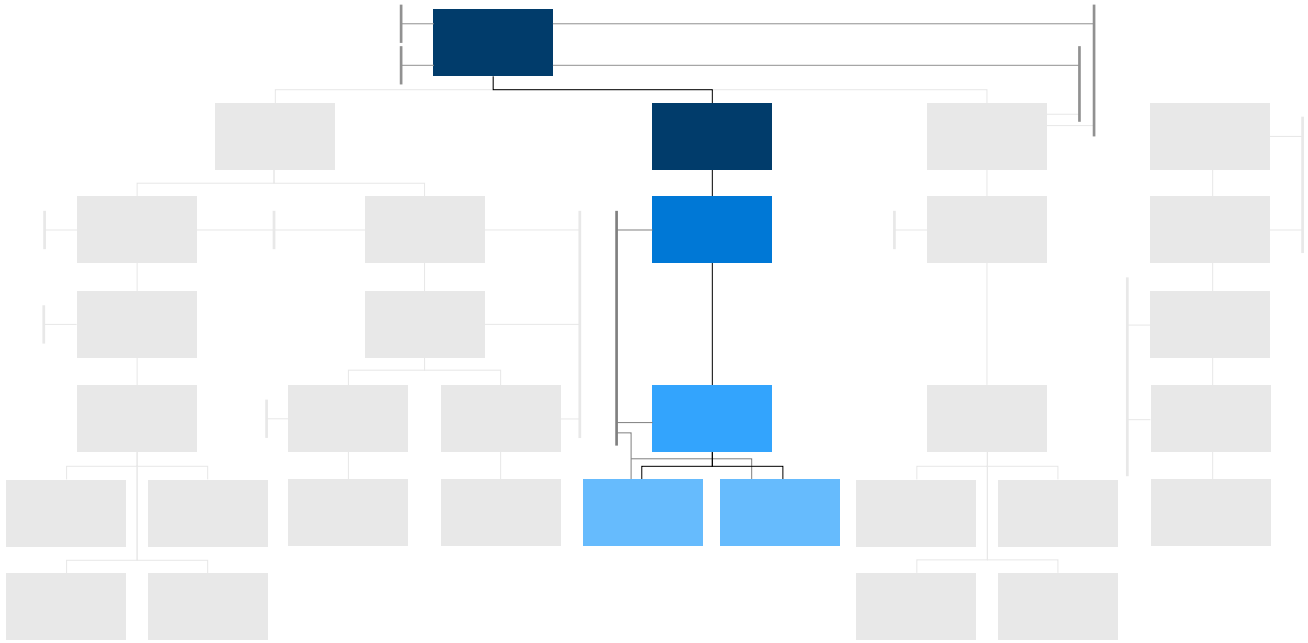
Mercedes-Benz Theory of Change for 3TG



Supply Chain Due Diligence & Transparency
Transparency is key when it comes to improving due diligence measures in the supply chain. With the collection of CMRTs from our 3TG suppliers, we monitor the implementation of our due diligence requirements.

→View path

Standard Development | Market Adoption | **Supply Chain Due Diligence & Transparency** | ASM Awareness Raising | Fight Against Forced Labour

Select path

Ta **Sn** **W** **Au**

Mercedes-Benz Theory of Change for 3TG

Standard Development

Market Adoption

Supply Chain Due Diligence & Transparency

ASM Awareness Raising

Fight Against Forced Labour

Select path

ASM Awareness Raising

The ASM sector is often associated with the worst risks for people and the environment. Up to now, the ASM sector has not been given dedicated attention by the automotive industry. We want to change this by developing a position paper and participating in MSGs on standards and projects to learn how we as an OEM can sustainably contribute to improve the situation for workers on the ground.

→View path

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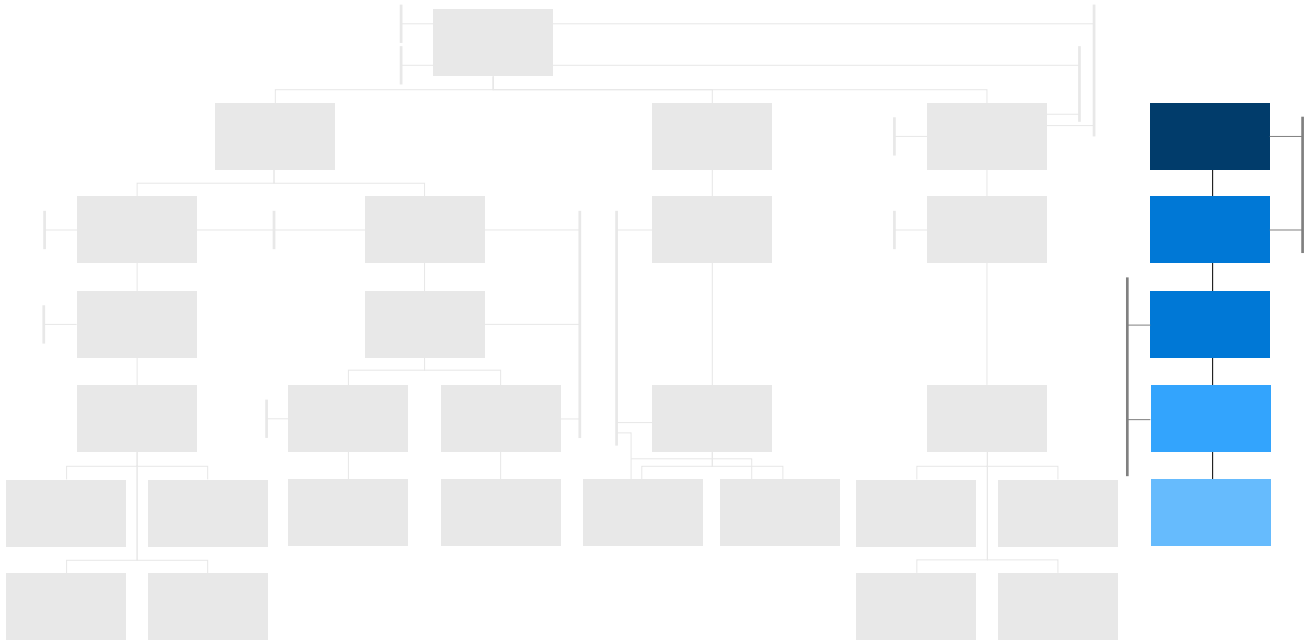
☰ Mercedes-Benz Theory of Change for 3TG



Fight Against Forced Labour
Mercedes-Benz operates according to the principle of "empowerment before withdrawal." Should this not be possible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to eradicate modern slavery or forced labour in its supply chains. This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

→ View path

Standard Development	Market Adoption	Supply Chain Due Diligence & Transparency	ASM Awareness Raising	**Fight Against Forced Labour**

Select path

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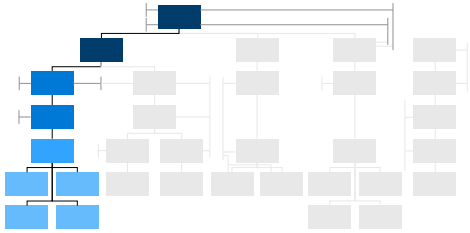
Mercedes-Benz Theory of Change for 3TG: Standard Development



← Back

Here we describe activities planned or under evaluation and/or potential outputs, outcomes and impacts for the near future that might not have occurred yet.

The achievement of this impact is not solely within the scope of Mercedes-Benz. It depends on the willingness of the entire industry (i.p. critical nodes) to implement improvements. The impact is primarily limited to addressing our own supply chains. While we aim to influence broader industry practices, our direct influence extends mainly to the automotive industry.

Dependent on willingness and co-operation of suppliers and MB leverage.

Dependent on the openness and willingness of the standard organisations to receive and implement feedback, as well as on how much other stakeholders demand further development.

Impact
The ultimate vision aims for the enforcement of high standards for human rights and environmental protection and mainstream respect of human rights and environment into the 3TG industry with the long-term reduction of negative social and environmental impacts.

Impact
Standards systems are established in the 3TG mining and refining industry, effectively responding to human rights as well as environmental risks.

Outcome
Suppliers implement effective standards systems to mitigate human rights and environmental risks.

Outcome
Standards systems implement inclusive processes in their governance and audits to improve effectiveness.

Output
Contribution to the development of adequate standards systems and engagement on continous improvement of their effectiveness.

Conflict-affected regions.

Existence and effectiveness of political regulatory frameworks.

Existence of poverty alleviation measures and creation of alternative livelihoods.

Industries beyond automotive (electronics, construction) put forward sourcing requirements for high due diligence standards.

Activity
Develop position on quality criteria of effective standards.

Activity
Active support / participation in standards/ initiatives as well as public consultation processes of standards systems.

Activity
Assuming leadership positions in raw material initiatives to implement further development.

Activity
Member of the RMI Emerging Mineral Group to roll out the new RMAP ESG standard among others.

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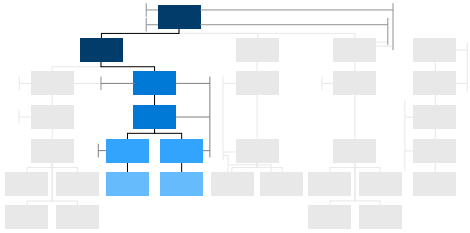
Mercedes-Benz Theory of Change for 3TG: Market Adoption



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Impact
The ultimate vision aims for the enforcement of high standards for human rights and environmental protection and mainstream respect of human rights and environment into the 3TG industry with the long-term reduction of negative social and environmental impacts.

Impact
Standards systems are established in the 3TG mining and refining industry, effectively responding to human rights as well as environmental risks.

Outcome
Standards have achieved a critical market coverage.

Outcome
Strong demand for audited material drives market adoption of standards.

Dependent on co-operation level of supply chain actors and transparency.

Output
Eligible smelters or refiners show interest in engaging in RMAP.

Output
Adequate responsible sourcing requirements (standards) are established in awarding requirements.

Activity
Outreach activities to eligible smelters or refiners for participation in RMAP as part of participation in RMI's Gold Working Group.

Activity
Conformity expectation with RMI RMAP Standard or other equivalent OECD aligned standards approved by MB on smelter & refiner level is an awarding requirement for commodities containing 3TG in the RSS.

Conflict-affected regions.

Existence and effectiveness of political regulatory frameworks.

Existence of poverty alleviation measures and creation of alternative livelihoods.

The implementation of standards and responsible sourcing requirements can be impeded by factors such as market pressure, complexity, stakeholder resistance, regulatory discrepancies and enforcement challenges. The complexity of global supply chains and global political tensions further complicate the effective adoption of standards.

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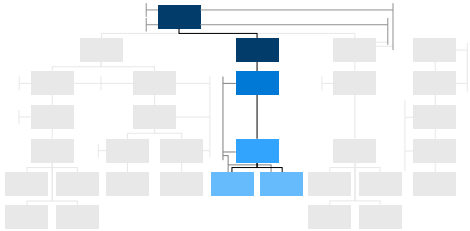
Mercedes-Benz Theory of Change for 3TG:
Supply Chain Due Diligence & Transparency



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Impact
The ultimate vision aims for the enforcement of high standards for human rights and environmental protection and mainstream respect of human rights and environment into the 3TG industry with the long-term reduction of negative social and environmental impacts.

Impact
Best possible Due Diligence practices for 3TG supply chains are established.

Outcome
Empowerment of actors along the 3TG supply chain to comply with high international due diligence standards.

Dependent on co-operation level of supply chain actors and transparency.

Output
Improved transparency on 3TG supply chain actors.

Activity
Collection of data on smelter and refiner with the help of CMRTs.

Activity
Active monitoring of 3TG suppliers and empowerment to implement due diligence measures in the supply chain.

Conflict-affected regions.

Existence and effectiveness of political regulatory frameworks.

Existence of poverty alleviation measures and creation of alternative livelihoods.

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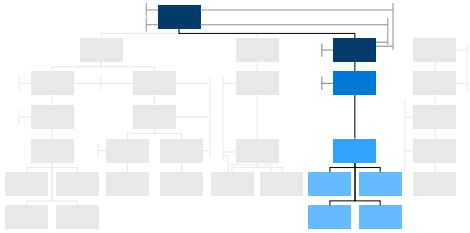
Mercedes-Benz Theory of Change for 3TG:
ASM Awareness Raising



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Dependence on co-operation / willigness of other actors in the industry.

Impact
The ultimate vision aims for the enforcement of high standards for human rights and environmental protection and mainstream respect of human rights and environment into the 3TG industry with the long-term reduction of negative social and environmental impacts.

Impact
Development and market adoption of standards and adequate measures addressing risks in ASM contribute to the improvement of the situation of artisanal and small-scale miners.

Outcome
Automotive industry engages in discussions on effective standards and adequate measures to address risks in ASM.

Output
Development of MB position, representation on international forums and participation in MSGs.

Conflict-affected regions.

Existence of poverty alleviation measures and creation of alternative livelihoods.

Absence of or effectiveness of political regulatory frameworks, & removal of barriers to legalisation, formalisation, mobilisation for participation in standards in ASM.

Activity
Identification of options that promote awareness-raising for standardisation of responsible ASM.

Activity
Promote discussion within target groups for supporting responsible ASM projects.

Activity
Participation in multi-stakeholder alliances promoting responsible ASM practices and discussions on adequate standards in targeted countries for target groups (e.g. miners & intermediaries).

Activity
Define position regarding the presence of ASM material in the supply chain.

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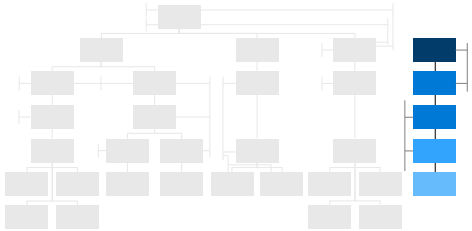
Mercedes-Benz Theory of Change for 3TG:
Fight Against Forced Labour



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Mercedes-Benz follows the principle of "empowerment before withdrawal," aligning with the recommendations of NGOs. We believe in significantly improving the status quo rather than taking the easiest route. Therefore, instead of simply excluding suppliers when issues arise, we strive to collaborate with them to address the findings. Immediate exclusion might create the illusion of a "clean supply chain," but it wouldn't improve the situation for the workers and local people.

If collaboration is not feasible for various reasons, Mercedes-Benz reserves the right to terminate business relationships with critical partners or restructure selected supply chains to minimise the risk of modern slavery and forced labour.

This approach helps MB to prepare for and align with various regulatory requirements and meets our own internal ethical standards.

Impact
We strive to contribute to the mitigation of modern slavery, including forced labour in the Mercedes-Benz supply chain.

Outcome
The risk of modern slavery, including forced labour is mitigated for specific supply chains. Critical business relationships are terminated, if collaboration was not feasible and the approach of "empowerment before withdrawal" was not implementable.

Outcome
Measures to mitigate the risk of modern slavery, including forced labour, are established.

Output
Potential risk industry actors and hotspots are identified in the risk field of modern slavery including forced labour in our supply chain. Decision which measures need to be implemented to address the risk adequately is made.

Activity
Usage of due diligence management systems, transparency tools in the supply chain and AI tools to identify potential risk industry actors and risk hotspots.

Mercedes-Benz aims to contribute to this vision. In order to tackle this often systemic problem effectively, also other industries beyond the automotive must also engage intensively with this issue to achieve the long-term objective of ending modern slavery including forced labour.

Annex I: List of Abbreviations

3TG	Tin, Tantalum, Tungsten and Gold
AI	Artificial Intelligence
ASI	Aluminium Stewardship Initiative
ASM	Artisanal and Small-Scale Mining
CAHRAs	Conflict Affected and High-Risk Areas
CMRT	Conflict Minerals Reporting Template
CoC	Code of Conduct
CSR	Corporate Social Responsibility
DD	Due Diligence
DDMS	Due Diligence Management System
DDQ	Due Diligence Questionnaire
DRC	Democratic Republic of Congo
EMRT	Extended Minerals Reporting Template
ESG	Environmental, Social, and Governance
EU	European Union
FPIC	Free, Prior, and Informed Consent
HREE	Heavy Rare Earth Elements
ILO 169	Indigenous and Tribal Peoples Convention No. 169
IAOOI	Input, Activity, Output, Outcome, and Impact
ILO	International Labour Organisation
IRMA	Initiative for Responsible Mining Assurance
LPPM	London Platinum and Palladium Market
LSM	Large-Scale Mining
MAC	Mining Association of Canada
MB	Mercedes-Benz
MSG	Multi-Stakeholder Group
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
OHS	Occupational Health and Safety
PGM	Platinum Group Metals
PPE	Personal Protective Equipment
REE	Rare Earth Elements
RMAP	Responsible Minerals Assurance Process
RMI	Responsible Minerals Initiative
RSS	Responsible Sourcing Standards
SA	South Africa
SAQ	Sustainability Assessment Questionnaire
ToC	Theory of Change
TSM	Towards Responsible Mining
UN	United Nations
UNDP	United Nations Development Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous People
UNGP	United Nations Guiding Principles on Business and Human Rights
VDA	Verband der Automobilindustrie (German Association of the Automotive Industry)

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Status November 2024

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