Sustainability Standard Systems for Mineral Resources

A Comparative Overview – 2022

Imprint

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*   The revision relates only to errors in content and to clarifications in the presentation of individual systems as a result of discussions with the standard owners. New standards or general developments after the original publication date have not been taken into account.

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Acknowledgements

Executive summary

As a response to concern on environmental and social impacts of mining and related mineral supply chains industries are continuously developing their corporate policies and are increasingly engaging in voluntary initiatives to address these challenges. Sustainability standard systems[1] have become a key means to engage with companies along the supply chain as well as with various stakeholders to drive ESG (environmental, social and governance) performance in the sector and demonstrate that they are operating responsibly.

The landscape of standard systems with varying scope and approach has been constantly growing and developing in recent years. To inform on current developments and characteristics of relevant standard systems BGR has published its first report on sustainability standard systems (at that time referred to as schemes) for mineral resources in 2017. After five years, this report gives an update on the state of eleven systems that address large scale mining and related supply chains. The analysis covers governance, content and implementation issues, as well as a comparison with the EU principles for sustainable raw materials, currently the only common reference for responsible mining in the EU. Furthermore, the report provides a fact sheet for each standard system. The standard systems / respective organizations analysed were: International Council on Mining and Metals (ICMM), Initiative for Responsible Mining Assurance (IRMA), Towards Sustainable Mining (TSM), CERA 4in1, International Finance Corporation (IFC), Responsible Minerals Assurance Process (RMAP), World Gold Council (WGC), Responsible Jewellery Council (RJC), The Copper Mark, Aluminium Stewardship Initiative (ASI) and ResponsibleSteel.

In general, standard systems have grown during the last 5 years, in membership and global spread as well as in commodities covered. Thus, there are currently systems that can be applied for every commodity at mining and at smelting/refining level but with different characteristics.

With regard to ESG issues addressed, further harmonization is observable. Systems that formerly only included conflict related due diligence (such as RMAP) today also offer an ESG standard and mining standard systems such as TSM have adopted to include due diligence requirements of downstream actors. Whereas site specific verification has become more common, transparency of detailed audit results is lagging behind. Membership of initiatives has grown considerably, however certified mine sites are still limited globally, with a focus in the Americas, Australia and southern Africa. IRMA still is the standard with the most stringent requirements, but introduced achievement levels with lower ambitions to facilitate uptake. Especially new standard systems introduced mutual recognition of other systems or parts of their standard to reduce double auditing. ISO 14001 and ISO 45001 / OHSAS 18001 are a common reference in all but one system, the same holds for supply chain due diligence as defined by OECD and the UN Guiding Principles on Business and Human Rights.

The comparison with the EU principles for sustainable raw materials reveals that relevant social and environmental issues relating to negative impacts of mining are generally covered by most standard systems, though in different detail. What is less addressed by the systems in comparison to the rather general EU principles are issues that not directly affect performance of an operation but tend to address general objectives related to societal development such as innovation and skills development or issues mostly addressed (so far) in downstream activities such as circular economy, material stewardship or product stewardship. Thus, these issues are outside the scope of most of the systems studied.

It will be seen whether the current high dynamic of standard systems will continue, or whether priorities will shift to ESG issues that have a greater impact on supply security, given the current challenges to supply chain resilience. Also regarding regional distribution it remains to be seen, if uptake will spread more broadly in future.

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1 This report adopts the sustainability standards system concept of the ISEAL Alliance, which states that a standards system is the collective of organisations responsible for the activities involved in the implementation of a standard, including standard setting, capacity building, assurance, labelling and monitoring (ISEAL 2018).

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1 Introduction

Minerals and metals are essential for the development of societies and the mining sector supports the livelihood of millions of people, including in developing countries. However, the constant growth of natural resource extraction, including minerals, raises concern not only by local communities but also by investors customers, civil society and also governments given its environmental as well as negative social, notably human rights related impacts.

The mining and mineral processing industry as well as downstream manufacturing companies are thus facing growing expectations in terms of ensuring responsible practice and supply chains – including minimizing negative impacts as well as generating local benefits.

Whereas the first standard systems for mining were developed decades ago, often in the context of social license to operate, the recently growing number of initiatives related to mineral supply chains has been driven primarily by legislation. Several regulations have been passed or are currently debated that formulate sustainability obligations for supply chain due diligence in general or for mineral supply chain specifically. For example, countries that put forward national supply chain due diligence obligations include Canada, France, Germany, the Netherlands, the United Kingdom and the United States.

Especially the European Union (EU) has put forward several proposals / regulations, notably:

- Supply chain due diligence obligations for importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas (European Parliament and Council, 2017) focusing on conflict-related human rights risks,
- A regulation concerning batteries and waste batteries (European Commission, 2020), updating a former directive, and, among others, including requirements to (1) establish carbon footprints for electric vehicle batteries, (2) increase recycled metal content in battery manufacturing, and (3) establish supply chain due diligence procedures.
- A legislative proposal on Corporate Sustainability Due Diligence focusing on obligations from international conventions related to human rights, fundamental freedoms as well as biological resources, chemicals and waste.

In general, supply chain due diligence obligations broadened from a focus on conflict-related human rights risks as laid down in Annex II of the OECD Due Diligence Guidance (DDG) for mineral supply chains (OECD, 2016) to include other human rights related risks and social issues as well as environmental issues. The Organisation for Economic Co-operation and Development (OECD) is currently developing a practical handbook on environmental due diligence in mineral supply chains, one example that more guidance is needed to address sustainability in mineral supply chains in a comprehensive and inclusive way. Additionally, from 2022 on, social and environmental requirements, mainly related to compliance with the OECD DDG, as well as ISO 14001 for environmental management and ISO 45001 for occupational health and safety (OHS) issues, shall become mandatory for London Metal Exchange (LME) brands.

In 2017, the Federal Institute for Geosciences and Natural Resources (BGR) compiled an overview of sustainability standard systems (referred to there as schemes) for mineral resources (Kickler & Franken, 2017) as part of a 3-year research project. As regulations and guidelines related to responsible supply chains as well as voluntary initiatives have seen a rapid development since then, this study provides an update of **eleven selected sustainability standard systems** and their relevant features.

As in the former study, the comparison of standard systems and requirements relates to the **mining and processing level** mostly. Given the broad landscape of voluntary sustainability standard systems, we limit this study to systems relevant for metals and critical raw materials, thus not including e.g. natural stones. Also, we only include standard systems applicable to the **large scale mining** (LSM) sector given that the

majority of mineral production is related to LSM. Artisanal and small scale mining (ASM) is highly relevant for certain commodities, e.g., tantalum, tin or gold. However because of the specific characteristics of ASM, tailored standard systems have been developed to address that sector, which might need a separate analysis.

We compared the sustainability issues addressed by the standard systems with the **EU Principles for Sustainable Raw Materials** (EUROPEAN COMMISSION, 2021), which is up to now the only document that outlines mining sector specific sustainability expectations of EU member states related to mineral raw materials. These principles have been developed by the Raw Materials Supply Group (a working group including Member States, regional authorities, industry associations, civil society, social partners and research) and the European Commission as a set of voluntary, non-mandatory principles and a common denominator of what sustainable raw material production implies and what should be applied in the European Union.

Factsheets of the respective standard systems in the annex give an overview of the characteristics of each system with background information, subject matter and requirements of the standard as well as a description of assessment of standard compliance and transparency of the results.

2 Analytical approach

The present study was conducted as a desk research analysis and aims to give a comprehensive overview of the most relevant standard systems applied in mining and mineral supply chains. Their relevance is reflected either in a broad actual uptake by economic actors (mining companies, mineral supply chain actors, investors, etc.) or – for more recent standard systems – by support and / or acknowledgement by major international actors which might point to broader future uptake of the systems. It should be noted that this selection may not be exhaustive and other relevant sustainability standard systems might exist.

As a first step, the selected sustainability standard systems were analysed in-depth and information was consistently summarised in individual fact sheets (see Annex I). These fact sheets contain general background information, information on the subject-matter and the requirements of the corresponding standard as well as an assessment of standard compliance and transparency of the results. The major sources of information were the systems' websites, certification manuals and further material provided by the standard systems, e.g., yearly progress reports, audit summary reports or systems' impact reports. The fact sheets were finally reviewed by the standard systems' responsible organizations (except IFC; see Acknowledgements). The feedback was checked and considered in general but shortened in length if necessary. Information has been included until March 2022 (for ASI until May 2022).

For comparing the standard requirements of the standard systems to the EU principles for sustainable raw materials, we outlined our understanding of the issues covered by each principle in order to obtain a consistent understanding and be able to compare the standard systems content. Afterwards the requirements of the systems defined in their standard documents were analysed thoroughly and assigned to the corresponding EU principles, issues if applicable. The relevant reference to the chapter or number of the requirements as well as the entire text passage of the standard document was documented in a matrix. Additionally, standards, guidelines, etc. that are referred in the standard's documents were added to the matrix as well as comments related to the interface between the EU principle and the corresponding standard system. Based on this information, the comparison of the systems with the EU principle has been conducted, applying the categories "covered", "partially covered", and "not directly covered". Some EU principles were difficult to align with expectations of auditing standards on company performance, the standard systems mostly have been designed for. For instance if its scope is too broad to be verifiable in a certification system and/or its target group seems to be beyond company level (4b, which addresses societal demand), no comparison was conducted. Comments on the comparison of single requirements of the standard systems to the EU principles are provided in an *Excel file*.

It should be noted that the comparison of the systems' requirements to the issues of the EU principles does not allow drawing conclusions related to overall quality of the standard systems, as they potentially contain more requirements than addressed by the EU principles and/or interpret certain issues in a different (not necessarily less substantial) way. Also beyond sustainability issues covered, the governance and transparency requirements of the respective standard systems differ which is relevant for their implementation and rigour (see chapter 3.2).

Table 1: Mineral commodities addressed in the analysed sustainability standards developed by the listed standard systems / responsible organisations. Systems' abbreviation = abbreviations used in this report for the corresponding standard system.

Mineral Commodity	Standard System / Responsible Organisation	Sustainability Standard	Systems' abbreviation
All mineral resources	International Council on Mining and Metals (ICMM)	Sustainable Development Framework (SDF)	ICMM
	Initiative for Responsible Mining Assurance (IRMA)	Standard for Responsible Mining	IRMA
	Towards Sustainable Mining (TSM) / Mining Association of Canada (MAC)	TSM Protocols and Frameworks	TSM
	CERA 4in1 / DMT GROUP	CERA 4in1 Performance Standard (CPS)	CERA 4in1
	International Finance Corporation (IFC) / World Bank Group	Performance Standards on Environmental and Social Sustainability	IFC
	Responsible Minerals Assurance Process (RMAP) / Responsible Minerals Initiative (RMI)	RMAP Mineral Supply Chain Due Diligence (DD) Standards + (voluntary) ESG Standard	RMAP
Gold	World Gold Council (WGC)	Responsible Gold Mining Principles	RGMPs
Diamonds, gold, silver & PGE	Responsible Jewellery Council (RJC)	• RJC Code of Practices (COP) • RJC Chain-of-Custody Standard (CoC)	RJC
Copper, (+ lead, nickel, zinc & their by-products)	The Copper Mark	• The Criteria Guide for the Risk Readiness Assessment • Joint Due Diligence Standard for Cu, Pb, Ni & Zn	The Copper Mark / CM
Aluminium (+ bauxite, alumina)	Aluminium Stewardship Initiative (ASI)	• ASI Performance Standard • ASI Chain-of-Custody Standard	ASI
Steel	ResponsibleSteel	ResponsibleSteel Standard	RS

3. Overview of sustainability standard systems

3.1 Supply chain coverage

The main focus of the present study was the analysis of sustainability standard systems addressing the upstream supply chain i.e. from mining to the processing and smelting/refining stage. The upstream mineral supply chains has been identified as a high risk sector due to its environmental and social impacts and thus has been in the focus of mineral related regulations and requirements as well as sustainability standard systems (OECD, 2016). For a consistent comparison of the standard systems, we chose the recently published EU principles for sustainable raw materials, as they for the first time formulate a common understanding of ESG expectations for the mineral raw materials sector in Europe. It should be noted that the EU principles – though being quite general in their formulation – only refer to the mining and processing level and thus do not address the smelting and refining level or the downstream supply chain (Figure 1).
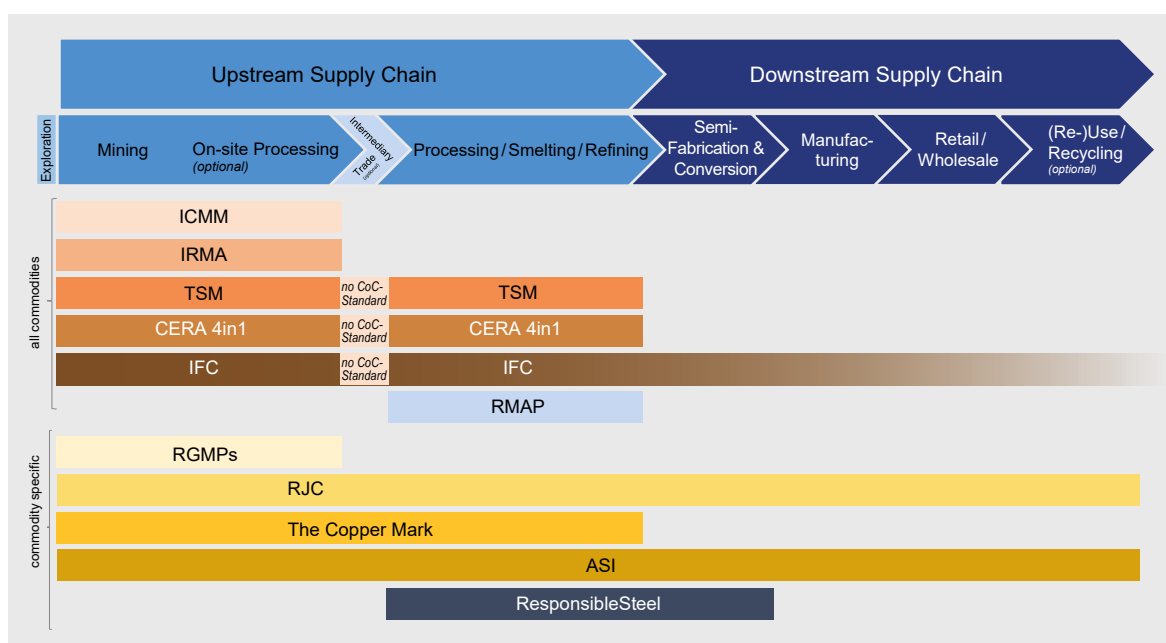
Figure 1: Grouping of analysed sustainability standard systems according to their scope. The exploration phase is generally not covered by the standard systems. However, specific standards for exploration activities are currently being developed (e.g. IRMA-Ready Standard) and IFC is also applicable for certification in the (late) exploration phase. In some cases, on-site processing includes crude refining (e.g., cobalt). Intermediary trade is covered if the system has a Chain-of-Custody (CoC) standard (CERA 4in1 is currently developing a CoC standard).

The analysed sustainability standard systems include standards that can be applied for all mineral commodities as well as others (covering the upstream as well as downstream supply chain) that focus on a single or a group of mineral commodities (cf. Table 1). However, beside IFC's universal E&S Performance Standards that can be applied for all kind of industries, there is no standard systems for the entire supply chain (incl. downstream) yet that can be applied to all mineral commodities (Figure 1). TSM, CERA 4in1 and IFC are the only standard systems applicable to the whole upstream supply chain which are not commodity specific. An example of a standard system for the entire supply chain (up- and downstream) is the Aluminium Stewardship Initiative (ASI). Its Performance Standard's principles and criteria are applicable to all stages of aluminium production and transformation highlighting the desire for tailored commodity specific and supply chain stage specific requirements that can respond to certain issues

such as the high-energy demand at the processing stage. Furthermore, ASI has, next to RJC, a Chain-of-Custody standard that allows members to obtain chain of custody certification for their supply chain. This is highlighted by the solid bar in Figure 1, where the intermediary trade is exemplified. The Copper Mark has a Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc, in addition to its Responsible Production Criteria.

3.2 Governance of sustainability standard systems

This section provides a comparison of the similarities and differences in the overall governance of the standard systems. Criteria for the various governance aspects include issues related to the governance structure, assurance as well as transparency requirements and whistle-blowing mechanisms (Table 2).

Table 2: Classification of governance criteria for sustainability standard systems (adopted from Drive Sustainability's Common Standards Recognition Framework). ISEAL = International Social and Environmental Accreditation and Labelling Alliance

Criteria	Low-level	Average	High-level
Governance structure	Industry only	Industry led + ad-hoc stakeholder engagement	Multi-stakeholder collaboration
ISEAL membership	No	ISEAL Community member	ISEAL Code compliant member
Audit *(type, auditor status, frequency)*	Self-assessment	Verification	Verification and certification
Level of 3rd party verification	Enterprise level without site-specific verification	Enterprise level supported by site-specific verification (sample)	Site-specific verification
Assurance standards for conformity assessment	No assurance standard referenced	Recommended assurance standards	Compulsory assurance standards
Transparency of audit results	Summarized superficial results or results only for internal use	Publication of detailed summarized results	Results about single standard requirements are published
Whistle-blowing mechanism *(for standard non-compliances)*	No	An Issues Resolution System (or similar) is under development	Yes, an Issues Resolution System (or similar) is in place

The standard systems studied have different backgrounds, initiators, and drivers for implementing sustainability requirements related to mining and mineral supply chains. Most standard systems were initiated by the industry, either as a collaboration of mining companies on a global level (e.g. ICMM) or as part of a national association (e.g. TSM as obligatory standard for Mining Association of Canada (MAC) membership) or as a collaboration of mining companies focussing on a certain commodity (e.g. The Copper Mark or ASI). This industry background is reflected – at different levels – in the actual governance of the initiatives with various stakeholder groups represented on the systems' boards. The underrepresentation of non-industry voices in initiatives has been a criticism of industry-only systems and stakeholder inclusion is also relevant for ISEAL recognition (see below). In recent years, several standard systems thus have broadened their governance structure to include multi-stakeholder approaches in decision-making and grievance. Also 3rd party verification has been increasingly incorporated into the requirements. Civil society in particular, but also various downstream stakeholders, expect rigorous compliance assessment and transparency of results. The need for initiatives to be recognised, e.g. because they comply with the EU conflict minerals regulation, has also led to an alignment of governance structures, e.g. in relation to audits. Table 3 and Table 4 summarizes the governance aspects of the respective standard systems.

Table 3: Comparison of the difference governance criteria of sustainability standard systems addressing all mineral commodities. For requirements for the classification see Table 2, a detailed description of the single criteria is provided in the fact sheets of the standard systems in the annex.

Criteria	ICMM	IRMA	TSM	CERA 4in1	IFC
Governance structure	Industry led initiative	Multi-stakeholder collaboration - IRMA is equitably governed by six sectors	Industry (mining association) led initiative with structured stakeholder engagement in advisory panel	Initiative under development with structured stakeholder engagement in the advisory board	Initiative led by the Worldbank governed by the 185 member countries + ad-hoc stakeholder consultation
ISEAL membership	No	ISEAL community member	No	No	No
Audit *(type, auditor status, frequency)*	3rd party verification (every 3 years)	3rd party verification and certification (every 3 years)	3rd party verification (every 3 years)	3rd party verification and certification (every 2 – 3 years)	Self-assessment – monitoring of obligatory annual reports by IFC staff
Level of 3rd party verification	Verification only for selected assets chosen by a member-driven prioritization process	Site specific verification	All sites of a member in the corresponding country have to be audited	Site specific verification	No 3rd party verification, site visits by IFC staff
Assurance standards for conformity assessment	ISEA 3000 ISAs/ISREs (IAASB) AT Section 101 AA1000AS	ISO 19011 ISO 17021	Not referenced	ISO 19011 ISO 17011 ISO 17065	ISO 19011
Transparency of audit results	Summarized results in company reports – Asset-by-asset disclosures apply to self-assessments and third-party validations from 2022 onwards	Results about (relevant) single standard requirements are published	Publication of descriptive text with summarized results and rating results of single standard requirements	Not defined yet – intention to publish the full or parts of the audit report	Summarized results of standard requirement are published on IFC project information portal
Whistle-blowing mechanism *(for standard non-compliances)*	No	Yes	Yes	No	Yes

■ Low-level   ■ Average   ■ High-level

Table 4: Comparison of the difference governance criteria of commodity specific sustainability standard systems and/or smelter standards. For requirements for the classification see Table 2, a detailed description of the single criteria is provided in the fact sheets of the standard systems in the annex.

Criteria	RMAP	RGMPs	RJC	The Copper Mark	ASI	ResponsibleSteel
Governance structure	Industry led initiative (RBA) with structured stakeholder engagement by a Steering Committee	Industry led initiative (WGC)	Industry led initiative	Industry led initiative with structured stakeholder engagement in the Advisory Council	Multi-stakeholder board (elected by ASI members)	Multi-stakeholder board (elected by RS members)
ISEAL membership	RBA is an ISEAL subscriber, RMI is working toward achieving full ISEAL membership	No	ISEAL Code Compliant member	ISEAL community member	ISEAL Code Compliant member	No – Application of ISEAL Impacts Code for the standard development
Audit *(type, auditor status, frequency)*	3rd party verification and certification (audit periods max. 3 years)	3rd party verification on an annual base	3rd party verification and certification (every 3 years)	3rd party verification and certification (every 3 years)	3rd party verification and certification (every 3 years)	3rd party verification and certification (every 3 years + 1 surveillance audit in-between)
Level of 3rd party verification	Site specific verification	On-site verification for a rotating sample of mine sites	Site specific verification	Site specific verification	Site specific verification	Site specific verification
Assurance standards for conformity assessment	ISO 19011 ISO 17021	ISEA 3000 AT-C 105/205 AA1000	ISO 19011	ISO 19011 or ISEA 3000	ISO 17011 ISO 17065 (or equivalent)	ISO 17021
Transparency of audit results	Publication of summarized results required	Publication of summarized results supplemented by a remedial action plan for single non-conformities	Summarized superficial results only with general rule violations	Publication of summarized results	Rating results of single standard requirements with specific comments on each criterion	Summarized results of the audit and the certification process
Whistle-blowing mechanism *(for standard non-compliances)*	Yes	No	Yes	Yes	Yes	Yes

Low-level   Average   High-level

The board structure and the overall governance of IRMA is standing out with its non-industry-initiated multi-stakeholder approach (ASI and ResponsibleSteel also have a multi-stakeholder board elected by its members). The involvement of both, the civil society and large companies at the very early beginning of the standard-setting process aimed for a broad consensus in terms of best practice standard requirements. However, IRMA's multi-stakeholder approach has taken about a decade to develop (Figure 2).

CERA 4in1 was partly developed within the framework of an EU-project (2017-2021) funded by EIT RawMaterials. Today, the initiative is funded by industry and has structured stakeholder participation in its advisory board.

IFC is a member of the World Bank Group and governed by the 185 member countries with an ad-hoc stakeholder consultation in the decision making process. It is the only standard systems in this study that has not been specifically developed for the mining and minerals sector, however is widely applied for assessing mining projects.

While the board of several initiatives is led by its industry initiators only, the standard development and/or the revision process (if applicable) of most standard systems was conducted with a broad multi-stakeholder consultation. This includes participation of civil society, the private sector as well as public institutions, academics and governmental organisations.

ISEAL compliance has emerged as a quality benchmark for governance of standard systems. The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance is a meta-governance system for sustainability initiatives with the aim to improve effectiveness and performance of standard systems. One problem is duplication, as competing initiatives face the same challenges and different certifications for the same commodity may create confusion for both consumers and producers, leading to a loss of legitimacy and credibility. ISEAL claims that this can be avoided through ISEAL membership, where the alliance advises and supports sustainability initiatives and engages stakeholders (ISEAL Alliance, 2018). To be qualified as an ISEAL Community Member, an organisation must meet a number of eligibility requirements that guarantee a continuous improvement of their systems. A focus of the requirements for an eligible organisation is on transparency including the broad publication of information and a publicly available complaint or dispute resolution mechanism. Furthermore, an eligible organisation must undergo a gap analysis of system elements against the ISEAL Codes of Good Practice for Standard-Setting and provide a clear rationale where elements of a Code do not apply to its model or system. To maintain ISEAL Community Member status, organisations must demonstrate on an annual basis that they meet numerous improvement criteria (ISEAL Alliance, 2020). Community Members that demonstrate adherence to the baseline and improvement criteria of ISEAL's Codes of Good Practice in accordance with the ISEAL Independent Evaluation Procedure are recognised as ISEAL Code Compliant.

Of the standard systems studied, only ASI and RJC are ISEAL Code Compliant members. IRMA and The Copper Mark are ISEAL community members while RMI as initiator for the RMAP is working toward achieving full ISEAL membership. However, non-membership of ISEAL does not necessarily mean downgrading of a standard system, and ResponsibleSteel and CERA 4in1, for example, indicate consideration of ISEAL principles within the standard development. Despite its ISEAL membership, the RJC's board and committees are chaired only by industry representatives, and transparency of audit results is low while other criteria are high-level rated (Table 4). ISEAL membership is only one of several quality criteria that facilitate the selection of a suitable standard system.

The type of conformity assessment or audit, respectively, can be categorised according to three levels: (1) self-assessment, (2) 3rd party verification, (3) 3rd party verification and certification, where certification requires verification. Of all standard systems only IFC's conformity assessment is limited to a self-assessment. Additionally, the obligatory annual reports of the IFC clients are monitored by IFC and IFC staff conduct irregular site visits. All other standard systems studied require at least 3rd party verification (TSM, RGMPs) or additional 3rd party certification, generally every 3 years. 3rd party verification of the

ICMM Mining Principles is conducted only for selected assetsand a member-driven prioritization process determines the number and frequency of the third-party validation for member assets.

IRMA, CERA 4in1 and RMAP require the verification of conformance by an independent auditing body in line with ISO 19011 auditing standard. ISO 19011 must also be met for the self-assessment required by IFC. Additionally, for the conformity assessment of IRMA and RMAP as well as ResponsibleSteel certification bodies must demonstrate conformance with ISO 17021 that describes requirements for bodies providing audit and certification of management systems. Within this ISO norm, it is required, amongst others, that certification bodies must have their own complaints procedures. The other standard systems studied have generally defined their own criteria that must be met by auditing service providers. Either the company can select a qualified auditor (e.g. for the RGMPs) or the standard organization provides a list of approved auditors (e.g. by ICMM, TSM, ASI, The Copper Mark).

Audit results are generally published as a summary or in an aggregated form. Results at the level of single standard requirements with detailed information are only published by IRMA and ASI. TSM and IFC publish at least rating results of single standard requirements. ICMM announced an asset-by-asset disclosure from 2022 onwards.

For the majority of the standard systems studied, a whistle-blowing mechanism is available, which allows various stakeholders, and especially affected local communities to raise concerns about non-compliances with the systems' standard.
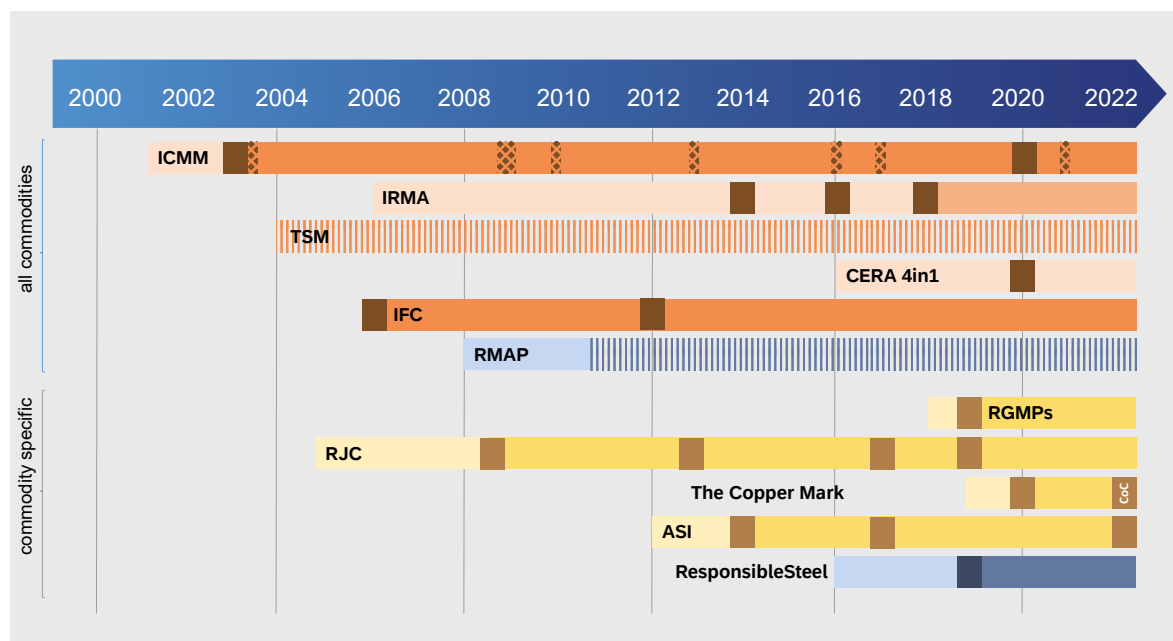
Figure 2: Timeline of sustainability standard systems with significant developments from 2000 to 2022. Light coloured bars indicate consultation and development phase, darker coloured bars indicate implementation or applicability periods. Dark boxes signal publication of the first (draft) standard version and subsequent updates. Small boxes for ICMM stand for the latest update of the eight Position Statements. If bars are hatched, standards are updated continuously (at least every 2 years). The latest revision process of IRMA and CERA 4in1 was ongoing/not finalised at time of research. Modified after Franken and Schütte (2022).

3.3 Implementation

Launched already in 1992, the first broad multi-stakeholder collaboration with the goal to implement sustainability across the mining sector was the Whitehorse Mining Initiative (WMI) led by the Mining Association of Canada (MAC). The initiative concluded in 1994 with a final report outlining a series of principles and actions to ensure the sustainability of mining activity within Canada (IISD, 2018). Finally, in 2004 MAC published the first version of the TSM standard. To date, the TSM framework has been adopted by nine countries (Figure 3).

More than two decades ago, the Global Mining Initiative initiated by a small group of mining and metals company CEOs and led by the World Business Council for Sustainable Development, commissioned the multi-stakeholder consultation process "Mining, Minerals and Sustainable Development (MMSD) Initiative" that outlined the sector's role for sustainable development. MMSD and the Global Mining Initiative gave rise to the creation of the International Council on Mining and Metals (ICMM), founded in 2001. Since then, ICMM's Sustainable Development Framework, including the Mining Principles and eight Position Statements, is the sustainability standard systems to which most major multinational mining companies have subscribed, representing a global production share of ~34 % in 2020 with a production value of more than US$ 230 billion (all mineral and metal commodities incl. coal; S&P GLOBAL, 2022).

Founded in 2005 and renamed the RJC (Responsible Jewellery Council) in 2008, the Responsible Jewellery Practices Council was the first initiative to be initiated by downstream players in the supply chain - from manufacturers to end producers - beyond the mine site level. The significance of RJC together with the broad coverage of the value chain is reflected in the high number of company members (~1,400, mainly jewellery, watch manufacturer and wholesaler) and certified facilities (>8,000). However, implementation of RJC in the upstream is low, with only seven COP-certified mines of diamonds, coloured gemstones and precious metals (two additionally CoC-certified).

IRMA
- ① Stage 1 audit underway / completed
- ② Stage 2 audit / completed
- ⊗ Published audit report available

TSM
- Countries that implemented TSM)

Copper Mark
- Recipients of The Copper Mark *(conformance with the CM Responsible Production Criteria; only mining operations)*

ASI
- ASI Performance Standard certification at mining level
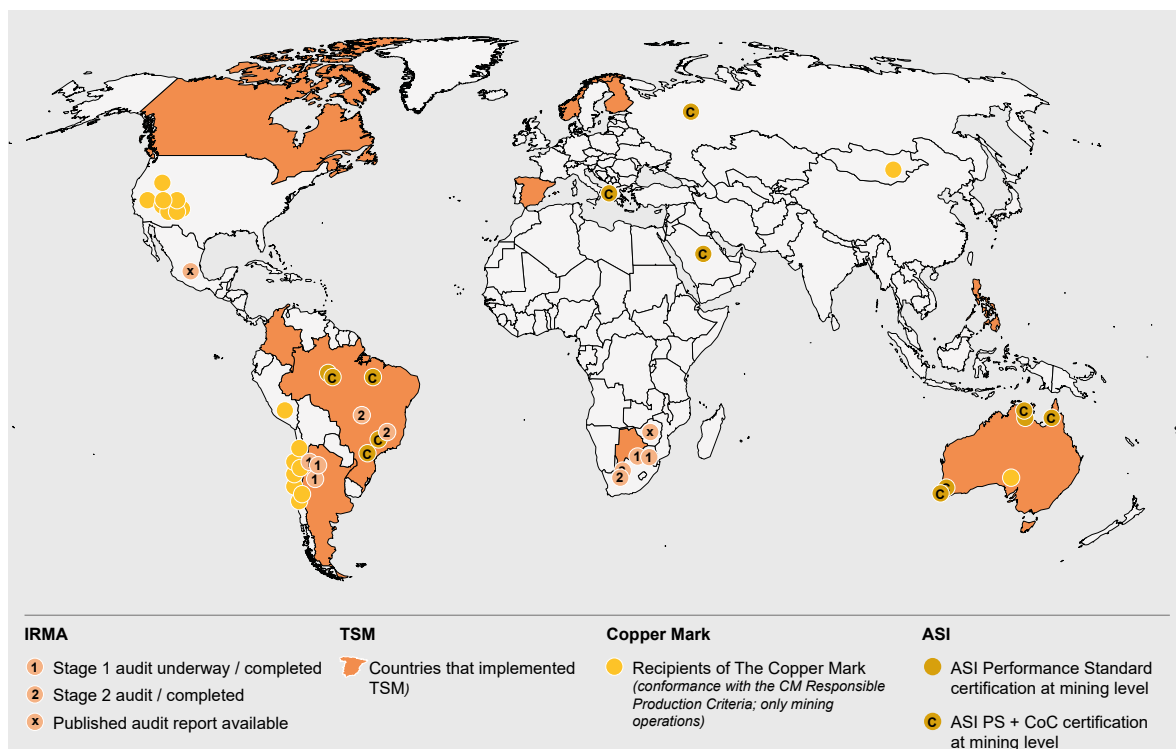- ASI PS + CoC certification at mining level

Figure 3: Geographical distribution of the mine-site implementation of IRMA, TSM, The Copper Mark and ASI. Data base on the systems' web pages.

The Responsible Minerals Initiative (RMI, formerly the Conflict-Free Sourcing Initiative), led by the Responsible Business Alliance (RBA), developed the Conflict-Free Smelter Program (CFSP) at the initiative of the electronics industry, later renamed the Responsible Minerals Assurance Process (RMAP). The CFSP, which is aligned with the OECD due diligence guidance, initially focused on the 3TG (tin, tantalum, tungsten, and gold) or so-called conflict minerals and was expanded to include cobalt (in 2018), copper, nickel, zinc and lead as well as mica (all in 2021) with introduction of additional RMAP due diligence (DD) standards. For all addressed minerals, 262 conformant smelters/refiners were certified by the RMAP DD standards (as of April 8, 2022). While programs for Cu, Ni, Zn and mica just started with few producers, the 3TG and cobalt programs cover the majority of global producers (~70 % based on ~420 smelters and refiners of conflict minerals globally identified by RMI). The voluntary RMAP ESG standard, published in 2021, is not commodity specific. It is based on the 32 Risk Readiness Assessment Criteria to be applied in the RMAP at smelter/refinery level and for integrated mine/refiners. The ESG standard addresses further social and environmental issues beyond minimum human rights and supply chain due diligence requirements. The definition of the RMAP ESG standard might also be driven inter alia by the new social and environmental requirements that shall be mandatory for brands of the London Metal Exchange (LME) from the second half of 2022.

The LME responsible sourcing requirements, introduced in 2019, mainly relate to compliance with the OECD due diligence guidance as well as ISO 14001 addressing environmental management and ISO 45001 addressing OHS issues. Pressure from regulators (namely the EU), OECD, society and investors are driving the establishment of voluntary sustainability standard systems in the mining and metals sector in recent years as well as the LME requirements. In particular, this momentum is observable in the development of commodity specific standard systems for LME-listed brands as Copper (The Copper Mark) or the uptake of additional due diligence and environmental (especially GHG) requirements as for aluminium (ASI).

The state of implementation differs significantly among the standard systems (Table 5). ICMM has the largest market coverage in the global mining sector. However, disclosures currently only take place at corporate level and site-specific reporting is mostly lacking. In this context, ICMM announced that facility-specific disclosure will be provided for self-assessment and third-party validation from 2022 on. TSM has the second largest market coverage in the mining sector. Unlike ICMM, the TSM approach, through its national platforms, involves not only large players in the mining sector but all members of the respective national mining associations.

As described above, after the long ramp-up period of IRMA's standard development, the 2018 version of the Standard for Responsible Mining is currently in live application for independent auditing. As of August 2021, more than 40 registered companies were in the preparatory phase by conducting a self-assessment of the chosen assets. In Latin America and southern Africa initial audits are underway at different stages and two are completed (Figure 3). Despite the relatively expensive site-specific audits, support for IRMA from major downstream companies (e.g., the automotive sector) is expected to drive relatively broad implementation of IRMA. On the other hand, IRMA's stringent requirements (see Table 6 and Figure 3 in 3.4. Extent and details of requirements for sustainable issues) might hamper broad IRMA100 certification (i.e. mines must meet all relevant requirements with only minor non-conformity at non-critical requirements). It remains to be seen whether IRMA75 and IRMA50 achievement levels, as preliminary stages for IRMA certification with a smaller number of requirements, will enable even implementation worldwide ultimately leading to IRMA certification, or whether certification will issued predominantly in high-performing operations.

Even though global implementation of The Copper Mark is generally relatively low to date, the number of mine-sites that are participants or recipients of The Copper Mark is increasing continuously with a high dynamic, especially in Latin America and the United States (Figure 3). CERA 4in1 is still in the piloting phase, therefore its implementation cannot be evaluated yet. Most of the 32 WGC members that are active in 45 countries are currently applying the RGMPs even though no mining company is already in full compliance (expected for 2023 for most mining companies).

Table 5: Overview of relevant dates, number of members and state of implementation of sustainability standard systems.

	Founding date	Publication of the first standard version	Latest revision	(Full) Members	State of Implementation
ICMM	2001	2003	2020	26	• All 26 company members have to comply with the full membership requirements. • Market coverage of ~34 % (in 2020)
IRMA	2006	2018	–[1]	50+	• 2018 standard in live application for independent auditing • Self-assessment of currently 40 registered companies.
TSM	2004	2004	2021[2]	50+[3]	• In 2021, 25 MAC members published facility-level performance indicators, comprising 54 facilities. • 11 MAC companies had their results externally verified.
CERA 4in1	2016	2020	2022[1]	Membership program planned	• Piloting of the CPS at four mines in DRC (Cobalt), China (REE), Portugal (Lithium) and Norway (Graphite) ongoing.
IFC	1956	2006	2012	No membership program	• US$ 842 million mining portfolio (mainly copper and bauxite) including 12 mining projects in 11 countries. • 331 projects in the oil, gas and mining industry have been funded worldwide from 1994 until 2019.
RMAP	2008	2011/ 2012	2021	400+ (RMI)	• 3TG and cobalt programs cover majority of global producers, for all minerals 262 conformant smelters/refiners certified • Programs for mica, Cu, Ni and Zn program just started with few producers
RGMPs	1987[4]	2019	–	30+	• Full compliance of most members expected for late 2022 or 2023. • 28 out of 34 WGC members with active implementation (as of Nov 2021).
RJC	2005	2009	2019/ 2017	1,000+	• 993 of almost (mainly downstream) are certified after COP (189 additionally CoC- certified). • >8,000 certified facilities (only 7 mine sites and <100 refiners)
The Copper Mark	2019	2020	–	No membership program	• 13 sites are participants and 24 sites are recipients of the Copper Mark.
ASI	2012	2014	2022	200+ (total) 100+ (production and transformation)	• >130 certificates (13 bauxite mine sites) issued against the ASI PS • >50 certificates (11 bauxite mine sites) issued against ASI CoC
ResponsibleSteel	2016	2019	–	50+	• 25 sites out of 5 members have been certified in various countries

1 revision process currently ongoing/not finalized yet
2 date of latest protocol (climate change)
3 members of MAC (Mining Association of Canada) only, TSM is also implemented in 9 other countries with a total of over 200 companies in various stages of TSM implementation
4 founding date of the initiator of the standard (World Gold Council)

Global implementation of the studied standard systems focusing primarily or exclusively on the smelter and refinery level is advances well for certain commodities. Implementation of the RMAP, as described above, is high for 3TGs (80 %) but only for its due diligence standard; for the voluntary ESG standard no implementation has been documented so far. For further commodities, implementation has just started. ASI has issued more than 100 site-specific certificates against its Performance Standard, mainly smelting, refining and manufacturing sites, most of which are located in Europe, and only 14 mine sites in total (mainly in Australia and Brazil). Moreover, ~35 certificates were issued against its Chain of Custody Standard and eleven of the 14 mine sites that are certified again the Performance Standard have also obtained a CoC certification (4 in Australia, 5 in Brazil, 1 in Saudi Arabia, 1 in Russia; see Figure 3). ResponsibleSteel issued its first certificate in the second half of 2021, followed by four members with a total of 25 sites at the time of research.

3.4 Extent and details of requirements for sustainable issues

Standard systems vary in the extent and detail of requirements for addressing environmental, social, and governance issues. Therefore a comparison of requirements is difficult, especially as some systems mostly formulate general management requirements (e.g. The Copper Mark, TSM) whereas others formulate more detailed requirements, for example by including performance expectations. Thus, simply "ticking the box" of whether or not an issue is addressed does not reflect the different level of expectations.

To get a rough overview of the extent of the requirements and the focus of the sustainability topics addressed, we analysed the number of defined ESG topics identified in each standard document at a roughly comparable level. In general, the classification for sustainability requirements in the standard documents can be divided in categories, issues and sub-issues. For the analysis, we consider the number of requirements at the sub-issue level. For example, IRMA lists the sub-issue "protected areas" at the 4th level of the standard document (4.6.5.3.; IRMA 2018) while ResponsibleSteel specifies protected areas already at the 3rd level (11.1.2.; ResponsibleSteel 2021). Thus, for IRMA all sub-issues were counted at the 4th level, while for ResponsibleSteel, ASI and RJC all sub-issues at the 3rd level were considered. This approach was cross-checked for randomly selected issues of all standard documents. The respective level of requirements in the standard that we analysed for the comparison is noted in Table 6.

The single aspects addressed by the standard systems were assigned to the ESG criteria to illustrate a possible focus of a system (Figure 4). A few issues as the requirement to implement an environmental or social management system, an ESIA, or material stewardship cannot be clearly separated into E, S or G, they were assigned to the ESG category used in the respective standard. We propose that this method provides a rough insight into the thematic focus and level of detail of standards, although a certain degree of ambiguity or imprecision cannot be avoided.

The number of requirements defined in ICMM's Mining Principles is comparably low with balanced ESG issues. The commitment of the member companies to additionally implement the requirements of the eight Position Statements increases this number and drives the focus on environmental issues due to comprehensive commitments defined in the Tailings Governance und the Water Stewardship Position Statements. This reflects the relevance of tailings dam safety triggered especially by the Brumadinho tailings dam failure in Brazil in 2019.

In contrast, IRMA is the standard systems with by far the most requirements and a stronger focus on social aspects (Figure 4) which might be also a result of the strong multi-stakeholder approach. As described in chapter 3.3, the comprehensive site-specific audit might hamper a broad IRMA100 certification. However, IRMA enables a phased approach to achieve IRMA100 certification by defining three prior a Achievement levels. While for "IRMA Transparency" it is only required that mines be audited by an approved IRMA certification body and release their results publicly, for IRMA50 and IRMA75 mines must additionally meet a set of 40 critical requirements, as well as 50 or 75 % of the requirements in each of the four principle areas of the standard (E, S + 2xG). Some minor non-conformity with the critical requirements is allowed as long as there is a corrective action plan to reach full conformity within 18 months. To reach IRMA 100, i.e., actual certification, all of the critical requirements must be fully met and minor non-conformity is only allowed for non-critical requirements with a time bound corrective action plan in place (see Annex). To date, the Anglo American Platinum mine in Zimbabwe is the only site that has reached the IRMA75 Achievement Level.

In contrast to the extremely detailed IRMA requirements, TSM is a management standard with instructions for management process improvements. Also TSM is driven by national mining associations and thus conceived to incentivize all companies in the sector. Similar to IRMA, it defines different levels of achievement (rating from C to AAA), so that companies can improve progressively. The A level is the minimum expectation for companies to be compliant with the standard, and here is referred to for the analysis in Table 6. For AA and AAA level, more ambitious and/or additional requirements are listed.

Table 6: Number of single aspects for the corresponding ESG-issue that are formulated by the standard systems. The selection of the aspects is defined in the notes.

Issue	Environ-mental	Social	Gover-nance	Reference for the requirements used for comparison
ICMM	57	23	19	Number of Performance Expectations of Mining Principles and Commitments in related Position Statements
IRMA	141	193	92	Number of requirements for certification (=IRMA 100). All sub-issues until the 4th level are considered (e.g. 2.6.4.1.)
TSM	65	86	19	Number of criteria for level A performance in MAC's TSM Protocols Self-Assessment Checklist
CERA 4in1	10 (23*)	19 (87*)	14 (43*)	Number of requirements for assessment listed in the Performance Standard. These are further defined as *Potential Events in the unpublished Audit Check List (number in brackets)
IFC	23	45	25*	Number of single requirements in the E&S performance standards. * Governance indicators are not covered by the E&S performance standard but addressed by the separate Corporate Governance Methodology
RMAP	- / 20	- / 56	14* / 14	Obligatory DD standard / Voluntary ESG standard * slightly different DD standards for commodities
RGMPs	13	23	15	The RGMPs group their 51 individual criteria into 10 overarching principles and organize these under the three ESG headings
RJC	46	99	80*	All sub-issues of the COP until the 3rd level are considered (e.g. 6.1.a.) * additional aspects in voluntary CoC standard
The Copper Mark	9	17	19*	Number of Issue Areas defined in the RMI Risk Readiness Assessment * mandatory conformance criteria from Joint Due Diligence Standard included
ASI	87	81	73*	All sub-issues of the PS V3 until the 3rd level are considered (e.g. 6.1.a.) * additional requirements in the CoC-Standard
ResponsibleSteel	70	86	49	All sub-issues until the 3rd level are considered (e.g. 1.1.1.)

The Copper Mark has a strong focus on management issues as well. Its Risk Readiness Assessment, adopted from and originally developed by the Responsible Minerals Initiative, defines only a relatively low number of requirements although examples for conformance are provided for the audit. Oriented towards compliance with London Metal Exchange (LME) requirements, it defines basic requirements for broad application in the sector. It also includes the governance criteria for OECD due diligence in mineral supply chains as defined in the Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc.

Requirements published in the CERA4in1 Performance Standards have a relatively low degree of detail due to the applied CAMD system (Commitment (C) – Assessment (A) – Monitoring (M) – Disclosure (D); CERA 4in1, 2020) that follows the ISO Plan-Do-Check-Act approach. For the comparison with the requirements of the other standard systems, only the corresponding requirements for the assessment (A) are considered. However, these key aspects are further defined as Potential Events in the unpublished audit checklist (>150; see Table 6; temporarily publicly available due to public consultation phase at the time of research). The number of requirements of the Potential Events might better reflect the considered sub-levels in the standard documents of the other standard systems.

RMAP, RGMP, RJC, The Copper Mark and ASI have additional Due Diligence or Chain-of-Custody standards in place that define criteria related to compliance with the OECD due diligence guidance for conflict-affected and high-risk areas. They only define governance criteria and are only considered in Figure 4 if they are mandatory for compliance with the referred standard. For RMAP the DD standard is mandatory while the ESG standard is voluntary and no implementation is documented so far (cf. 3.3. Implementation). For the RMAP ESG standard the strong focus on the social aspects is striking, due in particular to the very detailed Occupational, Health and Safety requirements. Next to the governance expectations in RJC's CoC standard, the Code-of-Practice formulates comprehensive governance requirements due to the importance of due diligence in the supply chains of diamonds, gold, etc.

ASI and ResponsibleSteel have a high level of detail in their requirements. As the production of aluminium and steel is energy-intensive, these systems define a higher number of environmental requirements with a particular focus on reducing greenhouse gas emissions resulting in relatively balanced E, S and G requirements.
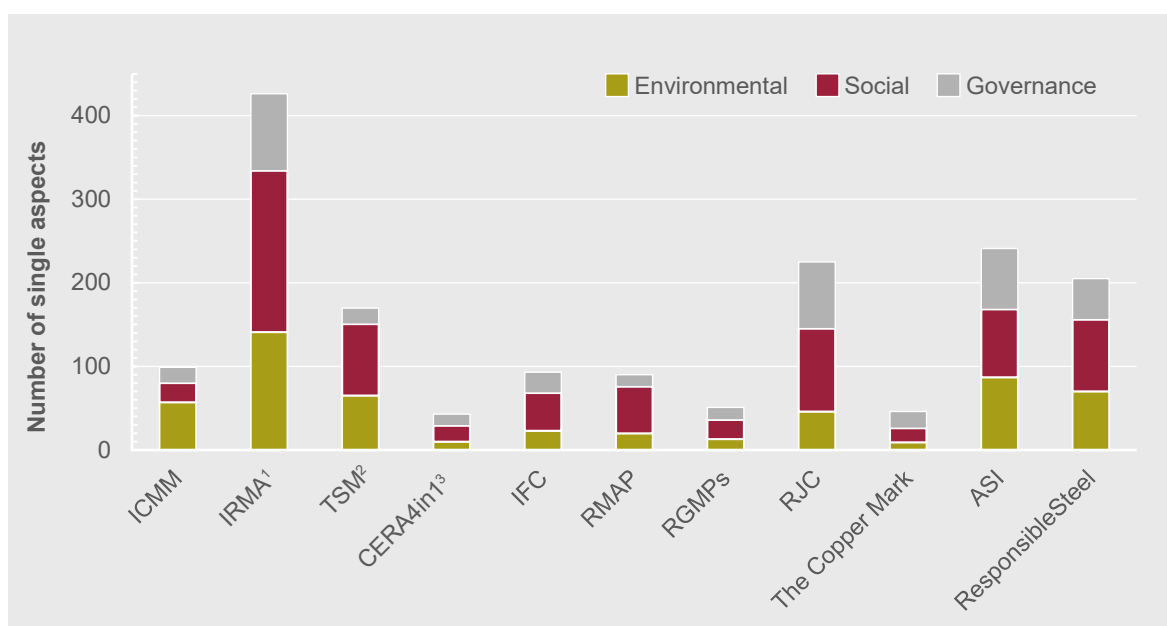
Figure 4: Number of single aspects for the corresponding ESG-issue that are formulated by the standard systems. The selection of the aspects is defined in the notes given in Table 6. [1]Number of requirements for certification (=IRMA 100). [2]Number of criteria for level A performance in MAC's TSM. More requirements for levels AA and AAA. [3]The unpublished CERA 4in1 Audit Check List defines more requirements (see numbers in Table 6 and explanation in text below).

3.5 Recognition and benchmark

The steadily increasing sustainability requirements for the mining and metals sector in recent years, triggered by regulators, commodity exchanges and society, among others, have resulted in a large number of different initiatives. This has led to an international debate on the need of "the one standard" and investors, consumers as well as other stakeholder desire for a simplification by mutual recognition of the standard systems' audits. Additionally, a mutual recognition of sustainability standards would increase the efficiency for self-assessments by mining and metal companies by reducing extent and therefore costs for 3rd party audits, especially if validation is conducted for two or more standards which seems to be the case for many mining companies. Most standard systems have realised the need for harmonization and have developed processes of recognition and benchmarking.

Table 7 gives an overview of the current state of benchmarking and acknowledgement. Issues that are comprehensively covered by long established standard systems as ICMM and IFC are relatively often referenced in emerging sustainability standards for more information or guidance. Standard systems increasingly conduct standard systems conduct an equivalency benchmarks. Even though this does not necessarily lead to mutual recognition, stakeholders and auditors are able to directly compare conformances and differences between single issues. These benchmarks are provided by several standard systems, first of all by ICMM and The Copper Mark.

A far reaching cross-recognition is provided by the standard systems engaged in the Mining, Minerals and Metals (M3) Standards Partnership. The project, which involves RJC, TSM, IRMA and ResponsibleSteel, is funded by the ISEAL Innovation Fund. Main goals are minimisation of duplication of effort and harmonisation of effective approaches to common issues resulting in integrated audit protocols (*https://www.m3standardspartnership.org/about*). Integrated audit protocols allow standard initiatives to have their audit of respective parts of the standard acknowledged by others, thus reducing duplication of audits of related requirements. The cooperation between RJC and TSM has already resulted in an integrated audit protocol, further integrated audit protocols are announced. Currently, two pilot projects are conducted to test the practicality followed by are verification and finalisation of the protocols. Next to the M3 Partnership, RMAP and RJC have established a cross-recognition policy.

In addition to the direct mutual linkage between the standard systems studied, other relevant standards are referenced or recognised (Table 8). The cross-sectoral ISO standards for environment (14001) and occupational health and safety (45001) are referenced by most standard systems. Beyond that, RJC and ASI recognize ISO 14001 and 45001 certification for their own audit, TSM at least an audit in conformance with ISO 45001.

With regard to reporting standards, the Extractive Industries Transparency Initiative (EITI) and the Global Reporting Initiative (GRI) are extensively referenced in most standard requirements on transparency. However, a potential conflict could arise if a system requires financial transparency according to EITI, but that transparency violates national laws. The topic-specific Task Force on Climate-Related Financial Disclosures (TCFD), created in December 2015 by the Financial Stability Board, is recently only referenced by TSM and the RGMPs. However, with a growing importance of transparency with regard to greenhouse-gas emissions, climate-related standards are expected to become more important, especially for the energy-intensive mining and metals sector.

Human rights requirements are included by all studied standard systems and mostly refer to the broadly accepted OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and/or the UN Guiding Principles on Business and Human Rights.

Table 7: Overview of mutual linkage between the standard systems. Light blue boxes indicate a reference by one standard system to requirements of another system or a superficial alignment with another system. Medium blue boxes highlight an equivalency benchmark and dark blue boxes represent recognition of parts or the complete audit of another standard system.

	ICMM	IRMA	TSM	CERA 4in1*	IFC	RMAP	RGMPs	RJC	The Copper Mark	ASI	Responsible Steel
ICMM			Equivalency Benchmark		Reference to Guidance Note 7 on Indigenous Peoples		Equivalency Benchmark		Equivalency Benchmark	Equivalency Benchmark	
IRMA	Comparison of basic audit parameter		Mining, Minerals and Metals (M3) Partnership		Reference to five IFC Performance Standards t			Mining, Minerals and Metals (M3) Partnership	Comparison of basic audit parameter	Comparison of basic audit parameter	Mining, Minerals and Metals (M3) Partnership
TSM	Responsible Sourcing Alignment Supplement	M3 Partnership – Integrated Audit Protocol announced					Responsible Sourcing Alignment Supplement	M3 Partnership – Integrated Audit Protocol	Responsible Sourcing Alignment Supplement		Mining, Minerals and Metals (M3) Partnership
CERA 4in1	Reference to Global Industry Standard on Tailings Management		Reference to Tailings Management Protocol								
IFC											
RMAP								Cross-recognition policy			
RGMPs	x (individual decision of assurance provider)		x (individual decision of assurance provider)		x (individual decision of assurance provider)						
RJC	Referenced	Mining, Minerals and Metals (M3) Partnership	Mining, Minerals and Metals (M3) Partnership		Referenced	Cross-recognition policy					Mining, Minerals and Metals (M3) Partnership
The Copper Mark	Equivalency Benchmark	Equivalency Benchmark	Equivalency Benchmark		Equivalency Benchmark		Equivalency Benchmark	Referenced		Equivalency Benchmark	
ASI	Referenced	Referenced			Reference to five IFC Performance Standards			Referenced			
Responsible Steel		Mining, Minerals and Metals (M3) Partnership	Mining, Minerals and Metals (M3) Partnership					Mining, Minerals and Metals (M3) Partnership			

■ Reference or superficial alignment   ■ Equivalency Benchmark   ■ Recognition

* Not yet implemented, therefore no reference, benchmark or recognition by other systems possible.

*Table 8: Overview of other relevant standards referred to or recognized by the standard systems studied (same colour code as in Table 7). * ISO 45001 on occupational health and safety (OH&S) includes the precursor OHSAS 18001 that is expired in 2021.*

	Environment	OH&S	Reporting Standards			Human Rights	
	ISO 14001	ISO 45001*	EITI	GRI	TCFD	OECD DD Guidance on CAHRAs	UN Guiding Principles on Business and Human Rights
ICMM	X			X		X	X
IRMA	X	X	X	X		X	X
TSM	X	X			X	X	
CERA 4in1						X	X
IFC	X	X	X	X			
RMAP	X	X	X			X	X
RGMPs	X	X	X	X	X	X	X
RJC	X	X	X	X		X	X
The Copper Mark	X	X	X	X		X	X
ASI	X	X	X	X		X	X
Responsible Steel	X	X				X	X

4 The EU principles for sustainable raw materials

4.1 Objective and scope of the EU principles

The non-mandatory EU principles for sustainable raw materials (EUROPEAN COMMISION, 2021) were developed by the European Commission and the Raw Materials Supply Group, which is composed of EU member states, regional authorities, industry associations, civil society, social partners and research organisations. The principles were published in 2021 and set requirements - based on EU legislation concerning sustainability - for sustainable raw materials and extraction and processing in Europe in terms of social, environmental and economic performance.

The aim is to create a common understanding of best ESG practices and contribute to coherence amongst emerging certification and labelling systems, and that existing practices, codes and standards are recognised. It is to be noted that the EU principles do not include indicators and are not intended for certification purposes.

The EU principles focus on the extraction and (early) processing stages (up to an ore concentrate) of non-energy mineral raw materials. Next to the raw materials extraction and the processing activities, exploration and mine development is included in the scope of the principles as well as mine closure, rehabilitation and post-closure monitoring. Moreover, in the context of materials stewardship, recycling of mine consumables as well as the recovery of raw materials from mining and processing waste is within the scope of the principles (Figure 4). (oder Fig.5)
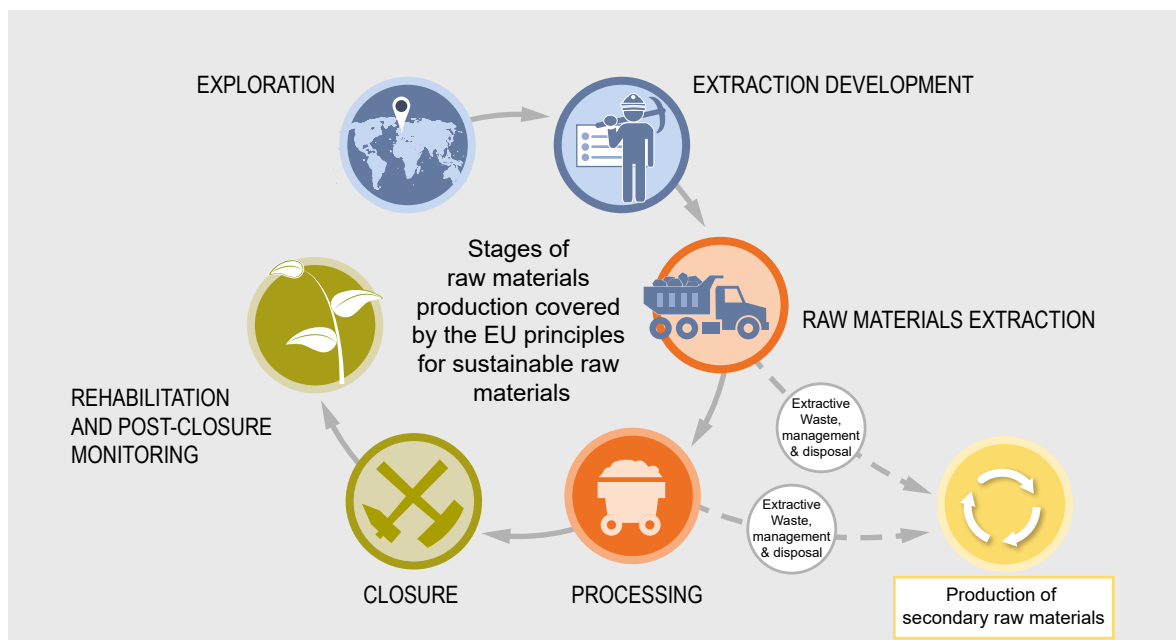

Figure 5: Stages of raw materials production covered by the EU principles for sustainable raw materials (modified after European Commision, 2021).

4.2 Interpretation of and comments on the EU principles

The EU principles for sustainable raw materials are grouped into the ESG categories environmental, social, and governance (incl. economic) principles. The social principles focus on human rights, engagement with communities of interest, employment, workers' rights and skills development as well as health and safety. The economic and governance principles address business integrity, transparency and the wider economic contribution. The environmental principles entail environmental management and impact mitigation including climate change and circular economy related issues.

For the comparison of the EU principles with the requirements of relevant certification systems, an interpretation of the sense of the different principles for the alignment was necessary, as the EU principles are, in contrast to the analysed standard systems, not an auditable standard but rather general principles. Moreover, the EU principles are directed to mining and processing activities within the EU and are based on the commitment to EU legislation. Policy initiatives such as the European Green Deal and the Biodiversity Strategy provide the political context of the principles. Commitment to these principles cannot be expected for mines outside of the EU jurisdiction. However, standard systems have been rated "covered" if they relate to comparable internationally acknowledged requirements.

The comments on interpretation of each EU principle are summarised in Table 9 to 11.

Social principles

Table 9: BGR-comments on the interpretation of the EU social principles for the purpose of this comparative analysis study and the corresponding classification of the comparison.

No.	EU Principle	BGR comments on interpretation of EU principles for the purpose of this study	Classification of comparison
1	**Sustainable raw materials extraction and processing support human rights, communities and sound governance through:**		
1a	**Respect for human rights, cultures,** customs and values of people, including **indigenous populations**, affected by extraction and processing activities.	Focus on the local human rights situation as well as cultural and indigenous issues related to local communities.	"Covered" if all mentioned issues are covered in the requirements.
1b	A constructive and active **dialogue with communities and workers** concerned, including those of indigenous people, to advance the social, economic and institutional development of those communities. The dialogue shall be effective and transparent and deliver on reporting arrangements with concerned stakeholders..	This EU principle relates to the dialogue with communities and its quality with the aim of community development while EU Principle 4a covers community development itself. Dialogue with communities is seen as the focus issue here, dialogue related to workers can also be part of supporting decent work (principles 2).	"Covered" if issues reflect a comprehensive dialogue (effective, transparent, reporting).
1c	Commitment to ensure **safe living conditions in communities** concerned, including of indigenous people, are not jeopardised by unsafe extraction and processing operations.	This EU principle is targeted on preventing potential adverse impacts on communities jeopardising their living conditions. Local development is covered in principle 4a.	"Covered" if all mentioned issues are covered in the requirements.
2	**Sustainable raw materials extraction and processing support decent work for the workforce through:**		
2a	Improving the **worker's health and safety** with the commitment of achieving **a zero accidents target.**	The formulation relates to a strong commitment to occupational health and safety by the far-reaching commitment of achieving a zero accidents target.	"Covered" if an obligation to a comprehensive OHS management, commitment to setting targets and continuous improvement is required , even if a zero accident target is not explicitly mentioned
2b	Continuously **improving the skills of the workers**, creating and maintaining a stable and quality workplace.	Continuously improving the worker's skills and creating a "quality workplace" exceed an OHS training and other health and safety requirements as addressed by many standard initiatives.	"Covered" if requirements exceed OHS regulations and obligatory health and safety training. However, the improvement in skills does not necessarily have to go beyond the relevant work tasks.
2c	Respect for **worker's rights** in line with the International Labour Organization (ILO) Fundamental Conventions.	This EU principle refers to human rights of workers whereas EU principle 1a refers to human rights of the community. Reference to the ILO Fundamental Conventions gives a clear definition of requirements.	"Covered" if compliance with all eight ILO fundamental conventions is directly or analogously required (in the auditable standard), "partially covered" if either only part of ILO fundamental conventions are covered is required or the corresponding convention is only mentioned in the (non-binding) principles of the systems.

Economic- and governance principles

Table 10: BGR-comments on the interpretation of the EU governance principles for the purpose of this comparative analysis study and the corresponding classification of the comparison.

No.	EU Principle	BGR comments on interpretation of EU principles for the purpose of this study	Classification of comparison
3	**Sustainable raw materials extraction and processing comply with all laws and regulations in the EU, including EU legislation as laid down in the EU Treaties.**	In a strict sense, this EU principle is only about legal compliance if the mine is located in EU territory. For the purpose of this analysis it is understood that "legal compliance" shall refer to the respective producer country.	"Covered" if "legal compliance" refers to the producer country (even though non-EU).
4	**Sustainable raw materials extraction and processing constitute an essential building block for sustainable value chains that have a strategic importance for economic growth and the sustainability of Europe's economy and society15 including the transition to climate neutrality and a digital economy while complying with the principle of do no significant harm as stated in the European Green Deal in that they:**		
4a	Contribute to the economic **growth and the socio-economic advancement of communities**, incl. indigenous people, associated with or affected by extraction and processing operations.	Community development is the main objective of this EU principle.	"Covered" for this EU principle can be obtained by explicitly requiring contribution to community development.
4b	Are carried out to ensure **long-term sustainability** and economic viability to develop and meet the needs of **modern society** for minerals and metals.	So far, the criteria for measuring long-term sustainability and economic viability do not seem to be clear / defined for a comparison with auditing standards; the term "to meet the needs of modern society" points to requirements beyond company level.	These EU principles address issues that relate to long-term sustainability and needs of a modern society (4b), facilitation of innovation including the uptake of digital technologies (4c) and how fundamental mineral-based technology value chains and circular economy are in the transition to climate neutrality and a digital economy (4d). These objectives relate to societal forthcoming developments and are not defined by the analysed standard systems. Since these aspects are generally not addressed in systems that have been developed for auditing company practice against a defined standard, these principles were not included in the comparative analysis.
4c	Facilitate **innovation** and **encourage the uptake** of **digital technologies** for safer, cleaner and cost-effective production processes.	While this EU principle highlights innovation and uptake of (digital) technologies with the goal to make production more sustainable. It is understood that innovation today in general implies digital technologies, even if they are not mentioned explicitly in the standard.	
4d	Implement circular **economy and resource efficiency** driven mineral-based technology value chains to **promote waste recovery**, and **enable energy transition and electrification.**	TThis EU principle appears to target primarily measures towards circular economy and resource efficiency in mineral-based value chains, which at this point in time are not reflected to a high extent in various sustainability standard systems. The scope seems difficult to be verified in a auditing standard. .	

Economic- and governance principles

Table 10: BGR-comments on the interpretation of the EU governance principles for the purpose of this comparative analysis study and the corresponding classification of the comparison.

No.	EU Principle	BGR comments on interpretation of EU principles for the purpose of this study	Classification of comparison
5	**Sustainable raw materials extraction and processing apply sound financial management in the following ways:**		
5a	By applying a properly **accountable management** with respect to all financial matters and the environmental and social aspects of the operations.	The principle includes assigning responsibilities to financial as well as environmental and social management. It thus emphasizes the holistic view and linkages between these topics.	"Covered" if in addition to environmental and social issues financial management requirements are addressed (given if general management due diligence is required).
5b	By **integrating sustainability in the corporate governance strategies and management systems** building on corporate **social responsibility** including **risk management** and respect for the rule of law.	This EU principle emphasizes the uptake of sustainability issues in corporate governance and management systems, including risk management and legal compliance.	"Covered" if ESG requirements are integrated in corporate governance and management systems; exceeding general risk management and legal compliance is required.
5c	By applying robust systems of **transparency** including in the non-financial reporting matrix to investors and the public.	Provide transparency by comprehensive sustainability reporting, also (e.g. by applying the principles of EITI or others) is the focus of this EU principle. Non-financial reporting includes ESG issues.	"Covered" if financial transparency is required as well as non-financial reporting obligations (covering ESG aspects). "Partially covered" if only either of them is addressed.
5d	By adhering to **ethical corporate practices** maintaining the highest business integrity in all operations and to sound systems of governance as laid down in EU and national legislation and relevant internationally accepted guidance.	Ethical corporate practice and governance with reference to EU initiatives and internationally accepted guidance. The OECD Due Diligence Guidance for Responsible Mineral Supply Chains from conflict-affected and high-risk areas (CAHRAs) is explicitly referenced.	"Covered" if anti-bribery and anti-corruption measures are addressed as well as due diligence requirements, including the OECD Due Diligence Guidance for Responsible Mineral Supply Chains from conflict-affected and high-risk areas (or comparable).

Environmental principles

Table 11: BGR-comments on the interpretation of the EU environmental principles for the purpose of this comparative analysis study and the corresponding classification of the comparison.

No.	EU Principle	BGR comments on interpretation of EU principles for the purpose of this study	Classification of comparison
6	**Sustainable raw materials extraction and processing apply sound environmental management practices. It is ensured by:**		
6a	Applying sound science- and knowledge-based **environmental management** of technical and economic feasibility, which is in alignment with the current legal framework in place and the European Green Deal. The main negative impacts of the operations on the environment (e.g. water, air, soil) as well as resulting damages will be adequately monitored, assessed and minimised.	This EU principle focuses on the environmental management in general (whereas implementation measures are addressed in 6b).	"Covered" if a sound environmental management system is required.
6b	**Environmental protection and mitigation measures** being applied throughout the life of an extraction and processing operation, from exploration to post closure.	This principle is on implementation of environmental management stated in detail in 6a.	"Covered" if implementation of environmental management including protection and mitigation measures is required comprehensively.
6c	Applying the best available techniques on extractive **waste management**, in line with the Extractive Waste Directive and the Reference Document for the Management of Waste from Extractive Industries (MWEI) BREF in place.	Compliance with the EU's extractive waste directive as referenced in this principle cannot be expected for mines outside of the EU jurisdiction.	"Covered" if a best in industry approach/best available practice is required and if all relevant waste stream (including tailings) are addressed comprehensively.
6d	Applying, in line with current EU legislation and the European Green Deal and Biodiversity Strategy, the conservation of biodiversity, and any negative impact on **biodiversity** is minimised and where legally stipulated compensated through implementation of integrated approaches as well as reconciliation of extractive and processing activities in Natura 2000 sites.	While this principle references EU legislation and European strategies, in general commitment to a comprehensive biodiversity management is addressed, compensation and reconciliation however only required if legally stipulated.	"Covered" if a biodiversity management comparable to the European Green Deal and Biodiversity Strategy is required.

Environmental principles

Table 11: BGR-comments on the interpretation of the EU environmental principles for the purpose of this comparative analysis study and the corresponding classification of the comparison.

No.	EU Principle	BGR comments on interpretation of EU principles for the purpose of this study	Classification of comparison
7	**Sustainable raw materials extraction and processing improve and promote efficient energy use, support climate change mitigation and adaptation measures through:**		
7a	I**mproving the efficiency of energy use** and **promoting the use of renewable energy sources** in order to minimise greenhouse gas emissions. The **CO₂ equivalent emissions** are measured and/or estimated and reported in line with accepted reporting standards laid down in EU and national/ regional legislation.	This EU principle addresses comprehensive measures for an improved energy use (efficiency and promoting renewables) including measurement/estimation and reporting of emissions.	"Covered" if efficiency of energy use, promoting the use of renewable energy sources and GHG emissions reporting are required.
7b	Supporting or alignment with the objectives of global climate agreements through science-based targets for the reduction or mitigation of CO2 equivalent emissions and promoting the use of available renewable energy sources.	Concrete targets for the reduction of GHG-emissions and promoting the use of available renewable energy sources are rigorous criteria of this EU principle. Promoting the use of renewables is also covered in 7a.	"Covered" if target setting for GHG-emission reduction is required.
7c	Assessing the vulnerability of operations to climate change, **improving resilience of operations to climate change** through suitable adaptation measures and contributing to the resilience of nearby communities, including indigenous people, in the face of climate change effects.	This EU principle implies risk assessment as well as adaptation measures related to climate change. It is about preparing the operation itself and nearby communities for climate change impacts.	Covered" if risk assessment include adaptation measures related to the impacts of climate change on the operation itself and surrounding communities.
8	**Sustainable raw materials extraction and processing includes materials stewardship and contributes to the EU's circular economy where possible and within its responsibilities through:**		
8a	Facilitating and encouraging the promotion of **safe use, recycling and disposal of product**s through an understanding of their material use or **material stewardship** in thematic areas.	This EU principle describes the engagement of companies in relation to their products, potential for application at mining / processing level might be limited as products are raw materials, may include engagement with the downstream supply chain related to final products.	"Covered" if the standard requires companies to apply the waste hierarchy and engage with their downstream buyers/ users of the products. "Partially covered" if only either of these is to be applied.
8b	Promoting **material stewardship** in mining and processing, including economic extraction **of by-products** and the **recovery of** raw materials from mining and processing **waste** as well as other **secondary resources.**	This EU principle refers to minimizing loss and maximizing recovery of raw materials i.e. promoting efficiency and circular economy at the level of mining and processing.	EU principle not directly covered by most of the analysed systems. "Partially covered" if at least one of the listed aspects of material stewardship is addressed in the requirements.

4.3 Comparison of relevant requirements of the standard systems to the EU principles

In general, the rather rough comparison with the three categories of covered, partially covered and not covered related to the principles (Table 12 to 14) does not allow to highlight the differences regarding comprehensiveness of the issues covered in the respective standard systems or their rigour related to implementation. Thus, if standard systems are equally rated as "covered" for certain principles this does not necessarily imply that systems are fully equal in addressing the issues but rather reflects whether or not the issue is adequately covered. The fact that the standard systems differ significantly in their extent of requirements is discussed in more detail in Section 3.4.

Social principles

The comparison reveals that all standard systems address the issues of EU principle 1 related to human rights and engagement with communities. Not surprisingly, the concept of community dialogue and engagement is at the core of many standard systems as the social license to operate is a major issue in the mining sector. It thus has been a driver for several initiatives already decades ago (e.g. for TSM).

Also worker's health and safety has been a prominent issue in standards for a long time and included in all standard systems (Principle 2a). Skills of workers are addressed to some extent, mostly in the sense of training related to the respective task (e.g. environmental management), however not aiming at developing workers' skills and quality of workplaces as a general issue.

The eight requirements of the ILO core convention (Principle 2c) are covered by most standard systems. Due Diligence in mineral supply chains as defined in the OECD due diligence for mineral supply chains from conflict-affected and high-risk areas has evolved to a global minimum standard. As it requires DD related to child and forced labour, those are covered by all standard systems, some of the core labour issues (such as worker's rights, freedom of association, equal remuneration and discrimination) however are not required by all standard systems (yet).

Governance principles

All standards in general include legal compliance in the relevant country (Principle 3). For the principle 4 (wider economic contribution), as stated in chapter 4.2, we only analysed 4a and 4c. Contributing to local development (4a) is usual practice of responsible mining and thus a requirement of all standard systems, except ResponsibleSteel. Innovation (4c) is addressed only in few standards, often rather as a general objective/principle (e.g. in TSM and ASI) than as an auditable standard requirement and is not rated here (as 4b and 4d).

For the governance principle 5a, all initiatives ,except for RJC, do not fully cover the principle of management accountability, as financial matters are mostly not covered by sustainability standard systems. They mostly address environmental, social and governance issues related to ethics (bribery, corruption, responsible sourcing etc.) and not prescribe the full range of management due diligence that is also related to financial matters. However, as illicit flows are an issue especially in the gold sector this might explain RJC including financial accountability in general.

Other governance issues (5b-d) such as integrating sustainability in corporate governance, transparency as well as ethical corporate practices are generally covered in standard systems, however, some do not formulate standard requirements for integrating sustainability at corporate level (e.g. TSM, IRMA).

Environmental principles

All standard systems require companies to establish environmental management systems (6a) and implement measures accordingly (6b). Waste management (6c) is generally included, but some systems only relate this to certain types (e.g. tailings) but not to all types of waste (TSM, RGMP) or do not reference best practice (RMAP, ASI). Biodiversity management (6d) is included in all standards. Also GHG emissions are addressed in all standards, especially reduction and target-setting (7b), promoting renewable energies (7a) is not covered in all standard systems (though it might be implicit part of measure to reduce GHG emissions). Also climate change adaptation (7c) is not addressed in some standard systems (IRMA, RMAP, ASI, ResponsibleSteel).

With regards to material stewardship and circular economy, standard systems for the upstream supply chain are mostly not addressing these issues. Obviously, safe use, disposal and recycling of products (8a) is mostly part of initiatives that include the downstream supply chain, ASI covers this most comprehensively. However, applying the concept of the waste hierarchy, as some initiatives require (e.g., RMAP, ResponsibleSteel) also includes product design, recycling and safe disposal. Extraction of by-products and recovery from waste and secondary resources (8b) is hardly addressed in any of the standard systems as a requirement.

Table 12: Comparison of relevant requirements of the standard systems to the EU social principles. Dark blue boxes indicate that the corresponding EU principle is covered by the systems requirements, a medium blue box indicate "partially covered". For the classification of comparison, see Table 9. Comments on the comparison of single requirements of the standard systems are provided in an Excel file TSM comparison relates to level A requirements of the standard.

No.	EU Principle	ICMM	IRMA	TSM	CERA 4in1	IFC	RMAP	RGMPs	RJC	The Copper Mark	ASI	Responsible Steel
1	Human rights, Engagement with communities of interest											
1a	Human rights and communities	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
1b	Community (and worker) dialogue	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
1c	Safe living conditions in communities	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
2	Employment, Health and safety											
2a	Worker's health and safety, accident targets	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
2b	Improving skills of workers	partially covered	covered	covered	covered	partially covered	covered	partially covered	partially covered	partially covered	covered	partially covered
2c	Worker rights (ILO)	covered	partially covered	partially covered	covered	covered	covered	covered	covered	covered	covered	covered
	Freedom of association & collective bargaining (ILO No. 87, 98)	covered	covered	partially covered	covered	covered	covered	covered	covered	covered	covered	covered
	Forced labour (ILO No. 29, 105)	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
	Child labour (ILO No. 138, 182)	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
	Equal remuneration & discrimination (ILO No. 100, 111)	covered	partially covered	partially covered	covered	covered	covered	covered	covered	covered	covered	covered

■ covered　　■ partially covered

Table 13: Comparison of relevant requirements of the standard systems to the EU governance principles. Dark blue boxes indicate that the corresponding EU principle is covered by the systems requirements. If systems' requirements partially cover the EU principle, the box is medium blue and light blue if it is not directly covered. A grey box indicates that the EU principle is not defined by the analysed standard systems. For the classification of comparison, see Table 10. Comments on the comparison of single requirements of the standard systems are provided in an Excel file. TSM comparison relates to level A requirements.

No.	EU Principle	ICMM	IRMA	TSM	CERA 4in1	IFC	RMAP	RGMPs	RJC	The Copper Mark	ASI	Responsible Steel
3	**Legal compliance**	covered	covered	not directly covered	covered	covered	covered	covered	covered	covered	covered	covered
4	**Wider economic contribution**											
4a	Community development	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
4b	Raw materials for modern society					Not included in comparison						
4c	Innovation incl. digitalisation											
4d	Implement material stewardship / CE concepts											
5	**Business integrity, Transparency**											
5a	Management accountability	partially covered	partially covered	partially covered	partially covered	partially covered	partially covered	partially covered	covered	partially covered	partially covered	partially covered
5b	Integrating sustainability in corporate governance	covered	partially covered	partially covered	covered	covered	covered	covered	covered	partially covered	covered	covered
5c	Transparency	covered	covered	not directly covered	covered	covered	covered	covered	covered	not directly covered	covered	covered
5d	Ethical corporate practices	covered	covered	not directly covered	covered	covered	covered	covered	covered	covered	covered	covered

■ covered   ■ partially covered   ■ not directly covered

Table 14: Comparison of relevant requirements of the standard systems to the EU environmental principles. Dark blue boxes indicate that the corresponding EU principle is covered by the systems requirements. If systems' requirements partially cover the EU principle, the box is medium blue and light blue if it is not directly covered. For the classification of comparison, see Table 11. Comments on the comparison of single requirements of the standard systems are provided in an Excel file. TSM comparison relates to level A requirements.

No.	EU Principle	ICMM	IRMA	TSM	CERA 4in1	IFC	RMAP	RGMPs	RJC	The Copper Mark	ASI	Responsible Steel
6	Environmental management, Impact mitigation											
6a	Environmental management	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
6b	Environmental protection and mitigation measures	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
6c	Waste management	covered	covered	partially covered	covered	covered	partially covered	covered	covered	partially covered	covered	covered
6d	Biodiversity management	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered	covered
7	Emissions, Climate change											
7a	Efficient energy use; promoting renewables; CO_2 reporting	covered	partially covered	covered	covered	covered	covered	partially covered	covered	covered	covered	covered
7b	CO_2eq emission targets	covered	covered	partially covered	partially covered	partially covered	covered	covered	covered	covered	covered	covered
7c	Assessing vulnerability to climate change and improving resilience	covered	partially covered	covered	not directly covered	covered	not directly covered	covered	not directly covered	not directly covered	not directly covered	partially covered
8	Material stewardship											
8a	Promotion of safe use, recycling and disposal of products	partially covered	partially covered	not directly covered	partially covered	partially covered	partially covered	partially covered	partially covered	partially covered	covered	partially covered
8b	Material stewardship in mining and processing	partially covered	partially covered	partially covered	partially covered	not directly covered	partially covered	partially covered	partially covered	partially covered	partially covered	partially covered

Legend: ■ covered ■ partially covered ☐ not directly covered

Sustainability Standard Systems for Mineral Resources

5 Conclusions

The increasing interest and pressure to inform on sustainability issues in mineral supply chains has driven standard systems to continuously develop their sustainability standards and adopt their governance systems. Acknowledgement between standard systems has increased during the last years and the issues addressed have broadened for most systems, so that most address the whole scale of sustainability issues.

Also standard systems have increased transparency for downstream actors on sustainability performance. However, there are still large differences between the standard systems in terms of how they ensure compliance and how transparently they present results.

Including a multi-stakeholder perspective has become common sense, although ambitions are differing between standard systems. Most initiatives are industry led and the representation of the "global south" is still very limited in the majority of standard systems. More efforts on "localising" these initiatives in national/ local multi-stakeholder bodies for instance could be one way forward.

The current ambition towards more resilient and sustainable supply chains driven by Covid-19 as well as the Ukraine crisis and the need to build a carbon neutral society might foster the trend to increasingly reporting on sustainability issues. The growing application of digital technologies such as block chains and requirements for product related sustainability information (e.g. battery passport) will presumably further drive transparency of sustainability data. This will make it all the more important that the information communicated in the supply chain is meaningful and not just a "tick box" exercise. Transparency in audits and on-site performance, as well as independent oversight mechanisms such as community monitoring, can help build trust.

The comparison of the sustainability standard systems with the EU principles points out ways for further development. Risks related to human rights, workers health and safety as well as the environment are mostly covered by the relevant systems. However, forward-looking issues that are not related to the current performance of a facility are less covered. For example, to promote renewables and circular economy as formulated in the EU principles as well as innovation and a quality workplace are often not addressed. Though one could argue these are rather political objectives and difficult to assess in sustainability standards, it still might be worth reflecting if and how this could be taken up in sustainability systems. This would imply also in general shifting some issues from a "do no harm" more to a "do good" perspective.

On the other hand some difficulties in the approach of comparing the EU principles with sustainability standard systems are based on the fact that the principles are still quite general in their formulation and that for some it is difficult to assess how they can be translated into to practice. Given the continuous international discussion on requirements for responsible mineral supply we probably see further development of common sense on sustainability expectations to which also sustainability standard systems will adopt soon.

References

The literature that was used for the standard systems fact sheets and that informs many passages in the study is listed under each fact sheet in the annex and is not repeated here.

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Annex

Annex

Fact sheets of sustainability standard systems

Comments on the comparison of single requirements of the standard systems to the EU principles available online at: *https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/BGR2022_ Comments_on_the_comparison_to_the_EU_principles.html*

ICMM – Sustainable Development Framework	
Background Information	
Initiators of the standard	A small group of mining and metals company CEOs initiated the Global Mining Initiative (GMI), led by the World Business Council for Sustainable Development (WBCSD) to study societal issues among other issues. WBCSD commissioned the International Institute of Environment and Development (IIED) to undertake a 2-year multi-stakeholder consultation process "Mining, Minerals and Sustainable Development (MMSD) Initiative" about the sector's role in sustainable development. The GMI and MMSD gave rise to the creation of ICMM whose members declared to respond to the findings of the MMSD report. ICMM was created out of an existing metals organization - the International Council on Metals and the Environment (ICME). The GMI was ended after presentation of MMSD results in 2002.
Standard initiative/ Administrative body	International Council on Mining and Metals (ICMM)
Founding date and location	2001, London, United Kingdom
Publication of the first standard version	10 ICMM principles (2003); Eight Position Statements to accompany and strengthen the 10 ICMM principles, developed over the years 2003 to 2021 (see "provided documents")
Up-to-date standard version and next revision	ICMM's Mining Principles (2020), Position Statements updated irregularly (latest Climate Change in 2021)
Background of the standard initiative	Initiative established exclusively for the standard development and implementation
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	Multi-stakeholder (civil society, private sector, public institutions) consultation in the MMSD initiative that gave rise to the creation of ICMM (see above). However, ICMM members developed the initial 10 Principles independently. The updated Mining Principles are based on a global public consultation with 263 respondents from 30 countries (NGO's, non-member mining companies, public institutions).
Subject-Matter of the Standard	
Main objective	The ICMM is an organization of global mining and metals companies and associations dedicated to create an industry respected and trusted among stakeholders due to responsible operation and contribution to sustainable development of local communities and society at large. ICMM wants to achieve this goal by improving the social and environmental performance of the industry. ICMM's Mining Principles and Position Statements serve as a best practice framework on sustainable development, which need to be committed to, complemented by reporting on material sustainable development risks, management systems and performance in relation to those risks. GRI sustainability reporting is also required. Moreover, ICMM publishes and promotes using guidelines and toolkits for various issues of sustainable development among its members and beyond.
Target commodities	All mineral commodities
Application of the standard along the supply chain	Operations involved in the production or refining of minerals and metals over which the company member exercises control with regard to financial and operating policies and practices. This excludes activities in a company's portfolio that are not producing saleable products, such as exploration sites, non-managed operations, legacy properties and projects or non-managed joint ventures (JV). However, JV companies that are majority owned by ICMM members (either singly or jointly) are encouraged to implement ICMM's membership requirements.
Proof of origin	No CoC-standard, reference to OECD DDG when sourcing from CAHRAs.

ICMM

Assessment unit in mining	Company: all facilities
Geographic focus	Globally
State of implementation	o All 28 mining and metals member companies have to comply with the full membership requirements defined by the 38 Performance Expectations of the ICMM Mining Principles updated in 2020 and eight related position statements. o All tailings facilities of ICMM members with 'Extreme' or 'Very high' potential consequences must be in conformance with the Global Industry Standard on Tailings Management by August 2023, and all other facilities by August 2025.
Membership program	o Yes: 35 regional and commodities associations (associated members) and 26 mining and metals member companies: - Founding members: Anglo American, Anglo Gold Ashanti, BHP Billiton, Freeport-McMoRan, JX Nippon, Newmont, Rio Tinto - Later members: Sumitomo Metal Mining (2002), (Lonmin (2004) -> 2019 merged into Sibanye Stillwater), Teck (2006), Gold Fields (2007), Barrick (2008), (Goldcorp (2009) -> merged into Newmont), MMG (2009), African Rainbow Minerals (2009), Codelco (rejoined 2011), Hydro (2011), Orano (2011), Antofagasta Minerals (2014), Glencore (2014), South32 (2015), Newcrest (2017), Vale (rejoined 2017), Minera San Cristóbal (2018), Minsur (2018), Alcoa (2019), Sibanye Stillwater (2020), Boliden (2021)
Governance and decision making	o ICMM is governed by a Council, comprising the CEOs of company members. It should set strategic direction and evaluate and endorse policy recommendations. o The Principal Liaisons Committee (PLC) is directly subordinated to the council. It is formed of representatives from member companies, nominated by Council, and two from the Associations Coordination Group. It is responsible for implementing ICMM strategy and unresolved audit dispute. o Four committees and the Associations Coordination Group (with representatives from association members) are subordinated to PLC.
Funding	o Financing of ICMM is completely covered by company member fees (~7 Mio. £ in 2020) and Association member fees and contributions (0.27 Mio. £ in 2020).
Recent developments	o After the tailings dam disaster at the iron-ore operations in Minas Gerais of the Brazilian mining company Samarco's in 2015 (joint venture between BHP Billition, an ICMM member, and Vale, no member at this particular time), ICMM launched a review of the global tailings management, as well as the associated standards and governance of its member companies. The results indicated that there is existing technical and management guidance that needs to be more effectively applied. ICMM issued a new position statement about tailings dam management and governance, which members have committed to and had to implement by 2018. o In February 2020, ICMM rolled out enhanced membership requirements: ICMM's Mining Principles that include site-level validation and transparent disclosure. o In August 2020, ICMM, together with UNEP and Principles for Responsible Investment (PRI), through the Global Tailings Review, published the Global Industry Standard on Tailings Management following the tailings facility collapse at Brumadinho, Brazil, in January 2019. o In November 2020 ICMM published the first equivalency benchmarks against four standards (RGMPs, RMI-RRA / The Copper Mark, TSM, ASI) followed by an benchmark against RJC in August 2021 that have been mutually accepted. o In April 2021 Rohitesh Dhawan succeeded Tom Butler as CEO of ICMM.

		o In October 2021, ICMM members collectively committed to a goal of net zero scope 1 and 2 greenhouse gas (GHG) emissions by 2050 or sooner, in line with the ambitions of the Paris Agreement.
Requirements of the Standard		
Summarized standard requirements	Environ-mental issues	*Commitment to performance expectations* Environmental performance (principle 6): o Plan for closure o Implement water stewardship practices o Effectively manage tailings o Prevent pollution and manage releases and waste o Improve energy efficiency and reduce GHG emissions Conservation of biodiversity (principle 7): o Avoid World Heritage Sites and respect legally designated Protected Areas o Apply mitigation hierarchy with ambition of no-net-loss Responsible production (principle 8): o Recover, reuse and recycle o Assess product hazards Risk management (principle 4): o Assess environmental […] risks o Systematically manage […] environmental risks *Commitment to associated position statements* o Mining and Protected Areas o Mercury Risk Management o Tailings Governance o Water Stewardship o Climate Change *For GRI reporting requirements see GRI Guidelines*
	Social and societal issues	*Commitment to performance expectations* Human rights (principle 3): o Respect human rights o Avoid involuntary resettlement o Manage security while protecting human rights o Respect the rights of workers o Provide fair pay and working hours o Respect Indigenous Peoples o Work to obtain free, prior and informed consent o Promote workplace diversity Social performance (principle 9): o Contribute to community development o Support local economic opportunities o Conduct local stakeholder engagement o Collaborate on artisanal mining challenges Health and safety (principle 5): o Continually improve health and safety o Provide health and safety training Risk management (principle 4): o Assess […] social risks o Apply due diligence in conflict-affected or high-risk areas *Commitment to associated position statements* o Transparency of Mineral Revenues o Mining Partnerships for Development

		o Indigenous Peoples and Mining *For GRI reporting requirements see GRI Guidelines*
	Govern-ance issues	*Commitment to performance expectations* Ethical business (principle 1): o Establish systems for legal compliance o Prevent bribery and corruption o Align policies and standards to ICMM o Assign accountability for sustainable development at Board/ExCo level o Disclose financial contributions Decision-making (principle 2): o Integrate sustainability into decision-making o Support responsible business partners Risk management (principle 4): o Apply due diligence in conflict-affected or high-risk areas o Systematically manage health, safety and environmental risks o Carry out emergency response planning Stakeholder engagement (principle 10): o Engage corporate stakeholders transparently o Support EITI o Report annually to GRI o Conduct assurance and validation. *Commitment to associated position statements* o Transparency of Mineral Revenues *For GRI reporting requirements see GRI Guidelines*
Rigor or flexibility of the standard model for compliance		Since 2006, ICMM company members have been required to implement the ICMM Sustainable Development (SD) Framework (incl. the Performance Expectations (PE) of the ICMM Mining Principles updated in 2020) as well as the eight related Position Statements. ICMM members are required to report on their sustainability performance every year and must include five subject matters specified by ICMM. These subject matters must be independently assured, and an independent assurance statement must be included within or alongside the sustainability report. ICMM does not require Sustainability Report Assurance in line with ISAE3000, recognizing that there are other standards that might be used. ICMM also does not specify whether assurance should be 'reasonable' or 'limited'; the choice is the responsibility of the company, considering management needs and user interests. PE validation is an essential part of ICMM's membership requirements. The seven corporate-only PEs and the corporate-level aspects of the 22 corporate/asset PEs are validated through the sustainability report assurance process. The remaining nine asset-only PEs and the asset-level aspects of the 22 corporate/asset PEs are validated separately at the individual asset level. Possible outcomes for the validation of an applicable individual PE are 'Meets', 'Partially Meets,' 'Does not Meet' and 'Not applicable'.

Provided documents and tools		o ICMM's Mining Principles (2020) according to the key challenges in mining
		 o Eight Position Statements:
		   ▪ Mining and Protected Areas (2003)
		   ▪ Transparency of Mineral Revenues (2009)

ICMM

	▪ Mercury Risk Management (2009)
	▪ Mining Partnerships for Development (2010)
	▪ Indigenous Peoples and Mining (2013)
	▪ Tailings Governance (2016)
	▪ Water Stewardship (2017)
	▪ Climate Change (2021)
	A selection of various other guidelines and reports (>50 in total; https://www.icmm.com/en-gb/resources):
	o Water Reporting: Good practice guide (2nd Edition; 2021)
	o Partnering for our Common Future: Optimising mining's partnering capability to contribute to community resilience and thriving societies (2021)
	o Health and Safety Performance Indicators: Guidance (2021)
	o Tailings Management – Good practice guide (2021)
	o Assurance and Validation Procedure – Performance Expectations (2021)
	o Validation Guidance – Performance Expectations (2020)
	o Closure Maturity Framework (2020)
	▪ Including an Excel Self-Assessment Tool
	o Good Practice Guidance on Occupational Health Risk Assessment (2016)
	o Critical Control Management – Implementation guide (2015)
	o Critical Control Management – Good practice guide (2015)
Number of quoted international conventions and other guidance	< 20
Referral to other standards for more information or guidance	General approach:
	o Extractive Industries Transparency Initiative (EITI)
	o Global Industry Standard on Tailings Management (GISTM): All tailings facilities operated by members with "Extreme" or "Very high" potential consequences will be in conformance with the Standard by 5 August 2023. All other tailings facilities operated by members not in a state of safe closure will be in conformance with the Standard by 5 August 2025.
	o Reporting in accordance with the Global Reporting Initiative (GRI) standards (minimum "Core Option") is required. An independent third party must be contracted to undertake annual assurance of selected sustainability disclosures included in the sustainability report or other online material, using a recognised assurance standard.
	Possible assurance standards used for assurance on sustainability reports (use not limited to):
	o ISEA3000: International Standard on Assurance Engagements. The most commonly used global standard for assurance on sustainability reports and disclosures (use not required).
	o ISAs/ISREs (IAASB): National Standards for Assurance on Sustainability Reports issued by national accounting bodies (for example in The Netherlands, Sweden and Germany).
	o AT Section 101 (Attestation) Standard in the US.
	o AA1000AS: AccountAbility Standard for assurance on sustainability management and reporting.
	For assuring GHG-emissions, the following standards may be used:
	o Greenhouse Gas Protocol (and subsequent updates and guidance).
	o ISAE3410 International Standard on Assurance Engagements 3410: Assurance Engagements on Greenhouse Gas Statements
	o ISO 14064:3: Specification with guidance for the validation and verification of GHG assertions

	o Regional, National and (for US/Canada) State-Level GHG reporting and assurance regulations and trading schemes (eg EUETS, NGER, California, etc.). For the review of the self-assessment by 3rd party validation: o ISO 14001 environmental management system audit Cross references in Position Statements: o UN Guiding Principles on Business and Human Rights o UN Development Group's Guidelines on Indigenous Peoples' Issues o UN's Department of Economic and Social Affairs Resource Kit on Indigenous Peoples' Issues o UNEP Strategic Approach to International Chemicals Management (SAICM) o IFC's Guidance Note 7 on Indigenous Peoples o ILO 169
Recognition of other standards for the proof of compliance of certain issues	Equivalent programmes are defined as having standards and validation requirements that are similar in scope and intent as the ICMM PE validation programme. To date (10/2021), the following standards have been benchmarked against ICMM' Mining Principles: o Responsible Gold Mining Principles (RGMPs) o Responsible Minerals Initiative (RMI) Risk Readiness Assessment (RRA) / The Copper Mark o Towards Sustainable Mining (TSM) o Aluminium Stewardship Initiative (ASI) Performance Standard o Responsible Jewellery Council (RJC) More equivalency benchmarks are currently in development. A standard can request to be benchmarked by ICMM if it can demonstrate that it is being implemented by more than one ICMM member.
Assessment of Standard Compliance and Transparency of the Results	
Subject matter of the conformity assessment	Self-reporting upon five subject matters that need to be assured independently: o Alignment of the member company's sustainability policies, management standards and procedures to the ICMM Principles and PEs and any mandatory requirements set out in ICMM Position Statements. o The company's material sustainability risks and opportunities based on its own review of the business and the views and expectations of its stakeholders. o The existence of systems and approaches that the company is using to manage each (or a selection) of the identified material sustainability risks and opportunities. o The company's reported performance during the given reporting period for each (or a selection) of the identified material sustainability risks and opportunities. o The company's description of its process for prioritizing assets for PE validation.
Type of conformity assessment (audit)	o Validation of the Performance Expectations (PEs) and the 8 Position Statements. Possible outcomes for the validation of an applicable individual PE are 'Meets', 'Partially Meets,' and 'Does not Meet'. o Sustainability Report Assurance in line with ISAE3000 or, if ISEA3000 is not applied, the level of assurance must be equivalent to 'reasonable' or 'limited'.
Auditor status and frequency of audits	3rd Party (within a three-year validation cycle). Validations must be conducted by qualified "validation service providers" that must meet ICMM requirements for independence, experience, expertise and lack of conflicts of interest.

	Company members are required to complete a self-assessment of all subject assets once every three years; and members are required to conduct third-party validation of prioritized assets within a three-year validation cycle. A member-driven prioritization process determines the number and frequency of the third-party validation for member assets.
Assessment elements	o Self-Assessment of all assets subject to PE validation (i.e. subject assets) o Prioritization of assets for third-party validation o Third-party validation o Disclosure
Grievance mechanisms for auditor decisions	Company members and VSPs are encouraged to resolve any disputes regarding PE validation outcome to the fullest extent possible. ICMM staff can be called upon to moderate in the event of an unresolved dispute concerning the interpretation of the intent of a PE between a company member and a Validation Service Provider during a validation engagement.
Whistle-blowing mechanism for standard non-compliances	No information available.
Party publishing the results	o Members are required to disclose, publicly, their PE Validation activities on an annual basis. The disclosure can be made on a member's website or in a sustainability or corporate report. o Assurance engagement of the sustainability reports and its conclusion should be done in an Independent Assurance Statement (Assurance Report) prepared by the assurance provider and disclosed in the sustainability report.
Degree of detail of the published results	Required minimum disclosure elements o Overview of the validation process o Provide a brief overview of how the company is approaching the validation process, e.g. number of assets subject to the process, description of asset prioritization process undertaken, including selection criteria, and list of assets selected for third-party validation. o Provide details of completed PE validation activities in accordance with the ICMM Procedure. This includes first- and second-round self-assessments and 3rd party validations. o Asset-by-asset disclosures apply to self-assessments and third-party validations from 2022 onwards.

List of References

References are available through ICMM's website (www.icmm.com; see "Resources").

Imprint

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IRMA

IRMA – Standard for Responsible Mining	
Background Information	
Initiators of the standard	Multi-stakeholder collaboration
Standard initiative/ administrative body	Initiative for Responsible Mining Assurance (IRMA)
Founding date and location	2006, with founders from multiple locations globally
Publication of the first standard version	Version 1.0 (June 2018) Preceded by draft standards v. 1.0 (July 2014) and v. 2.0 (April 2016)
Up-to-date standard version and next revision	Version 1.0 (June 2018); update expected in 2022 reflecting lessons learnt from the IRMA launch phase
Background of the standard initiative	Standard system is multi-stakeholder governed and focused on socially and environmentally responsible mining through standards, independent third-party verification (including public audit reporting) and certification. IRMA promotes a process with continuous updates and improvements.
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	(1) Civil society – NGOs and affected communities (a, b) (2) Organized Labor (a, b) (3) Private sector (a, b) (4) Public institutions, academics (not IRMA members but they had the option to comment during public consultation of the standard drafts) (a, b)
Subject Matter of the Standard	
Main objective	o Best practice standard and certification system that promotes responsible environmental, social, labor, human rights and governance practices for industrial mining operations. o Not applicable to artisanal and small-scale mining (ASM) but includes a chapter on ASM, focused on opportunities to foster positive relationships between large-scale mines and ASM.
Target commodities	o All mineral commodities except for energy fuels (i.e., no uranium, thermal coal, oil sands, oil and gas)
Application of the standard along the supply chain	o Mine site (operational stage through closure) o IRMA has several standards under development that will apply to other stages and entities in the mineral supply chain (see Recent developments, below), including those engaged in mineral exploration and development, mineral processing, and those purchasing mined materials.
Proof of origin	o Not included in the Mining Standard – a separate IRMA standard on chain of custody tracking is currently (2022) in development
Assessment unit	o Mine site including the mine, and any local (on-site/adjacent) mineral processing/smelting and infrastructure. o The new 2021 Draft Mineral Processing Standard applies at stand-alone processing facilities that are located separate from a mining operation.
Geographic focus	o Global scope o Prior field testing of the draft standard at two mines: one in Zimbabwe and one in the USA. o Audits have been completed at mines in Zimbabwe and Mexico; additional mine audits are currently on-going or in preparation in other countries (See section on Recent developments, below)
State of implementation	o IRMA launch phase was initially expected to take one year (06/2018 – 06/2019) and end with an updated standard v. 2.0 in late 2019. As of 08/2021, publication of the standard update is scheduled for 2022. o The 2018 standard is in live application for independent auditing now. As of August 2021, more than 40 mining companies were registered using the self-assessment tool to gauge performance against the standard.

Membership program	o Currently (03/2022) 53 Members and 12 Pending Members (+ 1 Pending Member (Norilsk Nickel Group) with paused status) o Private sector members: up- and downstream supply chain (miners, explorers/mine developers, purchasers, investors/finance sector) o Civil society members: labor unions, environmental and human rights-focused NGOs, communities o Non-voting members: standard setters, consultants/service providers o Mining companies are considered Pending Members until they publicly announce the commencement of a third-party IRMA audit of at least one mine site, which must occur within 12 months following approval of membership application. Companies do not have to achieve certain audit performance levels but must be transparent about their achievement level score. o IRMA downstream members currently must express interest in purchasing and accepting IRMA-certified raw materials though that does not imply they actually have to source these materials (this will be the case until volumes of such materials grow sufficiently to support requiring purchasing volume levels).
Governance and decision making	o IRMA is equitably governed by six, sectors: directly affected communities, NGOs, organized labor, mining companies, purchasers, and investors/financial sector. o Current Board of directors (10) includes representatives from the first five sectors above. This number will increase in 2021 with the addition of investors/financial sector as a sixth governing sector. o Consensus-based decision making, not against the interests of any single stakeholder sector. o IRMA's Board is responsible for decision making related to organizational governance of the standards and independent, third-party verification system. o IRMA approves certification bodies who perform auditing and certification/verification activities, but certification bodies independently issue the final decision on certification/achievement levels.
Funding and costs	o IRMA overhead costs (for governance, standard development, management and oversight of third-party certification) are funded through a combination of (1) philanthropic grants, (2) income from assurance activities, and (3) member contributions. The initial IRMA budget comprised US$ 649,000 (2019); this is supposed to increase with broader IRMA implementation. o IRMA collects a small certification fee from mines engaged in third-party certification, but auditees contract directly with the certification body. Given the audit scope (commonly multiple auditors working multiple days each), audit costs may be substantial in case of a full audit against all IRMA principles and chapters. The cost range of most audits, depending on complexity of the mine site, is US$80,000-175,000.
Recent developments	o Two audits against IRMA standard v. 1.0 of 2018 have been completed. Audit activities at other sites were postponed due to the Coronavirus pandemic. IRMA released an Interim Policy on Auditing During Exceptional Circumstances (COVID-19) in October 2020, allowing the postponing of the on-site portion of audits by six months or more, if necessary. Auditing at some sites commenced in mid-2021 and continued through 2022 (see below). o In the two audits already completed, the Unki mine in Zimbabwe managed to achieve IRMA 75 level after implementing corrective actions. The Zimapán mine in Mexico failed to achieve IRMA 50 level (or higher) but plans to work towards achieving the former by implementing corrective actions. Their achievement level is IRMA

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		Transparency, which means that while they did not achieve IRMA 50 or higher they have transparently shared a detailed audit report.
		o As of 03/2022, additional audits were on-going at nine mines. These comprise lithium brine operations in Chile and Argentina, iron ore mines in South Africa and Brazil, chromium and PGM mines in South Africa, and a nickel mine in Brazil.
		o In October 2020, IRMA started the public consultation of a Chain of Custody Standard (draft v. 1.0) standard for responsibly mined materials.
		o In June 2021, IRMA started the public consultation on its Standard for Responsible Mineral Processing (draft v. 1.0). This refers to stand-alone off-site processing operations (while on-site processing is already covered through the present Standard for Responsible Mining).
		o In December 2021, IRMA started the public consultation on its *IRMA-Ready Standard for Responsible Mineral Exploration and Development (Draft 1.0)*. At the same time, IRMA expanded its board to include representation from the investment and finance sector.
		o IRMA's Certification Body Requirements (v. 1.0), released in November 2019, define expectations for certification bodies interested in carrying out IRMA audits. IRMA plans to update the document in 2022.
		o IRMA launched an interactive Responsible Mining Map showing implementation and support status among members (See references)
		o Prior to audits, mines undergo a self-assessment against the IRMA standard. IRMA has developed a web-based tool MINE MEASURE to guide this self-assessment. (See references)
		o IRMA is developing a toolkit for communities to promote understanding of IRMA at the community level and provide examples and tools for communities to use IRMA to improve legal frameworks, access information, increase implementation of standards, and conduct a community assessment.
Requirements of the Standard		
Summarized standard requirements	Environ-mental issues	*Note: The following list is based on IRMA's 40 'critical requirements'. The IRMA standard includes more than 360 additional, non-critical requirements that have been excluded here to manage text length.*
		Mine waste and reclamation:
		o Reclamation and closure plans protect human health and the environment, and are available to stakeholders (2.6.2.1 and 2.6.2.6)
		o Financial resources in place for mine closure and post-closure (2.6.4.1)
		o Risk assessment on mine waste, consistent with best available practice (4.1.4.1 and 4.1.5.1)
		o Regular performance evaluation of mine waste facilities (4.1.5.6)
		o No riverine, submarine or lake disposal for mine waste (4.1.8.1)
		Water, air and climate impact:
		o Water quality and quantity monitoring (4.2.4.1) and impact mitigation (4.2.4.4)
		o Air quality management and impact mitigation (4.3.2.1)
		o Greenhouse gas emission reduction targets (4.5.1.1)
		Environment and biodiversity:
		o Biodiversity and ecosystem impact screening (4.6.2.1) and impact mitigation (4.6.4.1)

		o New mines located outside protected areas (4.6.5.2), and existing mines in such areas avoid causing severe damage to area integrity (4.6.5.4) Chemicals management: o Gold or silver mines using cyanide certified against Cyanide Code (4.7.1.1) o Safe mercury waste storage and disposal (4.8.2.3), no selling to artisanal or small-scale miners, respecting Minamata Convention (4.8.2.2)
	Social and societal issues	Community consultation, dialogue, protection: o Two-way dialogue and stakeholder engagement (1.2.2.2) o Community grievance mechanism (1.4.1.1) o Social and environmental impact assessment (2.1.3.1) o Free, prior and informed consent, positive relationships with and remediation of impacts on indigenous people's rights and interests (2.2.2.2) o Monitoring and implementation of resettlement action plans until positive livelihood and resettlement outcomes have been achieved (2.4.7.1) o Emergency response plan (2.5.1.1) and community involved in planning exercises (2.5.2.1) o Community health and safety risk assessment and mitigation (3.3.1.1) Workers' rights: o Respect for workers' freedom of association (3.1.2.1) o Prevent harassment and exploitation, especially for female workers (3.1.3.3) o Workers' grievance mechanism (3.1.5.1) o No children (< 18 y.) employed to do hazardous work (3.1.7.2) and no children (< 15 y.) employed to do non-hazardous work (3.1.7.3) o No forced labor (3.1.8.1) o Worker information on work hazards and protection (3.2.4.1)
	Govern ance issues	Legal compliance and transparency / corruption: o Comply with host country laws (1.1.1.1) o Anti-corruption and anti-bribery policies and procedures (1.5.5.1) Protection of human rights: o No human rights infringements in a conflict-affected or high-risk areas (3.4.2.1) o Company policy to respect human rights (1.3.1.1), human rights impact assessment (1.3.2.1), and impact mitigation (1.3.3.3) o Limit use of force and firearms by security personnel (3.5.1.2)
Rigor or flexibility of the standard model for compliance		o IRMA distinguishes four compliance levels per standard requirement, ranging from: not compliant – partially compliant – substantially compliant – fully compliant. These are converted to scores in order to calculate actual and theoretical totals for the four IRMA principles. o IRMA *certification* requires 'IRMA 100', i.e., the mine's full compliance with practically all standard requirements in all four principles. o In order to encourage progressive improvement, IRMA further defines 'IRMA 50' and 'IRMA 75' *achievement levels*, with reduced compliance requirements (50% vs. 75% vs. 100%) and at least 'substantial compliance' with the 40 critical requirements o IRMA also has an IRMA Transparency achievement level, where mines not meeting a higher level agree to be independently audited and share scores publicly. This provides a baseline from which continuing improvement can be measured.

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	o In addition to the overall mine site score described above, IRMA audit reports include scores for each individual chapter so that stakeholders/customers/investors may better understand performance in particular areas like human rights, protecting water resources, worker health and safety, indigenous rights, biodiversity, etc. Audit reports also share details down to the individual requirement level so that stakeholders understand specific risks and performance of a mine site. o Mines may use the IRMA standard for internal benchmarking by undergoing self-assessments, without formal auditing. However, only mines sites that have undergone independent, third-party audits against the IRMA Standard for Responsible Mining resulting in a level of achievement (e.g., IRMA Transparency, IRMA 50, IRMA 75 or IRMA 100) may make any claims as "IRMA-achieving mines." See IRMA Communications and Claims Policy in references. o There are a number of differences in terms of requirements for new vs. existing mines. IRMA acknowledges that certain requirements may not be met by existing mines if these were not common practice at the time of mine development. In these cases, specific IRMA requirements may be excluded from evaluation, or different expectations are outlined for new vs. existing sites.
Provided documents and tools	The following list only shows the most recent applicable documents, replacing earlier/outdated documents. Draft standards are excluded. o IRMA Standard for Responsible Mining v. 1.0, June 2018 o IRMA scope and boundaries of its intended monitoring and evaluation (M&E) system, June 2019 o IRMA Standard for Responsible Mining – Guidance Document v. 1.0, October 2019 o IRMA Certification Body Requirements, v.1.0, November 2019 o Initiative for Responsible Mining Assurance – Three-year budget (2019-2021), undated o IRMA Interim Policy on Auditing During Exceptional Circumstances (COVID-19), v. 1.0, October 2020 o Assessment Manual for Mines, February 2022
Number of quoted international conventions and other guidance	o Close to 20. More, if all individual examples (referenced as footnotes in the standard) were counted as well.
Referral to other standards for more information or guidance	General approach: o Audits by certification bodies to be carried out in conformance with ISO 19011 o Certification bodies must demonstrate conformance with ISO 17021, as well as additional IRMA requirements o IRMA standard development based on ISEAL procedures o The IRMA standard content and governance system was inspired by other multi-stakeholder-governed sustainability certification systems such as Forest Stewardship Council (FSC) and Marine Stewardship Council (MSC) Topic references: o Human rights due diligence and grievance mechanism: UN Guiding Principles on Business and Human Rights o Revenue transparency: Extractive Industries Transparency Initiative (EITI) o Environmental and social impact assessment: IFC performance standard 1 o FPIC: definitions based on guidance published by UN Permanent Forum on Indigenous Peoples, International Labour Organization (ILO) 169

	o Resettlement: IFC performance standard 5 o Emergency preparedness: UNEP (Awareness and preparedness for emergencies at the local level), ILO (Conventions 174, 176), OHSAS 18001 o Reclamation and closure: no direct reference but citing guidance developed by the International Council on Mining and Metals (ICMM) o Fair labor: IFC performance standard 2, ILO o Occupational health and safety: ILO (Convention 176) o Conflict areas/risk management: OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas o Security management: Voluntary Principles on Security and Human Rights. The use of firearms further references the UN Basic Principles on the USE of Force and Firearms by Law Enforcement Officials. o Cultural Heritage: IFC performance standard 8 o Waste management: Mining Association of Canada (Toward Sustainable Mining) tailings management protocol and guide o Water quality: tables defining water quality threshold values based on multiple national regulations o Air quality: EU air quality standard, and dust based on German "Technical Instructions on Air Quality Control" (TA Luft) o Noise and vibration: threshold values are based on IFC environmental, health and safety general guidelines (2007) and on technical guidelines of the Australia and New Zealand Environment Council (ANZEC 1990) o Greenhouse gas emissions: emissions reporting based on a widely accepted reporting standard such as the Greenhouse Gas Protocol Corporate Standard or GRI 305 emissions reporting standard; IRMA is currently evaluating whether to provide more guidance on setting "science-based" targets for reducing emissions o Biodiversity and protected areas: IFC performance standard 6; partner guidelines for Key Biodiversity Areas (KBAs) o Chemical management: International Cyanide Management Code (ICMC); Minamata Convention
Recognition of other standards for the proof of compliance of certain issues	o IRMA's mine standard document states that IRMA is committed to close collaboration with other systems (…) to seek mutual recognition but none are formally recognized as of 08/2021. o IRMA requires mines using cyanide to obtain ICMC certification or auditing against that standard (4.7.1). In that sense, it 'recognizes' the ICMC standard. But: IRMA formulates additional cyanide management requirements in chapters 4.7.2-4.7.5 that go beyond the ICMC requirements. Hence, even though it is recognized, ICMC certification does not imply full compliance with all cyanide-related IRMA requirements. o IRMA is part the "Mining, Minerals and Metals (M3) Partnership," a collaboration with the Responsible Jewellery Council (RJC), ResponsibleSteel, and Mining Association of Canada Towards Sustainable Mining (MAC-TSM). The M3 Partnership aims to identify opportunities for alignment and collective action to drive improvement in social and environmental performance in mineral supply chains, for instance through developing integrated audit protocols. o According to IRMA, a current barrier for them to recognize audits conducted by industry-trade association systems is the latter's lack of public notice that audits are commencing, the lack of opportunity for stakeholders to engage in the audit process, and lack of transparent sharing of detailed audit results.

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Assessment of Standard Compliance and Transparency of the Results	
Subject matter of the conformity assessment	o Mine site performance against IRMA standard requirements. o Mine site includes local (on-site) processing and mine waste infrastructure. o In case the mine site operator forms part of a global mining company, the audit focus is on site-specific information but global corporate procedures or policies may be used to demonstrate conformity if implemented at the site level. o The audit scope further extends to local mine (sub-) contractors as applicable according to the respective IRMA requirements.
Type of conformity assessment (audit)	o Verification and certification/certificate issued (IRMA 100), or o Verification and compliance statement issued for 'IRMA achievements' (IRMA 50, IRMA 75), or o Letter of recognition issued (IRMA Transparency). o Audits by certification bodies to be carried out in conformance with ISO 19011. o IRMA Certification Body Requirements (v.1.0) based on ISO 17021 and certification bodies must demonstrate conformance with the latter, as well as additional IRMA-specific requirements.
Auditor status and frequency of audits	o Independent third-party certification bodies and auditors are approved by IRMA and operate according to the applicable IRMA requirements for certification bodies. o Certification audits are performed at three-year frequency with a surveillance audit scheduled 12-18 months after initial audit. Re-certification audits must be scheduled in a way that allows the mine to achieve three-year certification cycles. o Following an audit, mines have up to 12 months to implement corrective actions and publicly release the audit report. o On-site IRMA auditing performed to-date have lasted about one week using audit teams of at least five persons. Additional technical experts were used during stage 1 review of documentary evidence.
Assessment elements	o Audits are publicly announced as soon as they commence. Stakeholders are invited to submit written comments to auditors at any time. o Audit stage 1: desk-based. Auditors review mine site self-assessment and evidence uploaded into the Mine Measure tool or otherwise provided . o Audit stage 2: on-site visit (special provisions have applied since 2020 due to the Coronavirus pandemic). In addition to observations at mine site facilities, mine staff and mine site stakeholders (e.g., workers, affected communities, rights holders, government, and civil society) are interviewed. o Verification of corrective actions (on-site, if necessary). o See IRMA Assessment Manual for Mines for more information.
Grievance mechanisms for auditor decisions	o Audit reports are sent by the certification body to both the mine site and to IRMA for review. Following these reviews, the final report is prepared and the certification decision is taken. o Mining companies and other stakeholders may first send complaints or appeals to certification bodies. o If not resolved through the certification body grievance mechanism, mines and stakeholders may file a complaint using IRMA's Issues Resolution System.
Whistle-blowing mechanism for standard non-compliances	o Mines, stakeholders or anyone else internal or external to IRMA may file a complaint related to IRMA audits or certification decisions, IRMA standards, actions of personnel, or any aspect of the IRMA program using IRMA's Issues Resolution System.
Party publishing the results	o Audit results are accessible via the IRMA website. (See IRMA Mine Sites Under Assessment)

Degree of detail of the published results	o An audit summary report is published and freely available to the public, with a length of approximately 100 pages. o The document provides background on the mine site, a description of the audit process and participants, and the report discloses the IRMA achievement level, auditors' scores for each chapter and the Standard's four main principles (i.e., Business Integrity, Planning for Positive Legacies, Social Responsibility and Environmental Responsibility), and ratings and auditor rationale for every relevant IRMA requirement, including the 40 IRMA critical requirements.

IRMA

List of References

References are available through IRMA's website, www.responsiblemining.net – recent key references include:

- IRMA Standard for Responsible Mining v. 1.0, June 2018. https://responsiblemining.net/wp-content/uploads/2018/07/IRMA_STANDARD_v.1.0_FINAL_2018-1.pdf
- IRMA Critical Requirements from the Standard for Responsible Mining, v.1.0, June 2018. https://responsiblemining.net/wp-content/uploads/2020/07/IRMA-Critical-Requirements-v.1.0.pdf
- IRMA Standard for Responsible Mining – Guidance Document v. 1.0, October 2019. https://responsiblemining.net/wp-content/uploads/2019/12/IRMA_Standard-Guidance_Oct2019.pdf
- IRMA draft Chain of Custody Standard for Responsibly Mined Materials (draft v.1.0), October 2020. https://responsiblemining.net/wp-content/uploads/2020/11/IRMA-Chain-of-Custody-Standard-DRAFTv1.0-October2020.pdf
- IRMA draft Standard for Responsible Mineral Processing (draft v.1.0), June 2021. https://responsiblemining.net/irma-mineral-processing-standard-draft-14june2021-2/
- IRMA draft Standard for Responsible Mineral Exploration and Development (draft v.1.0), December 2021. https://responsiblemining.net/wp-content/uploads/2021/12/IRMA-Ready-Draft-1.0-December2021-All-Stages.pdf
- IRMA Certification Body Requirements, v.1.0, November 2019. https://responsiblemining.net/wp-content/uploads/2020/01/Certification-Body-Requirements_v1.0.pdf
- IRMA's Issues Resolution System Procedure, v.1.0, January 2020. https://responsiblemining.net/wp-content/uploads/2020/03/IRMA-Issues-Resolution-System_2020.pdf
- IRMA Communications and Claims Policy v.1.1, July 2021. https://responsiblemining.net/wp-content/uploads/2021/07/IRMA-Communications-and-Claims-Policy-v.1.1-July2021.pdf
- Initiative for Responsible Mining Assurance – Three-year budget (2019-2021), undated. https://responsiblemining.net/irma-three-year-budget-2019-2021/
- IRMA Scope and Boundaries of Future Monitoring and Evaluation (M&E) System, June 2019. https://responsiblemining.net/wp-content/uploads/2019/07/IRMA-Scope-and-Boundaries-of-Monitoring-Evaluation-System-Public-Document-June-2019.pdf
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- Mine Site Assessment Public Summary Report – Zimapán mine, Mexico, October 2020. https://responsiblemining.net/carrizal-audit-report-public-summary-oct2020/
- Mine Site Assessment Public Summary Report – Unki mine, Zimbabwe, February 2021. https://responsiblemining.net/wp-content/uploads/2021/03/Unki-Mine-Audit-Report-Public-Summary-18Feb2021.pdf
- IRMA website "Mine Sites Under Assessment": https://responsiblemining.net/what-we-do/certification/mines-under-assessment/
- MINE MEASURE: responsible mining self-assessment and audit preparation tool – instruction manual, February 2021. https://responsiblemining.net/mine-measure-self-assessment-instructions_march2021_en/
- IRMA Assessment Manual for Mines, February 2022. https://responsiblemining.net/wp-content/uploads/2022/02/IRMA-Mine-Site-Assessment-Manual_02-2022-update.pdf
- IRMA's Responsible Mining Map: https://map.responsiblemining.net/
- "Mining, Minerals and Metals (M3) Partnership": https://www.m3standardspartnership.org/

IRMA

TSM – Protocols and Frameworks	
Background Information	
Initiators of the standard	Mining Association of Canada (MAC)
Administrative body	Mining Association of Canada (MAC) or implementing associations in respective regions/countries[1]: Quebec Mining Association, Finnish Mining Association, Argentinean Chamber of Mining Companies, Chamber of Mines of the Philippines, Botswana Chamber of Mines, National Confederation of Mining and Metallurgy Businesses (Spain), Brazilian Mining Association, Norwegian Mining and Quarrying Industries Association, Minerals Council of Australia, Asociación Colombiana de Minería
Location of the standard initiative	Ottawa, Canada
Founding date of the standard initiative	2004
Publication of the first standard version	2004
Up-to-date standard version and next revision	The TSM Guiding Principles (basic values and targets), TSM Frameworks (issue specific commitments) and TSM Protocols (performance indicators) are developed and undergo regularly scheduled revisions with a rotating schedule during which one or two protocols are reviewed each year to determine whether amendments are needed. The most current version of each protocol is available on the TSM website.
Background of the standard initiative	Initiative is part of an already existing institution (e.g. association or research institute) or requirements are developed by an existing institution
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	o Civil society (a, b: by COI Panel which advises on all aspects of TSM including first standard setting and all revisions. A list of panel members as well as meeting records dating back to the start of TSM are available online.) o Private sector (a, b) – All MAC member companies are able to contribute to the development of TSM and all producing companies with Canadian operations are required to participate in TSM as a condition of membership. o Public institutions – There are no public institutions involved in TSM, but international uptake is supported by Global Affairs Canada through hosting workshops, networking. Since 2021, public comment periods for relevant TSM policies, procedures, requirements, etc. have been institutionalized.
Subject-Matter of the Standard	
Main objective	TSM requires MAC members to commit to certain responsible practices related to environmental and social performance through principles and frameworks and measure the improvement of sustainability management systems by reporting against 30 indicators set by 8 assessment protocols (with 2 to 6 indicators each).
Target commodities	All mineral commodities
Application of the standard along the supply chain	TSM is applied at the facility level and includes mine sites, smelters and refineries.
Proof of origin	No, though MAC works with other parties involved in traceability to ensure the integrity of TSM data use in chains of custody.

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[1] In general, the MAC version of TSM is used in this fact sheet. There may be minor differences in TSM policies, practices, or requirements of other associations.

TSM

Assessment unit	Company: individual facilities, some indicators at corporate level
Geographic focus	o National: Members of the Mining Association of Canada, the Quebec Mining Association (QMA) and the Finnish Mining Association (FinnMin) are implementing and publicly reporting on TSM performance. o The national chambers of mines of Argentina (2016), Botswana (2017), Spain (2018), Brazil (2019), the Philippines (2020), Norway (2020), Australia (2021) and Colombia (2021) have formally adopted TSM and are at various stages of implementation. TSM is a mandatory condition of membership for all associations that have adopted TSM. o Global: some MAC member companies voluntarily report against the TSM indicators for their international mining sites and some are also publishing those results.
State of implementation	In 2021 25 MAC, 7 QMA and 5 FinnMin members published facility-level performance indicators, comprising 73 facilities. 9 companies in Canada and 5 companies in Finland had their results externally verified. MAC TSM implementation schedule: https://mining.ca/documents/tsm-company-implementation-schedule/ Other national associations (mentioned above) are at various stages of implementation.
Membership program	Yes, for MAC: o 50+ "Full Members": companies that operate a mine in Canada or abroad. Full members also include companies actively involved in mine development and exploration. Members with producing mines in Canada are required to participate in TSM; entitled to vote; opportunity to become part of the steering group o 56 "Associate Members": company is not directly active in mining business but delivers products or service features; equal privileges except for voting power o For all other mining associations implementing TSM, the implementation agreement signed with MAC stipulates that TSM must be a condition of membership in their association.
Governance and decision making	o Each national association, in partnership with their Community of Interest Advisory Panel, makes decisions at their respective national level. MAC coordinates regular meetings of the national mining associations that are implementing TSM to improve coordination and engage in shared decision-making. o The MAC Board of directors consists of one member of each company, out of which 12 are members of the executive board, o TSM governance team consists of subgroup of board members, provides strategic direction o TSM initiative leaders: member of each company responsible for implementation of TSM within the company, reporting o Community of Interest Advisory Panel with 12-15 members from Indigenous people, environmental NGO, economic/community development, social NGO including faith-based groups, finance/investment, international development, labour/workplace, additional experts; advice and support; conducts an annual post-verification o Some aspects of TSM implementation are supported by consulting company Stratos Inc.;
Funding	o TSM is funded through national associations and generally costs are covered through annual fees paid by member companies but there could be variation in these funding mechanisms. o As of 2021, companies operating in jurisdictions where the national mining association has not adopted TSM (i.e., not MAC and the mining associations of Australia, Philippines, Norway, Finland, Spain, Argentina, Botswana, Brazil, Colombia) can implement the program through MAC via an annual subscription fee.

Recent developments		o Continuous updates of the 8 protocols, latest versions are: Indigenous and Community Relationships (2019), Biodiversity Conservation Management (2020), Crisis Management and Communication Plan (2018), Climate Change (2021), Safety and Health (2016), Preventing Child and Forced Labour (2019), Tailings Management (2019), Water Stewardship (2018). In 2021, MAC is also in the process of developing a new protocol that would cover issues related to equity, diversity, and inclusion.
Requirements of the Standard		
Summarized standard requirements	Environ-mental issues	o Tailings Management indicators (5): Policy and commitment; management systems; assigned responsibility; annual review; operation, maintenance and surveillance manual o Biodiversity Conservation Management indicators (3): commitment and accountability; facility-level planning and implementation; reporting o Water stewardship indicators (3): Water governance; operational water management; watershed-scale planning; water reporting and performance o Climate Change indicators (3): corporate climate change management; facility climate change management; facility performance targets and reporting A couple of national associations implementing TSM have also developed and implemented a protocol on mine closure.
	Social and societal issues	o Indigenous and Community Relationships indicators (5): Identification of Community of Interest (COI); support meaningful relationships, work with communities; respond to feedback and concerns o Health and Safety indicators: Policy; plans, implementation and operation; training and behaviour; monitoring and reporting; performance targets o Prevention of Child and Forced Labour: no child labour at the mine site; no forced labour and processes to monitor supply chains and relationships
	Govern-ance issues	o Crisis Management and Communications Planning indicators: planning and communication; review; training o Responsible Sourcing Alignment supplement (voluntary basis)
Rigor or flexibility of the standard model for compliance		Voluntary degree of compliance with the standard catalogue Indicators for management practices with a 5 level performance scale: AAA, AA, A, B, C, for example: AAA: leadership/ excellence AA : integration of management systems in management decisions and functions A : management system introduced B : management system immature C : no management system in place, uncoordinated activities New MAC members have three years to start publicly reporting. Members are expected to demonstrate progress towards at least a Level A rating. Within four years of joining MAC, member companies should demonstrate Level A or higher in at least 50% of indicators, and Level A or higher on all tailings management indicators. Additionally, prospective members must complete a self-assessment against TSM requirements as part of their membership application package. In the long run Level A or higher should be achieved by all mining companies. For two protocols (Preventing Child and Forced Labour and Crisis Management and Communications Planning), there is a simple Yes/No rating scale rather than a multi-level scale.

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TSM

Provided documents and tools	o TSM Guiding Principles (basic values and targets) o Eight TSM Protocols (with performance indicators, see above): 　- Climate Change 　- Tailings Management 　- Crisis Management and Communications Planning 　- Biodiversity Conservation Management 　- Indigenous and Community Relationships 　- Safety and Health 　- Preventing Child and Forced Labour 　- Water Stewardship o Four TSM Frameworks (with policy commitments): 　Mining and indigenous Peoples 　Biodiversity Conservation Management 　Safety and Health 　Water o Additional Guidelines and Manuals: o TSM Tailings Management Protocol (2019), o The Tailings Guide (2021); The Operation, Maintenance and Surveillance (OMS) Guide, The Table of Conformance (2019) o Crisis Management and Communications Planning Reference Guide (2016) o Abridged Checklist for Facilities with ISO 50001 Certification (2020) o Abridged Checklist for Facilities with ISO 45001 Certification (2020) o Responsible Sourcing Alignment Supplement (2021)
Referral to other standards for more information or guidance	Altogether > 50 references, some relevant are: o ISO 14001 Environmental Management System standard o ISO 45001 Occupational health and safety management system o ILO 29, Forced Labour Convention, ILO 138, Minimum Age Convention, ILO Conventions 182, Worst forms of child labour, o TCFD. 2017. Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures. o CDP. 2020. Guidance for Companies. o OECD Due Diligence Guidance on Conflict-Affected and High-Risk Areas (in voluntary responsible sourcing supplement) o Several ICMM guidances
Recognition of other standards for the proof of compliance of certain issues	o TSM has developed a checklist for ISO 45001. If a company has ISO 45001 certification, it can use a separate checklist for the safety/health protocol. The checklists includes elements additional to the ISO standard. o TSM has developed a voluntary Responsible Sourcing Alignment Supplement (2021) for companies that want to use their TSM performance to achieve recognition by: International Council on Mining and Metals (ICMM) Mining Principles (MPs), World Gold Council (WGC) Responsible Gold Mining Principles (RGMPs), Responsible Minerals Initiative (RMI) Risk Readiness Assessment (RRA), including the International Copper Alliance (ICA), Copper Mark (CM) or ResponsibleSteel o TSM has also partnered with the Responsible Jewellery Council (RJC) on an Integrated Audit Protocol to merge the two standards into a single audit protocol. This protocol is being expanded to include the Initiative for Responsible Mineral Assurance (IRMA) and other standards. It will allow companies to have a single audit of their sustainability systems conducted to meet the audit requirements of a number of standards.

TSM

Assessment of Standard Compliance and Transparency of the Results	
Subject-matter of the conformity assessment	Annual self-assessments of the reported performance indicators, set in eight TSM assessment protocols, and verified externally every three years by trained verifiers (all verifiers are listed on the TSM website).
Type of conformity assessment (audit)	Verification
Auditor status and frequency of audits	o 1st party (yearly) o 3rd party (every 3 years) o Also, each year a sample of companies is selected to present their results before the Community of Interest (COI) Advisory Panel and engage in dialogue.
Assessment elements	(1) Self-Assessment (2) Document analysis (3) Site inspection is encouraged but not strictly required (4) Interviews with communities of interest and employees are required, particularly to confirm Level A or higher results
Grievance mechanisms for auditor decisions	There is an arbitration process for when there is a difference in opinion between a facility and its verifier. Through this process TSM asks an independent consultant (who is an expert on TSM) to draft a response and recommendation. A sub-committee of the board makes a decision based on this recommendation
Whistle-blowing mechanism for standard non-compliances	In 2022, MAC introduced a new issues resolution mechanism to ensure that any issues, concerns, or grievances related to TSM are resolved in a timely, consistent, and transparent manner.
Party publishing the results	o Standard initiative: Since 2022, a summary report of the external verification is prepared by the verifier for publication alongside company performance results on the MAC website. MAC yearly publishes the TSM progress report which includes the performance levels for the various Canadian mine site which can include local processing and tailings facilities. Smelters and refineries are also included. Those results are verified externally every three years. Additionally, several members report on performance for their international operations. The TSM progress report clearly indicates who has verified their results in each year. o Company: Some companies publish their levels achieved on their own homepage and/or via public press announcements.
Degree of detail of the published results	Results about single standard requirements: o Next to a summary report of the external verification, all the performance levels per indicator are published at the facility level. Individual results are published for each indicator for each mine site. For example a mine with a tailings facility will report its scores for each of the five tailings indicators.
List of References	
References are available through the TSM website: https://mining.ca/towards-sustainable-mining/	
Imprint	
Editor: Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources) Stilleweg 2 30655 Hannover Germany mineralische-rohstoffe@bgr.de *Author:* Dr. Gudrun Franken *Date:* 31.03.2022, revised 10.11.2022	

CERA 4in1

CERA 4in1 – Performance Standard (CPS)	
Background Information	
Initiators of the standard	Diverse Multi-stakeholder collaboration
Standard initiative/ administrative body	CERA 4in1 / DMT GROUP
Founding date and location	2016 Essen, Germany
Publication of the first standard version	Version 0.1 (March 2019) Preceded by standard v. 1.0 (December 2020)
Up-to-date standard version and next revision	Version 1.0 (December 2020); update expected in the near future reflecting lessons learnt from the different pilot projects 2021-2022
Background of the standard initiative	System has an exclusive focus on standard development and its implementation, which is shown by the CAMD-structure (Commitment-Assessment-Monitoring-Improvement and Disclosure)
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	Partners, Advisory Board and revision process (selection): (1) Civil society (a, b): Leiden University, Montan University Leoben, SD University, NGOs (consultation) (2) Private sector (a, b): DMT, TUEV NORD CERT, CONFEDEM, RISE, LTU Business AB, Volkswagen, Euromines, Siemens (3) Public institutions (a, b): UNECE, EU-JRC
Subject Matter of the Standard	
Main objective	o The CERA 4in1 certification system aims to be the first holistic, worldwide applicable system of its kind to standardize the evaluation of social, environmental and economic responsibility across the complete mineral raw materials value chain. To do so, CERA 4in1 body creates four separate standards, each tailored to a specific stage of the value chain, considering amongst others ASM, Recycling and Traceability. o CERA 4in1 always pursues compatibility with national and international laws, e.g. the Conflict Minerals Regulation.
Target commodities	o All mineral commodities except for energy fuels
Application of the standard along the supply chain	Upstream: o CERA 4in1 Performance Standard (CPS): Mine site – including all development stages (mining, processing, refining) o CERA 4in1 Chain of Custody Standard (CCS): Traceability of traded Commodity o CERA 4in1 Readiness Standard (CRS): Exploration and Planning Downstream: o CERA 4in1 Final Product Standard (CFS): Final Product o Planned: CPS, CCS for downstream value chain
Proof of origin	o CPS: Theme - Supply chain due diligence (Tier 1); o Separate development of CERA 4in1 Chain of Custody Standard considering chemical and digital traceability methods (2023-2026)
Assessment unit	o Organization's performance against CPS requirements that reaches from the entire operating to the closure phase: - Mine site - Processing plant - Smelter → if the units are linked with each other, the assessments can be merged o In case the organization that is looking for certification forms part of a global mining company, the audit focus is on site-specific information but some issues (e.g., policies) may apply to global corporate procedures o The audit scope covers also first-tier supplier as applicable according to the respective CPS theme "Supply Chain Due Diligence"

		o External stakeholders (e.g., communities) are consulted in the audit process.
Geographic focus		o Global scope, pilots in different regions of the world focusing on different minerals, using different mining methods and organizations with different sizes
State of implementation		o Piloting of the CPS at four mines in DRC (Cobalt), China (REE), Portugal (Lithium) and Norway (Graphite). Earliest pilot (Cobalt) ends in the late of 2022. Commercialization CPS 2022
Membership program		o Yes: A "membership program" is planned for clients and stakeholder, which continuously support the improvement of the system o The advisory board of the research project comprises 8 members: OEMs, mining industry, financial institutions, universities, multinational organizations.

Governance and decision making		o CERA 4in1, supported by an independent advisory board with key stakeholders
		o Goal: Independent third-party body
		  - determines certification bodies who perform auditing and certification
		  - determines consultants who support the organization in getting certified
		  - involved in overall governance, standard setting, training and awarding of certificates

Funding		o CERA 4in1 project was partially financed by EIT RawMaterials from March 2017 until June 2021. Before and after that, CERA 4in1 is financed entirely by DMT GROUP. o Main income for independent third-party CERA 4in1 body will comprise member fees, grants, licensing, usage fees (including trainings)
Recent developments		o A remote and on-site audit against CPS v. 1.0 at a cobalt mine in DRC was conducted in Q3/2021. In the cobalt pilot project in DRC, a pre-finding report and further an audit report have been compiled in the mid of 2021 until the beginning of 2022. Currently (04.2022) the mine is developing corrective action plans. o Prior to audits, mines undergo a self-assessment against the CERA 4in1 Questionnaire. Three of the pilots are in the stage of project preparation and self-assessment against the CERA 4in1 Questionnaire. o Pilot activities at all four pilots were interrupted by the COVID-19 pandemic. o Commercialization of CPS in 2022
Requirements of the Standard		
Summarized standard requirements	Environ-mental issues	The CPS themes (12) are further defined by key aspects (43). The key aspects are the interface to the situation-specific Audit Check List-document, in which these key aspects are further defined by events, extended by corresponding optional prevention plans and key performance indicators. These events need to be assessed and monitored as well as its assessment improved and disclosed following the CAMD-requirement structure of CPS. Theme / Key Aspect Mine waste and reclamation: o 3.1 Emissions and waste / 3.1.2 Waste and material assessment and management (35) o 3.3 Biodiversity and mine closure / 3.3.2 Mine closure (43) Water, air and climate impact: o 3.1 Emissions and waste / 3.1.1 Air quality assessment and management (34)

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		o 3.1 Emissions and waste / 3.1.3 Water assessment and management (36) o 3.1 Emissions and waste / 3.1.4 Noise and vibration assessment and management (37) o 3.1 Emissions and waste / 3.1.5 Greenhouse gas emissions (38) o 3.2 Efficient use of resources / 3.2.3 Water withdrawal by source, water recycled and reused (41) Environment and biodiversity: o 1.5 Supply chain due diligence / 1.5.2 Environmental impact (13) o 3.2 Efficient use of resources / 3.2.1 Responsible exploitation of deposit (39) o 3.2 Efficient use of resources / 3.2.2 Energy and material consumption (40) o 3.3 Biodiversity and mine closure / 3.3.1 Biodiversity (42) Chemicals management: o 2.4 Safety and security / 2.4.2 Use, mixing and handling of hazardous substances (31)
	Social and societal issues	Community consultation, dialogue, protection: o 1.4 Stakeholder involvement / 1.4.1 Analysis and prioritization of stakeholder groups (8) o 1.4 Stakeholder involvement / 1.4.2 Means of stakeholder engagement (9) o 1.4 Stakeholder involvement / 1.4.3 Platform for management of grievances (10) o 1.4 Stakeholder involvement / 1.4.4 Public disclosure and ongoing reporting (11) o 2.1 Human and community rights / 2.1.1 Workplace diversity/discrimination/equality of opportunity (15) o 2.1 Human and community rights / 2.1.2 Rights of the indigenous population (16) o 2.1 Human and community rights / 2.1.3 Particularly vulnerable groups/persons (17) o 2.1 Human and community rights / 2.1.4 Local community protection and development (18) o 2.1 Human and community rights / 2.1.5 Land rights and land rights disputes (19) o 2.1 Human and community rights / 2.1.6 Cultural heritage protection (20) o 2.1 Human and community rights / 2.1.7 Child labour & education (21) o 2.1 Human and community rights / 2.1.8 Forced labour (22) Workers' rights and safety: o 2.2 Labour conditions / 2.2.1 Freedom of association and rights to collective bargaining (23) o 2.2 Labour conditions / 2.2.2 Remuneration (24) o 2.2 Labour conditions / 2.2.3 Working hours and conditions (25) o 2.2 Labour conditions / 2.2.4 Career training (26) o 2.3 Occupational health and safety / 2.3.1 Measures to ensure workplace safety (27) o 2.3 Occupational health and safety / 2.3.2 Accidents at work, related impacts and actions (28) o 2.3 Occupational health and safety / 2.3.3 Training according to OHS standards (29) o 2.4 Safety and security / 2.4.1 Access to operations (30) o 2.4 Safety and security / 2.4.3 Maintenance of structures (32) o 2.4 Safety and security / 2.4.4 Training in safety and security (33)

	Govern-ance issues	Legal compliance and transparency / corruption: ○ 1.1. Legal Compliance / 1.1.1 National & international legislation, international treaties and conventions (1) ○ 1.2 Best available practice / 1.2.2 Best practice guidelines (3) ○ 1.3 Business integrity / 1.3.1 Corruption and bribery (4) ○ 1.3 Business integrity / 1.3.2 Contact with criminal organizations, illegal armed groups or illegal political organizations (5) ○ 1.3 Business integrity / 1.3.3 Business ethics (6) ○ 1.3 Business integrity / 1.3.4 Illegal (mining) activities at the operating site (7) ○ 1.5 Supply chain due diligence / 1.5.3 Conflict-affected and high-risk areas (14) Protection of human rights and avoidance of social impact in supply chain: ○ 1.2 Best available practice / 1.2.1 International guidelines (2) ○ 1.5 Supply chain due diligence / 1.5.1 Social impact (12)
Rigor or flexibility of the standard model for compliance		Dynamic certification system including a scoring system ○ The CPS C-A-M-D requirements are each rated at 25 % ○ The events are categorized in core and priority criteria (mandatory for initial 50 % certification) and supplementary criteria (mandatory for 75 % certification) as well as in remote / on-site Audit verifiable. Selection of events and its categorization is made depending on the specific situation. ○ Spontaneous surveillance Audits are conducted between the certification processes. Three certification steps: 1. CPS Initial 50 % certification (after 1 year): ○ The organization shall develop and implement a policy for every CPS theme (12) including the respective Key Aspect or extent the existing policies with the respective Key Aspect (C – Commitment) ○ For every core and priority event - Identification of risks and developing plans on how to prevent the risks to mitigate the occurrence of respective event (A - Assessment) ➔ For CPS initial 50 % certification the Commitment (C) need to be assessed by 25 % as well as the Assessment (A) process of core and priority events need to be assessed by 25 % and the overall score in total 50 % at minimum. 2. 75 % certification (after 3 years): ○ For every event - Identification of risks and developing plans on how to prevent risks to mitigate the occurrence of respective event (A – Assessment) ○ Following to the implementation of prevention plans the KPIs need to be monitored by the organization (M – Monitoring) ○ Development of Improvement plans for the KPIs and disclosure of its performance (D – Disclosure) ➔ For the CPS 75 % certification the processes of Assessment (A) and Monitoring (M) for every single Key Aspect and its core, priority and supplementary events need to be both assessed by 25 % and the overall score in total 75 % at minimum (including the 25 % of C – Commitment) 3. 100 % certification (after 6 years): ○ Reaching the 100 % by continuous development and implementation of improvement plans and its disclosure (D – Disclosure) Re-certification every 3 years
Provided documents and tools		○ CERA 4in1 Performance Standard v. 1.0

CERA 4in1

	o CERA 4in1 Audit Check List including the explanation of its systematic and the overview of all events, optional prevention plans and key performance indicators o CERA 4in1 Questionnaire o CERA 4in1 Manual v. 2.0 o CERA 4in1 website o CERA 4in1 webinars
Number of quoted international conventions and other guidance	More than 10 considering the content of all documents.
Referral to other standards for more information or guidance	General approach: o ISO 9001 as well as the five-step OECD management approach are considered within the CPS systematic development o The ISEAL principles are considered within the Standard development o Beside the CPS development the Guidelines for auditing management systems (ISO 19011:2018), Requirements for bodies certifying products, processes and services (ISO/IEC 17065:2012) and Conformity assessment – Requirements for accreditation bodies accrediting conformity assessment bodies (ISO/IEC 17011:2017) are considered References within the Audit Check Lists (new references can be added continuously within the optional prevention plans to ensure currency): o International Labour Organization: ILO C100, C111, C138, C182, C029, C105, C087, C098, C0131 o UN Guiding Principles on Business and Human Rights o Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) o ISO/IEC 17799:2005 Information technology — Security techniques — Code of practice for information security management o Levin Sources & Fauna & Flora International - How to bring about forest-smart mining: strategic entry points for institutional donors. o OHCHR - Code of Conduct for Law Enforcement Officials. o OHCHR - Basic Principles on the Use of Force and Firearms by Law Enforcement Officials. o OSHA 2236 - Materials Handling and Storage (revised) o SBTi Criteria and Recommendations TWG-INF-002 o Voluntary Principles Initiative 2020 o TSM Tailings Management Protocol (2019 Version) o ICMM Global Industry Standard on Tailings Management 2020
Recognition of other standards for the proof of compliance of certain issues	o CERA 4in1 body seeks mutual-recognition with other standards o CERA 4in1 body developed an internal objective and standardized benchmark framework for CPS to recognize existing standards during the audit process to reduce the effort for organizations. The mutual-recognition of these standards will be done by recognizing them as evidences for CPS requirements o Complying only with these external standards, without fulfilling the additional CPS requirements, does not imply compliance with the respective requirement
Assessment of Standard Compliance and Transparency of the Results	
Subject matter of the conformity assessment	o Evaluation of the organization's performance/operations against CPS requirements. These requirements must be proven by practical implementation, e.g. evidences could be reports, systems, licenses, interviews, photos, videos
Type of conformity assessment (audit)	o Verification and certification: Initial 50 % certification - 75 % certification - 100 % certification o Audits by certification bodies to be carried out in conformance with ISO 19011

Auditor status and frequency of audits	o Independent (3rd party) certification body o CPS Initial 50 % certification (after 1 yr.) – candidate status; 75 % certification (after 3 yrs.); 100 % certification (after 6 yrs.) -> yearly spontaneous surveillance audits are included, Re-certification every 3 yrs. o On-site CPS auditing depends on operational size, mineral raw material and country specific conditions.
Assessment elements	For initial 50 % certification: o CERA 4in1 Questionnaire: First self-assessment o (Optional) Gap-Analyze Report based on the filled in CERA 4in1 Questionnaire / Status Quo against CPS requirements o Mine Site assessment by the organization and the auditor -> selecting the potentially occurring events o Verification of event's selection and providing the specific Audit Check List as basis for certification by independent CERA 4in1 instance For initial 50 % certification and 75 % certification: o Commitment (C) and Assessment (A) by the organization with (optional) support of CERA 4in1 recognized consultants (Initial 50 % certification: core and priority criteria; 75 % certification: including supplementary criteria) o Pre-Audit/Remote Audit: Pre-finding Report o Corrective Action Phase 1 o On-site Audit: on-site visit with Audit report. Audit reports are sent to both the client and to the independent CERA 4in1 instance for review. o Corrective Action Phase 2: Adjust findings, close gaps o Recommendation for the issuance of a certificate by the auditor, decision and awarding of CPS certificate by the independent CERA 4in1 instance For 100 % certification: o Verification of improvement and disclosure plans regarding the organization's performance against CPS requirements
Grievance mechanisms for auditor decisions	o Mining companies may send appeals or complaints to certification bodies who handle these appeals or complaints.
Whistle-blowing mechanism for standard non-compliances	o There are currently no whistle-blowing mechanism for standard non-compliances. The certification body is responsible for identifying non-compliance. The certification body can be contacted through its communication channels (e.g. email) to call attention for non-compliance or any illegal activities of the organization and the certification body / auditors itself.
Party publishing the results	o It is not set yet in which way the Audit results are accessible and whether the company has to approve this. However, CERA 4in1 intends to publish the full or part of the audit report via CERA 4in1 website.
Degree of detail of the published results	o The audit report comprehends the auditors evaluation (scoring) and information made by the organization on the individual CPS requirements (C-A-M-D). However, the degree of detail of published results is still under discussion.
List of References	

References are available through CERA 4in1's website, https://www.cera4in1.org/ – recent key references include:
- CERA 4in1 Flyer
- CERA 4in1 Manual v. 2.0
- CERA 4in1 Performance Standard v. 1.0
- Media Coverage and Press Releases
- Tutorials

CERA 4in1

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IFC – Performance Standards on Environmental and Social Sustainability

Background Information	
Initiators of the standards	International Finance Corporation (World Bank Group)
Standard initiative/ Administrative body	International Finance Corporation (World Bank Group) ➢ IFC's Performance Standards are also applied by the Multilateral Investment Guarantee Agency (MIGA in WBG), >100 Equator Principles Financial Institutions (EPFI), 32 OECD Export Credit Agencies, Development Financial Institutions (incl. IBRD/IDA and DEG/KFW Development Banks), etc., to assess their customers' sustainability.
Founding date and location	1956, Washington, D.C, USA
Publication of the first standard version	2006, IFC

Up-to-date standard version and next revision	o IFC Performance Standards on Environmental and Social Sustainability (2012), no further revision scheduled yet
	 o 63 World Bank Group Environmental, Health and Safety (EHS) Guidelines[1] for 8 sectors, revisions based on priority of the sector but not yet carried out for the EHS Guidelines relevant for mining and the metal supply chain:
	    ➢ General Guidelines (2007)
	    ➢ Mining (2007)
	    ➢ Construction Materials Extraction (2007)
	       ➢ Cement and Lime Manufacturing (2007)
	    ➢ Base Metal Smelting and Refining (2007)
	    ➢ Foundries (2007)
	    ➢ Integrated Steel Mills (2007)
	    ➢ Semiconductors and other Electronic Manufacturing (2007)
	 o Next to the Environmental and Social Performance Standards, IFC's ESG Performance Indicators for Capital Markets are based on the Corporate Governance (CG) Methodology with customized CG tools.

Background of the standard initiative	IFC is owned by 185 member countries, a group that collectively determines its policies. With a global presence in more than 100 countries, a network consisting of hundreds of financial institutions, and more than 2,000 client firms, IFC has been leading the way in private sector development
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	Broad multi-stakeholder (civil society, private sector, public institutions) consultation in the revision process with more than 2.000 participants from 40 countries.
Subject-Matter of the Standard	
Main objective	IFC clients have to meet the eight Performance Standards throughout the life of an investment by IFC. IFC supports sustainable mining through investments and advisory engagements that catalyze long-term economic growth in host countries through job creation, exports, and contribution to fiscal revenues. IFC provides financing across all stages of development, including pre-development, construction, production, and expansion. IFC works with clients to strengthen their social license to operate, providing assistance with impact assessments, biodiversity, health and safety, and stakeholder engagement.

IFC

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[1] The EHS Guidelines serve as technical reference documents with industry-specific examples of Good International Industry Practice (GIIP), including accepted performance levels, as defined in IFC Performance Standard 3 on Resource Efficiency and Pollutions Prevention and are used during project appraisal activities as a source of information.

Target commodities	All mineral commodities since this is a universal standard for all kind of industries.
Application of the standard along the supply chain	Potentially the whole supply chain tiers depending on the company that wants to be certified.
Proof of origin	o No CoC standard. However, where the client can reasonably exercise control, the risks and impacts identification process also verifies those risks and impacts associated with primary supply chains (i. a. labor & working conditions of primary suppliers (PS2) and risk of significant conversion of natural and/or critical habitats when purchasing primary production (PS6))
Assessment unit	o Depending on the type of investments: ➢ All facilities of a company ➢ Selected mine sites across all stages of development, including pre-development, construction, production, and expansion
Geographic focus	o Global scope focusing on developing countries
State of implementation	o As of June 30, 2020, IFC holds a US$ 842 million mining portfolio (48 % copper, 33 % bauxite, 9 % gold, 7 % rutile, 2 % diamonds, 1 % zinc, 15 others) including 12 mining projects in 11 countries. o Referring to IFC's project information portal, 331 projects in the oil, gas and mining industry have been funded worldwide from 1994 until 2019.
Membership program	o No
Governance and decision making	o IFC's programs and activities are guided through a Board of Governors and a Board of Directors that collectively determines IFC's policies. o Each of the 185 member countries that owned IFC appoints one governor and one alternate. Corporate powers are vested in the Board of Governors, which delegates most powers to a board of 25 directors. Voting power on issues brought before them is weighted according to the share capital each director represents. o The Board of Directors provide overall strategic guidance to IFC management and needs to approve each project based on previous stakeholder consultations and E&S Review Summary (ESRS) and Action Plan (ESAP).
Funding	o IFC's Environmental and Social Due Diligence Process is conducted by IFC staff that is financed by the World Bank Group.
Recent developments	o In July 2020 IFC, the European Bank for Reconstruction and Development (EBRD), and CDC Group jointly published a new good practice note on Addressing Gender-Based Violence and Harassment o In March 2021 IFC and the Inter-American Investment Corporation (IDB Invest) launched a new guidance for the private sector on addressing risks of retaliation against project-impacted stakeholders o In November 2021 the public consultation for IFC's Draft Guidelines for Blue Finance has started
Requirements of the Standard	
Summarized standard requirements	Environ-mental issues	o Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts ➢ Environmental Risks and Impact Assessment ➢ Policy ➢ Identification of Risks and Impacts ➢ Management Programs ➢ Organizational Capacity and Competency ➢ Emergency Preparedness and Response ➢ Monitoring and Review ➢ Stakeholder engagement (see below) o Performance Standard 3: Resource Efficiency and Pollution Prevention

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- ➢ Resource Efficiency
  - ➢ Greenhouse Gases
  - ➢ Water Consumption
- ➢ Pollution Prevention
  - ➢ Wastes
  - ➢ Hazardous Materials Management
  - ➢ Pesticide Use and Management
- o Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Resources
  - ➢ Protection and Conservation of Biodiversity
    - ➢ Modified, Natural, Critical Habitat
    - ➢ Legally Protected and Internationally Recognized Areas
    - ➢ Invasive Alien Species
    - ➢ Environmental Action Plan & Compensations
  - ➢ Assessment and Management of Ecosystem Services
  - ➢ Sustainable Management of Living Natural Resources
  - ➢ Supply Chain

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<tr><td></td><td>Social and societal issues</td><td>

- o Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
  - ➢ Stakeholder Engagement among others (see above)
    - ➢ Analysis and Engagement Planning
    - ➢ Disclosure of Information
    - ➢ Consultation
    - ➢ Informed Consultation and Participation
    - ➢ Indigenous People
    - ➢ Private Sector Responsibilities Under Government-Led Stakeholder Engagement
    - ➢ External Communications
    - ➢ Grievance Mechanism for Affected Communities
    - ➢ Ongoing Reporting to Affected Communities
- o Performance Standard 2: Labor and Working Conditions
  - ➢ Human Resource Policies and Procedures
  - ➢ Working Conditions and Terms of Employment
  - ➢ Workers' Organisations
  - ➢ Non- Discrimination and Equal Opportunity
  - ➢ Retrenchment
  - ➢ Grievance Mechanism
  - ➢ Child, Forced Labor
  - ➢ Occupational Health and Safety
  - ➢ Workers Engaged by Third Party
  - ➢ Supply Chain
- o Performance Standard 4: Community Health, Safety and Security
  - ➢ Infrastructure and Equipment Design and Safety
  - ➢ Hazardous Materials Management and Safety
  - ➢ Ecosystem Services
  - ➢ Community Exposure to Disease
  - ➢ Security Personnel
  - ➢ Emergency Preparedness and Response
- o Performance Standard 5: Land Acquisition and Involuntary Resettlement
  - ➢ Project Design
  - ➢ Compensation and Benefits for Displaced Persons
  - ➢ Community Engagement
  - ➢ Grievance Mechanism
  - ➢ Resettlement and Livelihood Restoration Planning and Implementation
  - ➢ Displacement (physical and economic)
  - ➢ Private Sector Responsibilities under Government-Managed Resettlement

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		o Performance Standard 7: Indigenous People
		  ➢ Avoidance of Adverse Impacts
		  ➢ Circumstances Requiring Fee, Prior, and Informs Consent
		  ➢ Impacts on lands and natural resources subject to traditional ownership or under customary use
		  ➢ Relocation of indigenous people
		  ➢ Critical culture heritage
		  ➢ Private Sector Responsibilities under Government-Managed issues of indigenous people
		o Performance Standard 8: Cultural Heritage
		  ➢ Protection of culture Heritage in Project Design and Execution
		  ➢ Chance find procedures
		  ➢ Consultation
		  ➢ Community access
		  ➢ Removal of Replicable Culture heritage, Non- Replicable culture heritage
		  ➢ Critical culture heritage

	Govern-ance issues	Not covered by the E&S performance standard but addressed by the separate Corporate Governance Methodology including tailored Corporate Governance Tools and IFC's Corporate Governance Performance Indicators for Capital Markets.
		
		o IFC's Corporate Governance Performance Indicators for Capital Markets: Corporates
		  ➢ Commitment to ESG (Leadership and Culture)
		    ➢ Corporate Governance Code
		    ➢ Code of Ethics or Conduct
		    ➢ Corporate Governance Officer
		  ➢ Structure & Functioning of the Board of Directors
		    ➢ Board Independence
		    ➢ Board Diversity
		    ➢ Diversity in Senior Management
		    ➢ Audit Committee
		    ➢ Role and Responsibilities
		  ➢ Control Environment (Internal Control System, Internal Audit Function, Risk Governance and Compliance)
		    ➢ Internal Audit
		    ➢ Risk Governance
		    ➢ Compliance
		    ➢ Fraud and Corruption
		  ➢ Disclosure and Transparency
		    ➢ Annual Report
		    ➢ Risk Disclosure
		  ➢ Treatment of Minority Shareholders
		    ➢ Equal Voting
		    ➢ Ownership Disclosure
		    ➢ Related Party Transactions
		    ➢ Dividend Policy
		    ➢ Executive Compensation
		  ➢ Governance of Stakeholder Engagement

Rigor or flexibility of the standard model for compliance		o Obligatory standard catalogue (incl. incremental catalogues and deadlines for corrective measures) o The borrower has to agree on the final investment agreement with the World Bank Groups Board of Directors who needs to approve the project based on previous stakeholder consultations and E&S Review Summary (ESRS) and Action Plan (ESAP). Other financial institutes may use other assessment criteria when evaluating projects by IFC Standards.

Provided documents and tools	o IFC Sustainability Framework, 2012 o IFC Performance Standards on Environmental and Social Sustainability, 2012 o Guidance Notes to Performance Standards on Environmental and Social Sustainability, 2012 (partly updated in 2021) o Environmental and Social Review Procedures (ESRP) Manual, 2012 (partly updated in 2016) o Interpretation Note on Environmental and Social Categorization, 2012 o 63 Environmental, Health and Safety (EHS) Guidelines for 8 sectors including a General Guideline as well as Guidelines for Mining and for Construction Material Extraction, 2007 o Corporate Governance Methodology (updated in 2018) including tailored Corporate Governance Tools and IFC's Corporate Governance Performance Indicators for Capital Markets, 2021 o Data bank of training documents (incl. webinars), implementation guidelines, multimedia, case studies o IFC Project Information & Data Portal
Number of quoted international conventions and other guidance	>> 20

Referral to other standards for more information or guidance	Referral to numerous other standards, agreements and guidance in Guidance Notes to Performance Standards on Environmental and Social Sustainability as:
	
	General approach:
	o OECD Guidelines for Multinational Enterprises
	o ISO 19011 auditing standard
	
	Topic references:
	o Environment:
	   - ISO14001, ISO 14064, etc.
	   - Climate /GHG emissions: Intergovernmental Panel on Climate Change or GHG Protocol
	o Workers' rights:
	   - ILO Conventions No. 29, No. 87, No. 98, No. 100, No. 111, No. 105, No. 138, No. 182
	   - Operational health and safety: ISO45001 (still referenced as OHSAS 18001)
	   - UN Convention on the Rights of the Child, Article 32.1
	   - UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families
	o Transparency:
	   - GRI reporting
	   - Extractive Industry Transparency Initiative (EITI)
	
	IFC itself is referenced by several standards, such as ICMM, IRMA, ASI, CopperMark, RJC, WGC's Responsible Gold Mining Principles

Recognition of other standards for the proof of compliance of certain issues	No
Assessment of Standard Compliance and Transparency of the Results	
Subject-matter of the conformity assessment	IFC receives an Annual Monitoring Report on the progress in meeting the E&S terms of the investment agreement by each client for monitoring compliance. It is used by IFC staff for monitoring and reporting purposes. The IFC Advisory Services may enhance the project if IFC and the client identify opportunities. Other financial institutes using the IFC Standards may apply other conformity assessment mechanisms.

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Type of conformity assessment (audit)	IFC staff conduct the Environmental and Social Due Diligence Process that is crucial for IFC's investment and bases on clients' conformance to the IFC Performance Standards that is thus verified by IFC staff. For more information, see ESRP manual.
Auditor status and frequency of audits	The company conducts a 1st party audit and reports its fulfilment of the terms of the investment agreement. IFC staff as a 3rd party monitors companies obligatory annual reports and conducts site visits in a variable frequency. For more information, see ESRP manual.
Assessment elements	o Self-Assessment o Document analysis o Site inspection o Interviews with workers, managers, etc.
Grievance mechanisms for auditor decisions	A grievance mechanism is not available.
Whistle-blowing mechanism for standard non-compliances	o Yes, in case of E&S concerns of affected communities, the independent IFC's Compliance Advisor/Ombudsman (CAO) can be contacted for a mediation process with the indicted company. CAO may also provide additional oversight and aims to enhance IFC accountability and outcomes. o In addition, the World Bank established the Inspection Panel. It is an independent complaints mechanism for people and communities who believe that they have been, or are likely to be, adversely affected by a World Bank-funded project. The Panel is an impartial fact-finding body, independent from the World Bank management and staff, reporting directly to the Board of Executive Directors. o Moreover, Performance Standard 1 requires the development and implementation of an effective grievance mechanism.
Party publishing the results	o Standard initiative: IFC discloses the client's progress against the ESAP. There is a data bank of companies verified or consulted by IFC and the E&S Review Summary (ESRS) is published along with relevant sponsor E&S documentation o Company: Project E&S assessment information disclosed locally

Degree of detail of the published results	o Summarized results
	  ➢ E&S Review Summary (ESRS) that is reviewed by the client along with relevant sponsor E&S documentation.
	  ➢ Further information on IFC projects and outcomes can be found in the World Bank Group's Annual Reviews.
	o Results about single standard requirement
	  ➢ IFC project information portal with 331 project entries for the oil, gas and mining industry worldwide from 1994 until 2019 (multiple documents per project*) and information on company performance in each identified Performance Standard. (*136 uploaded Environmental Documents; 47 Summary of Investment Information; 147 Summary of Proposed Investment; 1 Early Disclosure)

List of References
-   IFC Sustainability Framework https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/sustainability+framework -   IFC Performance Standards on Environmental and Social Sustainability www.ifc.org/PerformanceStandards -   Guidance Notes to Performance Standards on Environmental and Social Sustainability https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_gn-2012 -   63 Environmental, Health and Safety (EHS) Guidelines for 8 sectors including a General Guideline as well as Guidelines for Mining and for Construction Material Extraction, 2007 www.ifc.org/EHSGuidelines

- Environmental and Social Review Procedures (ESRP) Manual
  https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/ES-Proc-Manual
- Interpretation Note on Environmental and Social Categorization
  https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_interpretationnote-categorization
- Corporate Governance Methodology
  https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+cg/investment+services/corporate+governance+methodology
  - o Corporate Governance Tools
    https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+cg/investment+services/corporate+governance+tools
  - o IFC's Corporate Governance Performance Indicators for Capital Markets
    https://www.ifc.org/wps/wcm/connect/f598084a-9f00-4d11-a3be-b4e4ed5927d1/IFC%27s+CG+Performance+Indicators+Corporates_6212021.pdf?MOD=AJPERES&CVID=nEKRvXP
- IFC Governance
  https://www.ifc.org/wps/wcm/connect/CORP_EXT_Content/IFC_External_Corporate_Site/About+IFC_New/IFC+Governance/
- Compliance Advisor Ombudsman CAO https://www.cao-ombudsman.org/
- The Inspection Panel https://www.inspectionpanel.org/
- Data bank of training documents implementation guidelines, case studies
  https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Publications/
- Youtube channel with webinars https://www.youtube.com/user/IFCvideocasts
- IFC Project Information & Data Portal https://disclosures.ifc.org/

Imprint
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RMAP

RMAP – Mineral Supply Chain Due Diligence Standards and ESG Standard	
Background Information	
Initiators of the standard	Responsible Business Alliance
Standard initiative/ Administrative body	Responsible Minerals Initiative (RMI; formerly Conflict-Free Sourcing Initiative); housed and managed by the Responsible Business Alliance (RBA),
Founding date and location	2008, Washington, D.C, USA
Publication of the first standard version	2011/2012: Audit Protocol for Gold, Audit Protocol for Tin and Tantalum, Audit Protocol for Tungsten
Up-to-date standard version and next revision	o RMAP Assessment Procedure (2021), o Tin and Tantalum Standard (2020), o Tungsten Standard (2020), o Gold Standard (2020), o Cobalt Refiner Due Diligence Standard 2.0 (2021), o Mica Standard (2021), o Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc (2021), o Environmental, Social & Governance (ESG) Standard (2021), o ITA-RMI Tin Assessment Criteria (2021), o Global Responsible Sourcing Due Diligence Standard for Mineral Supply Chains All Minerals (2022); Standard revision process in line with the RMI Standards and Assessment Criteria Development Process (2021) The following analysis of standards relates to the **RMAP mineral supply chain due diligence standards** for tin, tantalum, tungsten, gold, cobalt, copper, nickel, lead, zinc and for all minerals (**here referred to as <u>DD standards</u>, obligatory**) and to the **RMAP <u>ESG standard</u> (voluntary)** where applicable. The Mica Standards includes the DD as well as ESG requirements respectively.
Background of the standard initiative	Initiative established for to support company due diligence in line with the OECD Guidance by developing and disseminating tools and standards; supports compliance with US Dodd Frank Act §1502 on conflict minerals and the EU Responsible Minerals Regulation and Delegated Act
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	RMI activities are coordinated by staff and overseen by a RMI Steering Committee (Multi-stakeholder in 2022) and RBA Board of Directors (private sector). Standards are subject to public consultation. A multi-stakeholder Standards Advisory Group is consulted, from time to time, in the process of standards development / revision and in the review of comments in the consultation process.
Subject-Matter of the Standard	
Main objective	As an industry initiative, the RMI's objective is to "evolve business practices to support responsible mineral production and sourcing globally, including but not limited to conflict-affected and high-risk areas, providing companies with tools and resources that improve regulatory compliance, align with international standards, and support industry and stakeholder expectations". The RMAP was developed based on due diligence requirements for responsible 'conflict minerals' (3TG) sourcing for downstream companies according to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act. In recent years, the scope has been widened to include other commodities as well as (voluntarily) broader ESG standards.

Target commodities	DD standards developed from application to so-called conflict minerals 3TG (tin, tantalum, tungsten, gold) and broadened to include cobalt, copper, nickel, zinc and lead; also a standard for mica has been developed including DD as well as ESG criteria; the ESG standard is not commodity specific.
Application of the standard along the supply chain	Smelters, Refiners of relevant commodities
Proof of origin	Yes, DD standards Extent of origin and chain of custody documentation required depends on the material category and on whether the origin is low-risk or high-risk. e.g. for high-risk environment: Identification of all location(s) in the supply chain where minerals are consolidated, traded, processed or upgraded; the identification of all upstream intermediaries, consolidators or other actors in the upstream supply chain; transportation routes
Assessment unit	Company: all facilities
Geographic focus	Global
State of implementation	Smelters, refiners and processors are listed as active (committed to undergo RMAP DD standard assessment), conformant and eligible to the RMAP program. 3TG and cobalt programs cover majority of global producers; programs for copper, nickel and zinc program just started with few producers Current status of global participation (number of active/conformant/eligible smelters & refiners as of Apr 8, 2022): Gold (7/100/178), tantalum (0/35/37), tin (10/55/83), tungsten (4/42/52), cobalt (12/30/73), mica (3/0/21), copper (1/0/3), nickel (3/0/4), zinc (1/0/1) No information on ESG standard implementation available (implementation underway).
Membership program	Yes: RMI has more than 430 member companies and associations from over 15 industries; RMI has five member types: o Partner members (individual companies): have access to reasonable country of origin (RCOI) data, the RMAP's Smelter Database with information about companies in the 3TG and cobalt supply chain as well as the Risk Readiness Assessment (RRA) Tool o Upstream members: access Smelter Database and RRA o Association members (ex-officio seat on Steering Committee) o Association partners o Vendor members (provide goods and/or services)
Governance and decision making	o The activities of the RMI are coordinated by RMI staff and overseen by a Steering Committee comprised of some RMI members. The RMI's Steering Committee is broadening to multi-stakeholder representatives in 2022, 3 non-private sector stakeholders have been included in addition to 8 private sector representatives. Members of the RMI participate in working groups on specific issues and tools. RMI staff manages the RMAP, which utilizes independent third-party audit firms approved by its Audit Firm and Auditor Approval process. o RBA is an ISEAL subscriber, RMI is working toward achieving full ISEAL membership with independent evaluation against the ISEAL Impacts and Assurance Codes. o The Steering Committee is responsible for the strategic guidance of the RMI and reports to the RBA Board of Directors, it consists of 11 voting positions (3 NGO and 8 private sector) and 3 ex-officio nonvoting positions.

RMAP

		o An Independent Review Committee (IRC) of three external experts has the role to review and issue a determination on appeals to an RMAP decision.
Funding		o The RMI is an initiative of the RBA, a non-profit organization, the majority of the RMI's funding comes from member fees. The RMI also receives in-kind support from the RBA and project donations from Members and Partner Associations.
Recent developments		o In 2021 RMAP has started smelter/refiner assessments (beyond 3TG and cobalt) for copper, zinc, lead and nickel producers. Also, a standard for mica processors was published 2021. o A DD standard to be applied for all minerals (for those that are not covered yet by separate standards) was published 2022. o In 2021 RMI has published a voluntary ESG standard based on the 32 Risk Readiness Assessment Criteria to be applied in the RMAP at smelter/refiner level and for integrated mine/refiners. o RMI has started 2021 to engage with other actors in initiatives for responsible sourcing of gold in Burkina Faso based on the CRAFT sourcing code for artisanal gold mining as well as in developing a tool for tracing child and forced labour e.g. in cobalt supply chains in the DR Congo.
Requirements of the Standard (DD standards and ESG standard)		
Summarized standard requirements	Environ-mental issues	No environmental issues in the <u>DD standards</u> for tin and tantalum, tungsten, gold, cobalt, copper, nickel, lead and zinc and for all minerals. The Mica Standard (Global workplace responsible sourcing, environment, health and safety due diligence standard for mica processors) includes most of the environmental criteria of the ESG standard (see below). Voluntary requirements of the <u>ESG Standard</u>: 1. Organizational Context and Interested Party Concerns: maintain process to identify relevant issues 2. Legal compliance with environmental regulation 3. Environmental management, system implemented, best efforts for independent assessment of mine sites 4. Endorse environmental policy, commit to continuous improvement, framework for setting targets 5. Identification of risks and opportunities, risk management 6. Significant environmental aspects and impacts: plan action to address risks/opportunities, identify and document environmental aspects 7. Environmental objectives and targets 8. Resources and Competences for employees, training 9. Technical Environmental Data and supporting Information, to be credible, reliable, valid 10. Air emission (other than GHG), inventory, control system, reduction plans 11. Greenhouse gas (GHG) Emissions, define scope, quantify baseline, reduction target and plan, public reporting 12. Noise, assessment and control, reduction plan 13. Energy Consumption, measure consumption, define baseline, quantify efficiency improvements, where possible increase of renewables 14. Freshwater Management and Conservation 15. Wastewater Discharges 16. Soil Erosion Management 17. Waste Management 18. Biodiversity, Forests and Protected Areas

		19. Chemical/Fuel Storage Tanks/Containers 20. Emergency and Spill Response

	Social and societal issues	Requirements of the DD standards for tin and tantalum, tungsten, gold, cobalt, copper, nickel, lead,zinc and all minerals:
		Social risks that are addressed in Step 2 acc. to Annex II of the respective OECD DD Guidance comprise serious abuses associated with the extraction, transport or trade of minerals:
		◦ Any forms of torture, cruel, inhuman and degrading treatment;
		◦ Any forms of forced or compulsory labor;
		◦ The worst forms of child labor;
		◦ Other gross human rights violations and abuses such as widespread sexual violence
		◦ War crimes or other serious violations of international humanitarian law, crimes against humanity or genocide.
		
		The Mica Standard includes the DD standard criteria as well as most of the social criteria of the ESG standard (see below).
		
		Requirements of the ESG Standard:
		VI. Occupational, Health and Safety (OHS) Standards
		    1. Organizational Context and Interested Party Concerns;
		    2. Legal compliance with OHS regulation
		    3. OHS Management
		    4. OHS policy
		    5. Identification of risks and opportunities, risk management
		    6. OHS objectives and targets
		    7. Resources and Competence
		    8. Hazard Identification
		    9. Technical OHS Data and Supporting Information
		    10. Personal Protection Equipment (PPE)
		    11. Emergency Response/Egress
		    12. Fire safety
		    13. Electrical Safety
		    14. Equipment Safety
		    15. Vehicle/Powered Equipment Safety
		    16. Hand Tool Safety
		    17. Confined Space Safety
		    18. Structural Safety (pits, shafts, buildings, structures, etc.)
		    19. Walking/Working Surfaces
		    20. Materials Handling Safety
		    21. Chemical Safety
		    22. Working at Heights
		    23. First aid,
		    24. Employee Safety Training
		    25. Worker Consultation and Participation
		    26. Safety/Warning Signs
		    27. Lighting
		    28. Temperature Exposure
		    29. Incident Reporting and Management
		    30. Ergonomics
		    31. Sanitary living and Working Conditions
		    32. Disease Prevention and Management
		
		VII. Social Standards
		    1. Legal Compliance
		    2. Stakeholder Engagement
		    3. Child Labor, Forced/Bonded labor
		    4. Entitlement to work
		    5. Hiring
		    6. Use of Labor Providers/Agencies

RMAP

		7. Subcontracting
		8. Freedom of Association and Collective Bargaining
		9. Worker Consultation, Participation and Grievances
		10. Discrimination
		11. Harassment
		12. Lay-off
		13. Gender Equality
		14. Working Hours
		15. Remuneration/Compensation
		16. Grievance mechanism
		17. Community Health and Safety
		18. Community Development
		19. Artisanal and Small-Scale Mining
		20. Human Rights
		21. Security and Human Rights
		22. Indigenous Peoples' Rights and Ethnic Minorities Rights
		23. Land Acquisition and Resettlement
		24. Cultural Heritage
	Govern-ance issues	The DD standards for all commodities follow the five-step (tin, tantalum, tungsten, gold, copper, nickel, lead, zinc) or the six-step framework (cobalt, Step 6: community participation) of the OECD DD Guidance The following is drawn from the tin and tantalum standard as an example. However, the general structure is comparable to the commodities with slight modifications: e.g. gold DD standard with emphasis on know your counterparty; cobalt DD standard includes step 6 community participation. Step 1: Management System 1. Supply Chain Policy 2. Management Responsibility 3. Control of Documents/Records 4. Monitoring of Performance 5. Internal Material Control System 6. Supplier Engagement 7. Grievance Mechanism Step 1c: Systems of Control and Transparency and Step 2: Identification and Assessment of Supply Chain Risks 1. Identification of supplier and material source 2. Identification of conflict-affected and high-risk areas 3. Determination of the scope of the risk assessment: review for discrepancies, plausibility, red flags, risk level 4. Identification of supply-chain risks 5. Assessment of supply chain risks Step 3: Risk management (supply chains with high-risk sourcing) Step 5: Public Reporting (note: step 4 of the OECD DD Guidance is related to auditing, thus it is not covered by some of the DD standards but in the RMAP Assessment Procedure) Governance related risks that are addressed in Step 2 comprise acc. to Annex II of the respective OECD DD Guidance: - Direct or indirect support to non-state armed groups, - Direct or indirect support to public or private security forces, - Bribery and fraudulent misrepresentation of the origin of minerals, - Money laundering, - Non-payment of taxes, fees and royalties to governments.

		The Mica Standard includes the DD standard criteria as well as most of the governance criteria of the ESG standard (see below).
		
		Requirements of the <u>ESG Standard</u>:
		VIII. Governance Standards
		  1. Legal Compliance
		  2. Processor Policies and Procedures/Document Management
		  3. Business Integrity
		  4. Business Relationships
		  5. Employee Incentives/Rewards
		  6. Grievance Mechanism
		  7. Management Responsibility and Accountability
		  8. Internal Monitoring Programs
		  9. Stakeholder Consultation and Participation
		  10. Transparency and Disclosure
		  11. Performance Metrics and Improvement Goals
		  12. Management/Executive Compensation and Incentives
		  13. Board Structure, Makeup and Member Selection
		  14. Communication

Rigor or flexibility of the standard model for compliance		Obligatory standard catalogue (incl. incremental catalogues and deadlines for corrective measures) If the RMAP independent third party assessment finds companies to be non-compliant they are removed from the conformant list, unless they commit to address outstanding issues via an Extended Corrective Action Plan (ECAP). The company must demonstrate progress within 90 days from notification, otherwise it will receive a warning. The warning must be acknowledged within 30 days or the company will be removed from program participation. Currently (as of Nov 12, 2021) no company is listed on the list of smelters undertaking extended corrective action (ECAP). As defined in the Assessment Procedure (2021) a company is non-conformant if its systems, processes and practices significantly deviate from the Standard requirements or the Assessment Criteria, or the company refuses to participate in the assessment process, does not provide adequate access to facilities, personnel or evidence to complete the assessment, or if a "Zero Tolerance" situation is encountered. Zero tolerance situations include denying access to the auditor, bribes or gifts offered to the auditor, evidence of falsification of documents, deliberately misrepresenting facts etc.
Provided documents and tools		o Agreement for the Exchange of Confidential Information (2019) o Auditee Agreement (AA, 2019) o Due Diligence Checklist (2017) o RMAP Assessment Procedure (2021) o Tin and Tantalum Standard (2020) o Tungsten Standard (2020) o Gold Standard (2020) o Cobalt Refiner Due Diligence Standard 2.0 (2021) o Mica Standard (2021) o Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc (2021) o Global Responsible Sourcing Due Diligence Standard for Mineral Supply Chains All Minerals (2022) o Environmental, Social & Governance (ESG) Standard (2021) o ITA-RMI Tin Assessment Criteria (not yet implemented; 2020) o Pre-Assessment Checklist (2019) o RMAP Observer Guidelines (2018) o RMAP Appeals Procedure (2020) o RMAP Due Diligence Report Guidance (2018) o Example Procedures to Identify CAHRAs (2021) o Risk Mitigation Tool (2018)

	o Supply Chain Mapping Tool (2018) o RMI Sample Mine Site Assessment Questionnaire (2020) o RMAP Revised Standard Checklist (2018) o Tin and Tantalum Line Item Summary (2019) o Tungsten Line Item Summary (2019) o Gold Line Item Summary (2019) o RMAP Report Template (2019) o Extended CAP (Corrective Action Plan) Policy (2019) o Preliminary Findings Acknowledgement (PFA, 2019) o RMI COVID Virtual Assessment Policy (2021) o KYC Questionnaire Template (2021)
Number of quoted international conventions and other guidance	< 20
Referral to other standards for more information or guidance	General approach: o UN Guiding Principles on Business and Human Rights o Voluntary Principles on Security and Human Rights o ISO 19011:2018 auditing standard Topic references o Conflict-affected areas: Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd Frank Act); SEC Conflict Minerals Rule; OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (all standards) Chinese Due Diligence Guidelines for Minerals Supply Chains; Chinese Guidelines for Social Responsibility in Outbound Mining Investment (cobalt standard) o Environment: ISO14001:2015, Climate /GHG emissions: Intergovernmental Panel on Climate Change or GHG Protocol o Operational health and safety: ISO45001:2015 o Workers rights: ILO Conventions No. 29, No. 87, No. 98, No. 100, No. 111, No. 105, No. 138, No. 182 o Transparency: GRI reporting, Extractive Industry Transparency Initiative (EITI)
Recognition of other standards for the proof of compliance of certain issues	A cross-recognition process was developed in 2019 to reduce duplication e.g. of audits and support alignment of standard systems. The following systems are covered under the cross-recognition policy: o London Bullion Market Association (LBMA) Responsible Gold Guidance o Responsible Jewellery Council (RJC) Chain-of Custody Standard (provision 1 only) o RJC Code of Practice (COP) Standard (provision 7 only)
Assessment of Standard Compliance and Transparency of the Results	
Subject- matter of the conformity assessment	Assessment of management processes at facility level, evaluating implementation of those processes with spot checks, gathering evidence through transaction and supplier information, reviews of purchasing practices and interviews with relevant employees (see: RAMP Assessment Procedure 2021)
Type of conformity assessment (audit)	Verification of conformance by an independent auditing body in line with ISO 19011:2018 auditing standard; issue of certification for conforming smelters/refiners and listing on conformant list; to become an approved auditing body for RMAP, audit firms must complete the RMAP Audit Firm Approval Application (which includes e.g. ISO17021 requirement), fill out the Approved Auditor List as well as the Auditor Approval Application for each auditor on the List;
Auditor status and frequency of audits	3rd Party, accreditation process for auditors

	Frequency of audits is adjusted according to the risk-profile of the facility
	o Standard assessment frequency is <u>yearly</u>,
	o For companies eligible to the Risk-Based Assessment Program (RBAP) audit periods can be extended to maximum of <u>three years</u> between on-site assessments, if
	   - it completed two annual successive RMAP assessments, which resulted in a RMAP Conformant status and
	   - the facility operates outside a CAHRA and
	   - results of both RMAP assessments confirm that sourcing practices are low-risk and
	   - the facility maintains conformance and submits annual information to RMAP.

Assessment elements	o Pre Assessment Process; Agreements and exchange of information between RMAP and company, company completes and submits the Pre-Assessment Checklist (PAC), this includes information on 50% of the transactions (type of material, date, weight, supplier etc.) that occurred within the audit period;
	o On-site assessment process: review of the company's policies, processes, and procedures, gather evidence of their implementation (ref. ISO 19011:2018) by
	   - Visual observation of the site
	   - Interviews
	   - Document review
	   - Sampling of transactions, supplier files according to sampling plan
	o Post-Assessment Procedure: report, review and quality assurance procedures, Corrective Action Plan (CAP) as needed

Grievance mechanisms for auditor decisions	Yes. The procedures for RMAP audit process related appeals are laid down in the Appeals Procedure (2020). All appeals are processed and documented by the RMAP Program Manager.
Whistle-blowing mechanism for standard non-compliances	Yes. The RMI Grievance Mechanism (2017) outlines the process to note incidents and file grievances. Members, stakeholders and the public can utilize this to raise concerns about the initiative, the audit program, protocols, smelter and refiner operations that fall in scope of the RMAP, audit quality and auditor competencies, mineral supply chains and upstream/downstream initiatives. An intake form on the RMAP website also allows for anonymous submissions of grievances.
Party publishing the results	Standard initiative o RMAP publishes on their website the list of RMAP smelters and refiners with the compliance status as well as links to their supply chain policy, audit summary report and due diligence report. In addition RMAP members have access to aggregated country of origin information (Low-Risk, High-Risk, DRC, Recycle/Scrap) Company o Smelters have to publish their Supply Chain Policies, the RMAP Audit Summary Report and the OECD Step 5 Due Diligence Report (annually)
Degree of detail of the published results	Summarized results o Full audit reports with confidential information are provided to the company auditee (smelter/refiner/mine) and not published. The company can then share / publish as they choose. o Publicly disclosed by RMAP per Smelter ID number are: auditee name, country, group company name, conformance status, link to supply chain policy, link to audit summary report, link to due diligence report o The Responsible Minerals Assurance Process requires all auditees to report publicly on their due diligence program. It is recommended to include information on auditee, audit summary, company management system, risk assessment, risk management

List of References
All relevant standard documents and procedure can be found at http://www.responsiblemineralsinitiative.org/responsible-minerals-assurance-process/

Imprint
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Responsible Gold Mining Principles (RGMPs)	
Background Information	
Initiators of the standard	World Gold Council (WGC)
Standard initiative/ administrative body	o The RGMPs are an industry standard for responsible gold mining, without a central administrative body verifying RGMP implementation. o The WGC developed and published the RGMPs. Implementation is up to individual WGC members (mining and streaming companies). Conformance with the RGMPs is a WGC membership requirement. o Some non WGC members are also in the process of implementing the RGMPs. o All implementing companies need to obtain independent, third-party assurance and publicly disclose this assurance.
Founding date and location	o Public consultation of the RGMPs started in 2018; it involved input from almost 300 institutions and experts from government, industry civil society, and multi-stakeholder roundtables in six countries. o The WGC was founded in 1987 with its head office in London, UK.
Publication of the first standard version	o The final RGMPs framework was published in September 2019. o The initial consultation draft of the RGMPs was published in June 2018, followed by an exposure draft in March 2019.
Up-to-date standard version and next revision	o September 2019 o No specific revision process prescribed, however, a change in 2021 mandates that implementing companies should report their GHG emissions under the TCFD framework.
Background of the standard initiative	o The RGMPs define a broad framework for responsible (large-scale) gold mining and cover key ESG aspects. Independently assured conformance with the Conflict-Free Gold Standard, published by the WGC in October 2012, is incorporated in the RGMPs. o The RGMPs were developed by the WGC which to this end consulted with more than 200 organizations (multi-stakeholder). o Implementation relies on companies implementing and publicly reporting on the principles and obtaining independent third-party assurance (based on corporate and site level conformance) on an annual base.
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	(1) Private sector, including mining industry, supply chain stakeholders, and investors (a) (2) Governments, international organizations, public institutions, academics (a) (3) Mining communities & civil society (a)
Subject Matter of the Standard	
Main objective	o The RGMPs framework is intended to guide stakeholders on the "key elements of responsible gold mining". This is monitored via public self-reporting combined with third party assurance of conformity. o The focus is on the operational stage but the framework considers selected issues relevant during the exploration and mine closure stages. As such, the framework refers to the whole mine life cycle.
Target commodities	o Gold (where extracted as primary product, rather than by-product)
Application of the standard along the supply chain	o Mine sites and directly associated processing. o The RGMPs are designed to integrate with the LBMA's Responsible Gold Guidance to be applied at the refining stage. o The RGMPs also apply to streaming companies. Unless these are in direct control of mine sites, they are not responsible for implementing the RGMPs at all levels, but are expected to actively encourage uptake of the RGMPs among their business partners.

RGMPs

RGMPs

Proof of origin	o Indirectly included through requiring co-implementation of the WGC's Conflict-free Gold Standard alongside the RGMPs as Principle 5.4.
Assessment unit	o Third-party assurance of RGMPs implementation conformity comprises the corporate level and includes a rotating sample of associated gold mine site assessments, typically 1-4 sites per assessment (depending on company size). o The underlying fundamental aspects of the RGMPs are indirectly expected to be applied by mining companies' local suppliers as well. Site visits to local mine suppliers are not explicitly required in the RGMPs assurance process but the company in question shall provide evidence how they manage local suppliers and monitor associated performance risks. o Not applicable to artisanal and small-scale mining but calling for industrial gold miners to support market access for responsible artisanal gold operations, provided certain preconditions are met.
Geographic focus	o Global scope. The WGC's member companies run mining operations in at least 45 countries.
State of implementation *(as of Nov 2021)*	o The majority of WGC members committed to RGMP implementation in late 2019 or 2020. Most companies expect to be in full compliance in late 2022 or 2023. No mining company is already in full compliance. o At the time of research, public evidence (in English) for active RGMPs implementation was found for 28 out of the 34 WGC members. In addition, a small number of non-WGC member companies have opted to implement the RGMPs. o Most of these companies are in the first or second year of implementation. This corresponds to the RGMPs "progress phase" where full compliance is not yet expected, but public reporting and independent assurance are already required. o Just two out of four Chinese WGC member companies publicly report on their RGMPs implementation. This suggests that China (as the world's top gold producer in recent years) is currently somewhat underrepresented as far as RGMPs implementation is concerned. o Note that, as implementation of the RGMPs is decentralized, a comprehensive overview on implementation status is not available. The above information was therefore gathered individually from the WGC members' websites (as of 11/2021). When a company joins the WGC they are given a period of grace within which to become conformant.
Membership program	o In January 2022, the WGC had 34 members, including 30 mining and 4 streaming companies.
Governance and decision making	o Decentralized model where individual WGC members are responsible for publicly reporting and seeking independent assurance on RGMPs implementation. Assurance providers must comply with specific criteria relating to professionalism and expertise.
Funding and costs	o RGMPs implementation is not associated with a permanent administrative unit (such as a secretariat) and does therefore not generate any overhead costs, aside from the initial development and consultation costs borne by the WGC. o RGMPs assurance-related costs for implementing companies are not published. An assurance process for a single mine site is expected to be rigorous and takes several days for an audit team of (depending on the scale and complexity of the specific site) 2-3. This would typically result in costs of tens of thousands of US$.
Recent developments	o Publication of benchmarks and comparisons of the RGMPs with other assurance systems in the mining sector, in particular the ICMM Mining Principles, in 2020.

		o In 03/2021, the WGC published a short "guide to best practice" focusing on women in mining and the RGMP.
Requirements of the Standard		
Summarized standard requirements	Environmental issues	*Note: The RGMPs group their 51 individual criteria into 10 overarching principles and organize these under the three ESG headings. The following list adopts this structure.* Environmental stewardship o Environmental impact management (8.1) o Tailings and waste management (8.2) o Cyanide and hazardous materials (8.3) o Mercury (8.4) o Noise and dust (8.5) Biodiversity, land use and mine closure o Biodiversity (9.1) o World Heritage Sites (9.2) o Land use and deforestation (9.3) o Mine closure (9.4) Water, energy and climate change o Water efficiency (10.1) o Water access and quality (10.2) o Combating climate change (10.3) o Energy efficiency and reporting (10.4)
	Social and societal issues	Safety and health o Safety and zero harm (4.1) o Safety management (4.2) o Occupational health and wellbeing (4.3) o Community health and emergencies (4.4) Human rights and conflict o UN Guiding Principles (5.1) o Avoiding complicity (5.2) o Security and human rights (5.3) o Conflict (5.4) Labor rights o Wages and benefits (6.1) o Preventing discrimination (6.2) o Child and forced labor (6.3) o Freedom of association, collective bargaining (6.4) o Diversity (6.5) o Women and mining (6.6) o Raising concerns (6.7) Communities o Community consultation (7.1) o Understanding communities (7.2) o Creating local benefits (7.3) o Seeking community support (7.4) o In-migration (7.5) o Indigenous Peoples (7.6) o Cultural heritage (7.7) o Resettlement (7.8)
	Governance issues	Ethical conduct o Legal compliance (1.1) o Code of conduct (1.2) o Combating bribery and corruption (1.3)

RGMPs

		o Political contributions (1.4) o Transparency (1.5) o Taxes and transfer pricing (1.6) o Accountabilities and reporting (1.7) Understanding impacts o Risk management (2.1) o Stakeholder engagement (2.2) o Due diligence (2.3) o Impact assessment (2.4) o Resolving grievances (2.5) Supply chain o Supply chain policy (3.1) o Local procurement (3.2) o Market access for ASM (3.3)
Rigor or flexibility of the standard model for compliance		o Following a period of up to three years for introducing the RGMPs and implementing corrective actions, companies are expected to comply with all 51 principles. The assurance mechanism relies on a conformance assessment rather than seeking to define different performance levels. o Companies may determine that certain principles do not apply to them. In that case these principles are excluded from assurance requirements (if the assurance provider agrees about the non-applicability of a particular principle to a specific location). o Within the first two years of adoption, companies reporting non-conformances are still considered to meet the RGMPs requirements, as long as public reporting takes place and set out remedial actions to restore/achieve conformance . o Non-conformance with the RGMPs applies in case of (1) companies perform incomplete self-assessments against the RGMPs, or (2) lack of progress in case internal systems are not compliant with the RGMPs. In these cases, assurance conclusions shall not be delivered. o Assurance providers shall consider elevated risk indicators for the selection of sample sites for on-site visits. o Assurance providers shall apply professional judgement with regards to reporting minor deviations from a given principle.
Provided documents and tools		o Responsible Gold Mining Principles (2019) o Assurance Framework for the Responsible Gold Mining Principles (2019) o Guidance on implementing and assuring the RGMPs – Supplement to the Assurance Framework (2019) o The Responsible Gold Mining Principles in relation to other international mining frameworks: A guide for investors (2020) o Equivalency Benchmark – World Gold Council's Responsible Gold Mining Principles compared with ICMM's Mining Principles (2020)
Number of quoted international conventions and other guidance		o The introduction to the RGMPs acknowledges 12 international conventions/frameworks and states that gold mining companies support these. o The RGMPs directly reference 6 standards/frameworks, with another 5 referenced in associated guidance documents. o The RGMPs investor's guide further lists 6 'reputable mining industry frameworks' showing overlap with the RGMP.
Referral to other standards for more information or guidance		General approach: o The RGMPs Assurance Framework allows companies to select an assurance standard of their choice, provided it is 'globally recognized'. Examples provided for the latter comprise the ISAE 3000 and ISAE 3000 Revised standards, US attestation standards AT-C 105 and AT-C 205, local standards of the IFAC, and the AA1000 Assurance Standard with 2018 Addendum.

	Topic references provided by the RGMPs as conformance requirements or 'authoritative guidance' comprise: Human rights due diligence (incl. security, conflict risks): ○ UN Guiding Principles on Business and Human Rights ○ Voluntary Principles on Security and Human Rights ○ WGC Conflict-free Gold Standard (which is based on the OECD Due Diligence Guidance for Responsible Supply Chains) ○ LBMA Responsible Gold Guidance (v. 8 of 2019) Other governance and transparency: ○ EITI Environment: ○ International Cyanide Management Code (the ICMC shall be used though companies do not necessarily require ICMC certification). ○ Supporting the Minamata Convention's objective of reducing mercury emissions ○ Climate change impact reporting according to the Task Force on Climate-related Financial Disclosures (TCFD) ○ ISO 14001 on environmental management Social: ○ ISO 45001 on occupational health and safety management ○ ILO fundamental conventions on labor rights (not individually referenced, but all 8 ILO fundamental conventions are implicitly reflected in the RGMP)
Recognition of other standards for the proof of compliance of certain issues	The RGMPs Assurance Framework emphasizes that companies may implement other external standards and RGMPs assurance need not duplicate these on specific issues. It is up to the assurance provider to determine whether a given subject matter is adequately covered through a different standard in terms of scope and quality. For improved consistency, the RGMPs encourage companies to rely on the same assurance provider for multiple standards. Specific standards provided as examples include: ○ Conflict-Free Gold Standard ○ TSM ○ ICMC certification ○ ISO certification ○ IFC performance standards ○ Voluntary Principles on Security and Human Rights ○ Reporting standards (GRI, CDP, TCFD) ○ ICMM Mining Principles. An additional equivalency benchmark is available comparing the RGMPs and the ICMM Mining Principles. This serves to avoid differing interpretations or duplication and shall instead enable efficient joint assurance activities, if applicable.
Assessment of Standard Compliance and Transparency of the Results	
Subject matter of the conformity assessment	○ Corporate-level assurance on the RGMPs (supported by sample site visits).
Type of conformity assessment (audit)	○ Independent assurance on the company's RGMPs implementation conformance. ○ Limited assurance (instead of reasonable assurance) targeted.
Auditor status and frequency of audits	○ Independent third-party assurance is required on an annual base. ○ Service provider are selected by the company, without central accreditation within the RGMPs framework.

	o Service provider shall meet the RGMPs criteria for competence and independence as set out in the Assurance Framework.
Assessment elements	o The mining company makes a public commitment to the RGMPs and annually reports on their implementation (self-assessment for the first two years of RGMPs adoption). The independent assurance process serves to evaluate the RGMPs conformance of the company's implementation and reporting practices. o Specifically, "the assurance provider should review whether the company's report on the RGMPs is a fair reflection of how internal systems, processes and performance conform with the underlying Principles." o Site inspections by the independent assurance provider serve to verify the implementation of the RGMPs on the ground to support overall corporate-level assurance. For a given assurance process, 1-4 sample sites shall be selected for site visits. All mines of a given company shall be visited within a period of 3-5 years. o Within the larger corporate-level assurance procedure, the site visit to a single gold mine is expected to take several days for an audit team of 2-3. o Assurance activities shall consider "materiality" and "risk" associated with the subject matter or operation. To this end, the Assurance Framework defines materiality considerations (Table 3) and exemplary risk indicators (Table 4). o An independent corporate-level assurance report is provided at the end of the assessment and shall be publicly disclosed, possibly in combination with assurance reports on other standards, such as ICMM.
Grievance mechanisms for auditor decisions	o No formal grievance mechanism in place relating to audit conclusions.
Whistle-blowing mechanism for standard non-compliances	o No formal whistle-blowing mechanism in place relating to the audit process but companies are required (as is the case for grievance handling) to have processes in place to receive and act upon employee, supply chain, community etc. information regarding non-conformant performance.
Party publishing the results	o The company is responsible for publishing both its RGMPs implementation report as well as the associated assurance report. The latter may be directly attached to the implementation report.
Degree of detail of the published results	o The RGMPs Assurance Framework provides illustrative model reports for both company implementation as well as independent assurance reporting. The following description is based on these model reports. Note that individual companies are not bound to use these templates. o Company reporting includes, among others, a description of all operations that fall under the RGMPs and the overall conformance status. Sufficient detail shall be provided, especially in case the company is still working towards conformance. This may include identification of sites that are not yet in conformance and a description of the associated gaps or incidents. o Presentation of a company's response by means of a remedial action plan is key for remaining conformant in cases where any single non-conformances have been identified. o The assurance report is less detailed. It centers on the assurance conclusion and provides the necessary clarification to support the former by outlining the applied assurance procedures. This shall include identification of any visited mine sites, among others.

List of References
References are available through the WGC's website, https://www.gold.org/ Note: additional documents are available on RGMP consultation from 2018-2019. - Responsible Gold Mining Principles, September 2019. https://www.gold.org/download/file/14254/Responsible-Gold-Mining-Principles-en.pdf - Assurance Framework for the Responsible Gold Mining Principles, September 2019. https://www.gold.org/download/file/14255/Framework-for-the-responsible-gold-mining-principals-en.pdf - Guidance on implementing and assuring the RGMPs – Supplement to the Assurance Framework, September 2019. https://www.gold.org/download/file/14256/Guidance-on-implementing-the-rgmps-en.pdf - The Responsible Gold Mining Principles in relation to other international mining frameworks: A guide for investors, May 2020. https://www.gold.org/download/file/15177/guidance-for-investors-rgmps.pdf - Equivalency Benchmark – World Gold Council's Responsible Gold Mining Principles compared with ICMM's Mining Principles, November 2020. https://www.gold.org/download/file/15454/Equivalency-Benchmark-ICMM-RGMP.pdf - Women in Mining and the RGMPs: A guide to best practice, March 2021. https://www.gold.org/download/file/15836/women-in-mining-rgmps.pdf

Imprint
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RGMPs

RJC – Code of Practices & Chain- of- Custody Standard	
Background Information	
Initiators of the standard	14 organizations from across the diamond and gold jewellery supply chain (e.g., BHP Billiton, Rio Tinto, Tiffany & Co, Cartier, Jewelers of America, etc.)
Standard initiative/ administrative body	Responsible Jewellery Council (RJC)
Founding date and location	2005, London, Great Britain
Publication of the first standard version	2009
Up-to-date standard version and next revision	o RJC Code of Practices (COP, obligatory): 2019, next revision is due in 2024 o RJC Chain- of- Custody Standard (CoC, voluntary): 2017, next revision is due in 2022
Background of the standard initiative	Initiative established exclusively for the standard development, implementation and certification
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	(1) Civil society (b) (2) Private sector (b) (3) Public institutions Standard setting: o Decisions on setting the RJC standards, are made by RJC Standards Committee - 14 elected RJC Member representatives - two from each member forum, and 14 external participants (NGOs, standards-setting organisations, academic and research institutions, auditors and other). o Proposed standard approved by the Standards Committee is sent to the Executive Committee, which is built up by Co-Chairs of the Standards Committee, heads of all RJC committees, the Executive Director of the RJC, Chairperson and Deputy Chair of the RJC Board and all officer of the RJC o Approval is granted by the Exco (or declined with comments back to standards committee) this is then presented to the Board of the RJC, which makes decision to approve the standard based on the procedure followed during the standard development, not the content of the standard.
Subject-Matter of the Standard	
Main objective	RJC focuses on the jewellery and watch sector and promotes responsible business practices throughout the supply chain from mine to retail for diamonds, gold, platinum group metals (PGM) and coloured gemstones (rubies, emeralds, sapphires). The CoC Standard defines requirements for Chain-of-Custody management systems, including systems for sourcing, segregating and transferring eligible precious metals. RJC also works with other multi-stakeholder initiatives on responsible sourcing and supply chain due diligence.
Target commodities	Diamonds, gold, silver, platinum group metals (PGM) and coloured gemstones (rubies, emeralds, sapphires)
Application of the standard along the supply chain	The entire supply chain
Proof of origin	Partly. The voluntary CoC has a proof of origin requirement for gold, silver and PGM. On the other hand, the COP also asks for "Due Diligence for responsible sourcing from conflict-affected and high risk areas". Refiner members shall:

	o Maintain internal material control systems that can reconcile movement of inventory in and out over a given time. o Gold refiners shall additionally collect and, with due regard to business confidentiality, share annually information with the RJC on the mine of origin of mined gold received.
Assessment unit in mining	The unit of the assessment after the COP is the member as a whole. RJC specifies that the Member's scope includes all the entities/facilities that it owns and/or controls.
Geographic focus	Globally: RJC members in 71 countries

State of implementation	o 8,092 certified facilities with 278,337 employees; 3,399 facilities in USA, 1769 facilities in UK, 275-120 in China, Japan, India, France, Swiss, Hong Kong, Italy and Belgium, 34 Companies with Headquarters in Germany
	o 1,379 Members, 993 certified after COP, of which 189 are additionally certified after CoC. 386 Members not yet certified (obligation to this within 2 years after membership started)
	o Commercial Members along the supply chain in 2021:
	  − 13 Producers
	  − 107 Precious metals refiners, traders, hedgers
	  − 388 Diamond and coloured gemstones traders, cutters and polishers
	  − 746 Jewellery Manufacturers and Wholesalers
	  − 77 Jewellery Retailers
	  − 19 Service Industries
	  − 11 Supporters
	  − 18 Trade Associations

Membership program	Yes
	o "Commercial Membership":
	  - Companies actively involved for commercial reasons in the diamond, coloured gemstones, gold, silver and/or platinum group metals jewellery supply chain – this includes jewellery watches for their diamond, coloured gemstones, gold, silver and/or platinum components; who commit to achieve RJC Certification within two years of joining the Council.
	o "Association Membership":
	  - Trade associations whose members are actively involved in the diamond, coloured gemstones, gold, silver and platinum group metals jewellery supply chain is eligible to subscribe to become an Association Member of the Council. Association Members are not required to seek RJC certification
	o "RJC Supporters":
	  - Organisations that are not part of the jewellery supply chain, from mine to retail, but want to support RJC's work through financial and/or in-kind support.

Governance and decision making	o The RJC is governed by the Board of Directors and the Executive Committee. The Board is entrusted with the ultimate responsibility for the overall management of the Council, however the general management and supervision of the Council has been delegated to the Executive Committee. The Board appoints the Executive Director, and determines the Executive Director's powers, duties and responsibilities. o Directors are appointed by the members of the Council, or elected by member forums, or appointed by the Board as additional directors. They have to belong to a certified member. o The Executive Committee is composed of the officers of the Council, the co-chairs of the Standards Committee and any others as appointed by the Board shall be the members of the Executive Committee.

RJC

Funding		o Membership Fees. 0.004 - 0.006 % of annual relevant sales for commercial members, US$ 2,450 for Association Membership, RJC supporters (financial or in kind support).
Recent developments		o Revision of CoC in 2017 o In 2019, RJC launched the third revision of the COP standard. Scope of materials expanded to include coloured gemstones and silver. Additionally, the COP now aligns with OECD Due Diligence Guidance and the UN Guiding principles on Business and Human Rights, and includes requirements on the detection of lab-grown diamonds. o In 2019: RJC entered a partnership with the United Nations Global Compact on the 17 Sustainable Development Goals (SDGs) o In 2020, RJC signs the United Nations Economic Commission for Europe (UNECE) Declaration on Gender Responsive Standards and Standard Development – strengthening ongoing commitment to gender equality
Requirements of the Standard		
Summarized standard requirements	Environ-mental issues	COP: o Compliance o Environment management o Hazardous substances o Wastes and emissions o Utilization of natural resources o Biodiversity o Tailings and Waste Rock o Mercury o Cyanide o Environmental Impact Assessment o Mine closure and rehabilitation
	Social and societal issues	COP: o Compliance o Human Rights o Due Diligence for responsible sourcing from conflict-affected and high risk areas o Health and Safety o Communal development o Indigenous people and FPIC o Resettlement o Emergency preparedness o Kimberley Process o Artisanal and small- scale mining o Security force and training o Remuneration o Working conditions o Working hours o Respectful interaction and disciplinary proceeding o Child Labour o Forced labour and human trafficking o Freedom of assemblage and negotiation o Anti-discrimination o Stakeholder Engagement o Social Impact Assessment
	Govern-ance issues	COP: o Compliance o Policy and Implementation o Reporting (GRI Guidelines) o Financial accounting o Bribery/ facilitation

RJC

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o Money laundry and financing of terrorism
o Grievance system for stakeholders in case of violations
o Proof of origin
o Assessment and valuation reports of diamonds
o Extractive industries Transparency initiative
o Business partner
o Product details and transparency

CoC:
o Management system and responsibility
o Internal material control
o No transfer of CoC material to contractor or service company
o Qualified ("eligible") mined material
o Qualified ("eligible") recycled material
o Eligible "grandfathered" declarations
o Chain- of- Custody (CoC) transfer documents
o Conflict- sensitive sourcing

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<td colspan="2">Rigor or flexibility of the standard model for compliance</td>
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o Obligatory standard catalogue (incl. incremental catalogues and deadlines for corrective measures) for all facilities of a member.
o COP Standard must be complied within 2 years after becoming a commercial member of RJC. In case of incomplete compliance, a "Corrective Action Plan" has to be developed and implemented.
o Participation in the CoC Standard, however, is voluntary. Companies seeking RJC certification have to become RJC members first.

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<td colspan="2">Provided documents and tools</td>
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o RJC Chain-of-Custody Standard (2017), including Guidance, Self-Assessment, Outsourced Contractor Assessment, Assessment Manual and Supplementary Guidance (FAQs)
o RJC Code of Practices Standard (2019), including Guidance, Self-Assessment, Risk-Assessment Toolkit, Assessment Manual, Human Rights Due Diligence Toolkit

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<td colspan="2">Number of quoted international conventions and other guidance</td>
<td>< 10</td>
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<td colspan="2">Referral to other standards for more information or guidance</td>
<td>

Yes (relevant to CoC or COP)

o EICC-GeSI Smelter Validation Program
o Extractive Industries Transparency Initiative (EITI)
o Fairtrade und Fairmined Gold Standard
o Global Reporting Initiative (GRI) Guidelines und GRI Mining and Metals Sector Supplement
o London Bullion Market Association (LBMA) – Responsible Gold Guidance
o WGC Conflict-Free and Chain-of-Custody Standards
o International Council on Mining and Metals (ICMM) Sustainable Development Principles, Position Statements and Guidance Documents
o International Finance Corporation (IFC) Performance Standards
o International Cyanide Management Code
o International Diamond Council Rules for Grading Polished Diamonds
o Financial Action Task Force (FATF) standards against money laundering and the finance of terrorism;
o Ethical Trading Initiative – Base Code
o Kimberley Process Certification Scheme and World Diamond Council System of Warranties for Diamond shipments
o Social Accountability International SA8000:2008

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RJC

Recognition of other standards for the proof of compliance of certain issues	Yes With regard to RJC COP-Standard: o SA8000:2008 certified against the following RJC COP provisions: 15. General Employment, 16. Working Hours, 17. Remuneration, 18. Discipline and Grievance Procedures, 19. Child Labour, 20. Forced Labour, 21. Freedom of Association and Collective Bargaining, 22. Discrimination, 23. Health and Safety (partly) o ISO14001:2004 certified against the following RJC COP provisions: 24. Environmental Management, if the auditor verifies that the ISO14001 report addresses these areas: 25. Hazardous Substances (partly), 26. Waste and Emissions (partly), 27. Use of Natural Resources, 38. Biodiversity (partly) o OHSAS18001:2008 certified against the following RJC COP provisions: 23. Health and Safety (partly) o ISO 45001 certified against the following RJC COP provisions: 23. Health and Safety, 25. Hazardous Substances, 41. Mercury (partly) o LBMA Good Delivery list and Responsible Gold Guidance, certified against the following RJC COP provisions: 7. Due Diligence for responsible sourcing, certified against the following RJC COP provisions from conflict-affected and high risk areas (partly) o RMAP Conformant Smelters and Refiners List and Gold Refiner Standard, certified against the following RJC COP provisions: 7. Due Diligence for responsible sourcing from conflict-affected and high risk areas (partly) With regard to RJC CoC-Standard: o LBMA Good Delivery List and Responsible Gold Guidance, certified against the following RJC CoC provisions: 1. Due Diligence. - RMAP Conformant Smelters and Refiners Li, certified against the following RJC CoC provisions and Gold Refiner Standard, certified against the following RJC CoC provisions: 1. Due Diligence - Fairmined Standard for Gold and Associated Precious Metals for Artisanal and Small-Scale Mining: Material from Mines certified after the before mentioned standard can be traded under the CoC Standard - ICMM sustainable development framework (within the past three years): Material verified to the before mentioned standard can be traded with other CoC material after a validation process
Assessment of Standard Compliance and Transparency of the Results	
Subject-matter of the conformity assessment	o The RJC COP defines the requirements for establishing responsible business practices throughout the jewellery supply chain, from mine to retail. The COP provides a common standard for ethical, social, human rights and environmental practices, and certification against it is mandatory for all RJC commercial members. COP certification provides a strong system for assuring stakeholders, shareholders, customers and business partners that a company conducts its business responsibly. This can add value to a company's products and help protect and enhance its brands o CoC certification verifies that systems are in place for custody and/or supply of responsible mined/sourced precious metals. CoC material comes from responsible sources in accordance with the RJC CoC Standard.
Type of conformity assessment (audit)	Verification and certification
Auditor status and frequency of audits	3rd Party (COP, CoC) o COP: Every 3 years if no or minor non-conformances are found; one year transitional certification (mid-term review and/or recertification),

	if major non-conformance is found and a "Corrective Action Plan" necessary. o CoC: In the case of no or minor non-conformances, every 3 years. In case of major non-conformance: - Initial certification: 1 year - Surveillance audit: certification is suspended - Recertification: no certification o For CoC and COP: No certification or certification is suspended and potential disciplinary proceedings, if "critical breach" of standard is detected.
Assessment elements	(1) Self-Assessment (2) Audit (3) Report and if required: Corrective Action Plan (4) Certification Decision (5) When required: Mid-term review/Surveillance audit (6) Re-certification
Grievance mechanisms for auditor decisions	Yes, via RJC Complaints Mechanism
Whistle-blowing mechanism for standard non-compliances	Yes o Grievance Mechanisms for Environmental issues, Labour Practices, Human Rights and Impacts on Society o Can be submitted by employees of Members, Auditors or o RJC (the Complainant will be asked if they wish to maintain anonymity) o RJC will not take any action in retaliation in any way or otherwise discriminate against any person who lawfully provides information o findings and investigation outcomes will be provided by the Executive Director or an office bearer of the Council to a Complaints panel o Executive Director appoints a complaints panel, comprised of the RJC Assurance Manager and an independent third party to conduct investigation (onsite if necessary) o investigation report will be produced, that determines whether the complaint can be upheld, and has a clear recommendation for action
Party publishing the results	Standard initiative: (yearly) o No audit reports are published. Only a fictional audit report is accessible as an example. Aggregated certification data has been reported publicly via the Impacts Reports and Annual Progress Reports since 2012. o Companies publish audit report template with main findings and status of certification on their homepages.
Degree of detail of the published results	Summarized results o The progress reports only names the main issues with rule violations against the COP Standard but with no specification which organisation does not conform in which issue. In the impact report, the proportion of rule violations for the six main issues and different supply chain tiers is disclosed. However, progress is not reported for single requirements.

RJC

List of References
o www.responsiblejewellery.com o Responsible Jewellery Council (2017): *Chain-of-Custody (CoC) Guidance.* Available online at https://www.responsiblejewellery.com/wp-content/uploads/RJC-CoC-2017-V2-Standard-Guidance-3-1.pdf o Responsible Jewellery Council (2017): *Chain-of-Custody (CoC) Standard.* Available online at https://www.responsiblejewellery.com/wp-content/uploads/RJC-CoC-2017-V2-Standard-2-1.pdf o Responsible Jewellery Council (2020): *Complaints Mechanism.* Available online at https://www.responsiblejewellery.com/wp-content/uploads/RJC_Complaints_Mechanism_v2_Dec_2020-1.pdf o Responsible Jewellery Council (2019): Code of Practices *(COP) Standard.* Available online at https://www.responsiblejewellery.com/wp-content/uploads/RJC-COP-2019-V1-1-Standards-2.pdf o Responsible Jewellery Council (2019): Code of Practices *(COP) Guidance.* Available online at https://www.responsiblejewellery.com/wp-content/uploads/SD_RJC_COP-guidance-V1.3-December-2020.pdf o RJC (2021): 2021 Annual Progress Report. Available online at https://responsiblejewellery.com/wp-content/uploads/RJC-Progress-Report-2021.pdf o Responsible Jewellery Council: *Assessment Manual.* Available online at https://www.responsiblejewellery.com/standards/standards-development-harmonisation/

RJC

The Copper Mark – The Criteria Guide for the Risk Readiness Assessment & Joint Due Diligence Standard for Cu, Pb, Ni & Zn	
Background Information	
Initiators of the standard	Concept developed and initially funded by the International Copper Association. Established as separate legal entity with separate governance structure since December 2019.
Standard initiative/ administrative body	The Copper Mark
Founding date and location	December 2019, Cheltenham, England
Publication of the first standard version	24.02.2020 The Copper Mark Responsible Production Criteria are the Risk Readiness Assessment (RRA) Criteria of the Responsible Minerals Initiative (published in October 2019) and the accompanying Criteria Guide 09.02.2021 Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc
Up-to-date standard version and next revision	Up-to-date standards: o 24.02.2020 The Copper Mark Responsible Production Criteria are the Risk Readiness Assessment (RRA) Criteria of the Responsible Minerals Initiative (published in October 2019) and the accompanying Criteria Guide o 01.01.2022 Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc Standards are revised every three years and the revision of the RRA and Criteria Guide is taking place in 2021/22.
Background of the standard initiative	Concept developed by the International Copper Association Joint Due Diligence Standard developed by The Copper Mark in collaboration with ILA, NI, IZA, and RMI
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	o Copper Mark uses the Risk Readiness Assessment (RRA) Criteria. The Criteria Guide was developed using the Copper Mark working group, including civil society, academia and industry. https://coppermark.org/credibility/stakeholder-engagement/ o The Chain of Custody standard is developed with the Copper Mark Technical Working Group and published for public consultation in Jan – Feb 2022. o Joint revision of the RRA underway by the Responsible Minerals Initiative and the Copper Mark in 2021 / 2022. Stakeholders engaged include industry and non-industry representatives.
Subject Matter of the Standard	
Main objective	o For participants of the Copper Mark to be recognized by employees, neighbors, customers, investors and civil society as having adopted internationally-accepted responsible operating practices and making significant contributions to the UN's Sustainable Development Goals along the copper supply chain.
Target commodities	o Copper, but also Pb, Ni, Zn (for responsible mineral supply chain criteria only)
Application of the standard along the supply chain	o The Copper Mark applies to sites involved in the production of copper, including but not limited to companies involved in mining, concentrate production, solvent extraction and electrowinning (SX/EW), smelting, or refining of copper. o Since October 2021, the Copper Mark is available in a pilot phase for semis-fabricators, defined as: A site where copper and copper alloy materials are processed, treated, mixed, formulated, handled, and otherwise manipulated. o For the Joint Due Diligence Standard only: Site level of companies extracting, producing and/or trading copper, lead, nickel and zinc materials from mine sites and producers of refined material (including nickel chemicals and intermediate products)

The Copper Mark

		o In draft status: Chain of Custody system that applies to the full copper supply chain.
Proof of origin		o According to OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD Guidance) o In draft status: Chain of Custody system
Assessment unit		o Site level. Individual Facilities of Companies
Geographic focus		o No geographic focus. o As copper production is focused in Chile and Peru, a lot of interest on producers from Latin America.
State of implementation		o First assessment in August 2020. o 35 sites are participants and 18 sites are recipients of the Copper Mark.
Membership program		o The Copper Mark is not a membership based organization. However, in addition to its participants, it collaborates with: o 18 industry Partners (no mining companies). o Collaboration with industry initiatives (e.g., RMI, LME, several metal associations).
Governance and decision making		o Governed by Board of Directors (6) and multi-stakeholder Copper Mark Advisory Council o Majority decision of directors at a meeting or unanimous decision of all directors without official meeting
Funding		o The Copper Mark is financed by participating Copper Producers with initial funding from the International Copper Association (ICA). An annual fee applies for each participating site and depends on the size of the site's production.
Recent developments		o Due to Covid-19 a remote assessment is possible in certain circumstances, but first time assessment must be done onsite. o The Responsible Minerals Initiative (RMI) and the Copper Mark are revising the Risk Readiness Assessment (RRA) Criteria and corresponding Criteria Guide in 2021 / 2022. o The Copper Mark Chain of Custody Standard is out for public consultation until 28 February 2022 o Pilot phase underway to incorporate semis-fabricators in the assurance process; 18 sites are participating. o ISEAL Community Member since January 2022
Requirements of the Standard		
Summarized standard requirements	Environmental issues	Waste and reclamation: o Waste management system includes commitment to the 'waste hierarchy' and is applicable to all waste types (hazardous, non-hazardous and inert). o Company's efforts towards meeting global best practices on tailings management proportionate to the size of the company's operations and significance of its impacts o Mitigation hierarchy to avoid, minimize, reduce and compensate for the adverse impacts of pollution on human health and the environment. o Documented plan with stakeholder inputs to address environmental and social aspects and makes financial provisions for closure and reclamation of the site / facility. Water, air and climate impact: o Quantify, establish reduction targets for and disclose CO_2 equivalent emissions in line with established international reporting protocols.

		o Programs in place to reduce energy consumption and/or energy intensity, improve energy efficiency, and increase use of renewable energy o Comprehensive assessment of water-use impacts and risks in collaboration with relevant stakeholders. Ensure water consumption not restricted for other water users. Environment and biodiversity: o Environmental management system (EMS) functionally equivalent to an internationally recognized EMS standard (e.g., ISO 14001). o Mitigation hierarchy to avoid, minimize, reduce and compensate for adverse impacts on biodiversity; to avoid adverse impacts to Critical Habitats or Endangered Species; and to prevent operational activities in World Heritage sites or in designated protected areas unless specifically and legally permitted.
	Social and societal issues	Community consultation, dialogue, protection: o Stakeholder mapping to implement an engagement plan, and to establish a grievance mechanism. o Responsible business practices with significant business partners, including suppliers. o Management system to monitor, avoid, minimize, reduce and compensate for adverse impacts on community health and safety. o Develop a plan and commit resources to support for community development. o UN Guiding Principles on Business and Human Rights including human rights due diligence. o Voluntary Principles on Security and Human Rights when engaging with private or public security forces. o Respect the rights of Indigenous Peoples, including free, prior and informed consent (FPIC); avoid adverse impacts on Indigenous Peoples' lands, livelihoods, resources, and cultural heritage; and implement an Indigenous Peoples' engagement plan. o Stakeholder engagement to avoid, minimize, reduce and compensate for adverse impacts on cultural heritage. Workers' rights: o Management system to prevents the employment of children under the age of 15, the worst forms of child labor, and prevent the exposure of employees under the age of 18 to hazardous work in line with ILO Conventions No. 138 and No. 182 o Management system that prevents the use of any forms of forced labor and participation in acts of human trafficking in line with ILO Conventions No. 29 and No. 105. o Respect rights to freedom of association and to collective bargaining in line with ILO Conventions No. 87 and No. 9838 o No harassment and discrimination in the workplace in line with ILO Conventions No. 100 and No. 111.

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		o Ensure implementation of gender equality in the workplace. o Total regular and overtime working hours to 60 hours per week; overtime is voluntary, one rest day in seven; provide annual leave. o Wages equal or exceed the national minimum wage, the appropriate industry wage (if higher), or a living wage. o Occupational health and safety management system in line with internationally accepted best practice framework (e.g. OHSAS 18001, ISO 45001). o Grievance mechanism accessible to all employees.
	Govern-ance issues	Legal compliance and transparency / corruption: o Ensures compliance with all national legal requirements, including national obligations under international law o Prohibits and effectively prevent bribery (including facilitation payments), corruption and anti-competitive behavior. o Engage legitimate artisanal and small-scale miners (ASM) to formalization and improvement of their environmental and social practices in the sphere of influence of the site / facility. o Explore all viable alternative project designs to avoid and/or minimize land acquisition and physical or economic displacement. Resettlement action plan to fairly address and compensate for residual adverse impacts. o Implement OECD Due Diligence Guidance on Conflict-Affected and High-Risk Areas. Annual report on environmental, social and governance performance in line with internationally recognized standards (e.g. GRI) and publicly support the implementation of EITI

Rigor or flexibility of the standard model for compliance		o Copper Mark distinguishes three compliance levels per standard requirement, ranging from: does not meet – partially meets – fully meets.
		o After signing a "Letter of Commitment" (LOC), the site and Copper Mark will complete the following steps:
		  - Submit self-assessment (6 months)
		  - Independent review of self assessment (within 30 days)
		  - Notification of scope for site-level assessment (all sites have to undergo an onsite assessment. However, they may be able to use an equivalent site assessment to meet this requirement.
		  - Site-level assessment completed (within 12 month after LOC
		  - Improvement plan agreed with assessor (10 days)
		  - Improvement plan implementation verified by the assessor (within 12 month of completion of assessment)
		  - Submission for an application of re-assessment (Within 3 years of eligibility to make a claim or on a significant change and/or incident at the producer's site.
		
		These deadlines may be extended by the Copper Mark at its discretion. Failure of the copper producer to meet its obligations within the timeframe may lead to the copper producer being disassociated by the Copper Mark.

Provided documents and tools	o The Criteria Guide for the Risk Readiness Assessment (February 2020) o Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc (09 February 2021) o The Copper Mark Assurance Process (v.2 May 2021) o The Copper Mark Claims Guide (v.2 May 2021) o Joint Due Diligence Assessment Tool o Copper Mark Recognition Process o RRA-Copper Mark Equivalency Matrix o The Copper Mark Grievance Mechanism o The Copper Mark Standard Development Procedure o The Copper Mark Assessor Management Procedure o The Producer Agreement / Site Agreement o Letter of Commitment o Pre-assessment questionnaire (Joint Standard only) o Summary Report template (Copper Mark Criteria / Joint Standard) o Training and resources (available here) https://coppermark.org/trainings/
Number of quoted international conventions and other guidance	As the Copper Mark "condenses over 50 international standards and guidelines into 32 Criteria", there are 127 footnotes to other standards and organisations (see below)
Referral to other standards for more information or guidance	As the Copper Mark "condenses over 50 international standards and guidelines into 32 Criteria", the main organisations (standard initatives) are named below: o ILO Conventions o Responsible Jewellery Concil Code of Practice Guidance o IRMA Standard for Responsible Mining o OHCHR o International Council on Mining and Metals o ISO norms o World Bank/IFC Guidelines and Standards o GRI o TSM Tailings Management Protocol o OECD Due Diligence for Responsible Minerals Supply Chains o EITI
Recognition of other standards for the proof of compliance of certain issues	"The Copper Mark Assurance Process recognizes existing standards systems, reporting frameworks, and certifications in order to avoid redundancy and to promote the use of these initiatives." Therefore, the document "The Copper Mark Recognition Process" can be found on the Homepage. https://coppermark.org/wp-content/uploads/2021/05/The-Copper-Mark-Recognition-Process_REV_31MAY2021_FINAL.pdf Additionally there is an Equivalency document, where the recognition of the Risk Readiness Assessment to other voluntary standard systems can be seen https://coppermark.org/wp-content/uploads/2021/01/RRA-Copper-Mark-Equivalence-Matrix_REV18Dec2020v2.pdf The Copper Mark is recognized by: o The London Metals Exchange, Responsible Sourcing Requirements o International Council for Mining and Metals, Performance Expectations

The Copper Mark

Assessment of Standard Compliance and Transparency of the Results	
Subject matter of the conformity assessment	o Sites of copper producers that are participants in The Copper Mark and are assessed against the Criteria for Responsible Production, covering all 32 issue areas. Starting 2022, the Joint Due Diligence Standard must be included for Criterion 31: Due Diligence in Mineral Supply Chain. o Sites that are assessed only against the Joint Due Diligence Standard for Copper, Lead, Nickel and Zinc can receive a determination of conformance but do not receive the Copper Mark.
Type of conformity assessment (audit)	o Assessment against all 32 Criteria. Schedule of assessment is described within the Letter of Commitment (see above) o First time audit always on-site o Assessments on site every 3 years or sooner if there is cause for a sooner re-assessment (see Section 3.6 of the Assurance Process)
Auditor status and frequency of audits	o Independent (3rd party) audit by assessors approved by the Copper Mark according to Copper Mark Assessors Management Procedure o Audits are performed every 3-years.
Assessment elements	o self-assessment o Independent review of self-assessment o Site-level assessment o Improvement plan o Improvement plan implementation o Submission for an application of re-assessment (Within 3 years)
Grievance mechanisms for auditor decisions	o Grievance can be addressed against the Copper Mark or against a site assessed using the Copper Mark Assurance Process. o Reports should focus on policies, procedures, processes or systems of the Copper Mark or participating sites. o Provided information can be sent to Copper Mark via EthicsPoint, a comprehensive and confidential reporting tool created by NAVEX Global that enables Copper Mark stakeholders to raise concerns in accordance with the Copper Mark Grievance Mechanism. https://secure.ethicspoint.eu/domain/media/en/gui/107757/index.html
Whistle-blowing mechanism for standard non-compliances	o The same as above
Party publishing the results	o Summaries of the assessments are published on the Copper Mark homepage.
Degree of detail of the published results	o Summary Reports have a length of around 10 pages and include summaries of the assessment methodology, the assessment activities, non-applicable criteria, comments to all applicable Criteria, a statement of conformance and a lead assessor's statement.
List of References	
All references are available on the Copper Mark Homepage (https://coppermark.org/) -> Assurance -> Core Documents	
Imprint	
Editor: Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources) Stilleweg 2 30655 Hannover Germany mineralische-rohstoffe@bgr.de *Author:* Dr. Malte Drobe *Date:* 31.03.2022	

The Copper Mark

ASI – Performance Standard & Chain-of-Custody Standard

Background Information	
Initiators of the standard	14 Companies from the aluminium value chain: Aleris, Amcor Flexibles, AMAG/Constantia Flexibles, Audi, Ball Corporation, BMW Group, Constellium, Hydro, Jaguar Land Rover, Nespresso, Novelis, Rexam, Rio Tinto Alcan, Tetra Pak Convenor and co-ordinator: The International Union for Conservation of Nature (IUCN)
Standard initiative/ Administrative body	Aluminium Stewardship Initiative
Founding date and location	2012 – standards setting project under IUCN, Switzerland 2015 – as incorporated entity and registered charity, Aluminium Stewardship Initiative Ltd, Australia
Publication of the first standard version	ASI Performance Standard (Version 2,2017), ASI Chain of Custody Standard, (Version 1, 2017))
Up-to-date certification program and next revision	(May 2022) **ASI Performance Standard (V3)** defines environmental, social and governance principles and criteria, with the aim to address sustainability issues in the aluminium value chain. **ASI Performance Standard Guidance (V3)** supports implementation and interpretation. **ASI Chain of Custody Standard (V2)** sets out requirements for the creation of a Chain of Custody for CoC Material, including ASI Aluminium, which is produced and processed through the value chain into diverse downstream sectors. **ASI Chain of Custody Standard Guidance (V2)** supports implementation and interpretation. **ASI Assurance Manual (V2)** sets out the principles, procedures and objectives for the assurance model that supports ASI Certification. **ASI Claims Guide (V2)** sets out the rules and supporting guidance for the types of claims made regarding ASI Certification and Membership. (2018) ASI Certification program launched. During 2020-2022, ASI conducted a Standards Revision process to review all of the 6 ASI Documents – Performance Standard and Guidance (V2), Chain of Custody Standard and Guidance (V1), Assurance Manual and Claims Guide (V1).. The revised ASI Documents were finalised by May 2022. The ASI Performance Standard and the ASI Chain of Custody Standard are set to be reviewed every 5 years. The non-normative supporting documents (such as the Performance Standard Guidance and Chain of Custody Standard Guidance) will undergo a regular revision on a more frequent cycle than the 5-year one for the Standard, with a renewal every 6 months, in light of evolving frameworks and expectations.
Background of the standard initiative	Initiative established exclusively for the standard development and implementation
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	(1) Civil society (a, b) (2) Private sector (a, b) (3) Industry associations (a, b) (4) Public institutions
Subject-Matter of the Standard	
Main objective	The Aluminium Stewardship Initiative (ASI) is a global non-profit standards setting and certification organisation. ASI brings together producers, users and stakeholders in the aluminium value chain with a commitment to maximise the contribution of aluminium to a sustainable society. Working together, ASI aims to collaboratively foster responsible production, sourcing and stewardship of aluminium. ASI's objectives are to:

ASI

	o To define globally applicable standards for sustainability performance and material chain-of-custody for the aluminium value chain o To promote measurable and continual improvements in the key environmental, social and governance impacts of aluminium production, use and recycling o To develop a credible assurance and certification system that both mitigates the risks of non-conformity with ASI standards and minimises barriers to broad scale implementation o to become and remain a globally valued organisation advancing programs for sustainability in the aluminium value chain, which is financially self-sustaining and inclusive of stakeholder interests.
Target commodities	Bauxite, Alumina, Aluminium
Application of the standard along the supply chain	ASI Performance Standard: "The ASI Performance Standard's principles and criteria are applicable to all stages of aluminium production and transformation, specifically: bauxite mining, alumina refining, primary aluminium production, semi-fabrication (rolling, extrusion, forging and foundry), conversion, and refining and re-melting of recycled scrap. " ASI Chain- of-Custody Standard: As above
Proof of origin	Yes ASI CoC 3.1: An Entity engaged in Bauxite Mining shall have systems in place to ensure that ASI Bauxite is produced only from bauxite mines that are: a. Within the Entity's CoC Certification Scope and/or in which the Entity holds a legal interest and are within the CoC Certification Scope of another CoC Certified Entity; b. Certified against the ASI Performance Standard, c. Sourcing ASI Bauxite either: i. directly from another ASI CoC Certified Entity, or ii. via a Trader, where the ASI CoC Certified Entity that is the source of the ASI Bauxite can be identified and can provide a verified CoC Document
Assessment unit in mining	(1) Company: all facilities (2) Selected mine sites There is flexibility to have a Certification Scope that covers (1) or (2).
Geographic focus	Globally
State of implementation	>130 certificates issued against the Performance Standard (ASI PS) >50 certificates issued against the Chain of Custody Standard (ASI CoC)
Membership program	Yes: 217members and 6 classes of membership (May 2022) o Associations: 24 members (a.o.) A/U/F e.V., Aluminium Association of Canada, Aluminium Federation, Aluminium Federation of South Africa, Associação Brasileira do Alumínio, Australian Aluminium Council, Can Manufacturers Institute, CII - Sohrabji Godrej Green Business Centre, Council for Aluminium in Building, European Aluminium, Global Aluminium Foil Roller Initiative (GLAFRI), Gulf Aluminium Council, IGORA, The Aluminum Association, International Aerospace Environmental Group, Japan Aluminium Association, Russian Aluminium Association) o Civil Society: 12 members (a.o. Chimbo Foundation, Fauna and Flora Int.,l, Institute for Human Rights and Business, IUCN, Verite, WWF, WOCAN, WCS, Settle Ghana, Nomogaia) o General Supporters: 26 members (a.o. Cargill, Marubeni Corporation, Regain, Trafigura) o Downstream Supporters: 7 member (a.o. Fairphone, The Body Shop,)

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	o Industrial Users: 34 members (a.o. Apple, Arconic, AUDI, BMW AG, Coca-Cola Enterprises Ltd., Jaguar Land Rover, Lavít, Nestlé Nespresso, Schüco) o Production and Transformation: 122 members (a.o. Alcoa Inc., Aleris, AMAG Austria Metall, Amcor, Ball Corporation, China Hongqiao Group Co., Ltd., Constantia Flexibles Int. GmbH, Constellium, EGA, Norsk Hydro, Novelis Inc., Rio Tinto, SAPA, Tetra Pak, UC Rusal)
Recent developments	<u>2022</u> o After a three year multi-stakeholder public consultation process, the revised ASI Standards and associated documents were finalised in May 2022. <u>2021</u> o ASI and CRU Group ('CRU'), the global mining, metals and fertiliser business intelligence company, have signed a Memorandum of Understanding. ASI Performance Standard and CoC Standard Certification status integrated in CRU Emissions Analysis Tool. o ASI has published 2019 and 2020 data for ASI Chain of Custody flows, visualized in the context of aluminium global supply and demand for that year. It is the result of a valuable and ongoing collaboration with the International Aluminium Institute (IAI) and was supported by an ISEAL Impulse Grant. o First public consultation took place between March and April as part of ASI Standards Revision process. <u>2020</u> o 45 new members in 2020, 40 countries where ASI certified facilities operate. o ASI published two Stories of Change and an independent review of GHG emissions by ASI members o ASI achieved recognition by BREEAM, Ecovadis, the International Council on Mining and Metals (ICMM) and the International Trade Centre (ITC) Standards Map o The London Metal Exchange (LME) and ASI signed a MoU to underpin collaboration on responsible aluminium value chains. o Key areas of focus include the 2020-2022 ASI standards revision in light of LME's Responsible Sourcing initiative; the potential use of ASI Certification, metrics and audits by LME; ASI monitoring and evaluation projects; and other relationship-strengthening activities that can promote the shared values of both organisations. o ASI turns 5: 5 years since ASI's official registration as a not-for-profit organisation in June 2015; 130+ members o ASI Standards Revision 2020-2022 Kicks-Off <u>2019</u> o ASI held its annual Indigenous Peoples Advisory Forum (IPAF) meeting in Ranchi, India. More than 30 participants from India, Australia, Canada, Ghana, Guinea, India, the Netherlands, Suriname, Switzerland, United Kingdom and the United States attended the IPAF meeting to share experiences and increase awareness of ASI's work in the aluminium value chain. o ASI reaches 100 Members o The total number of ASI Certifications issued — for both Performance and Chain of Custody combined — hits 50. o Become ISEAL Full member (now Code Compliant member)
Requirements of the Standard	
The ASI Performance Standard defines 62 environmental, social and governance principles and criteria, with the aim to address sustainability issues in the aluminium value chain. The ASI Chain of Custody (CoC) Standard complements the ASI Performance Standard setting out requirements for the creation of a CoC for CoC Material	

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Summarized standard requirements	Environ-mental issues	o Environmental policy o Material stewardship: environmental life cycle assessment, collaboration with initiatives, product design, aluminium process waste, collection and recycling o Water consumption and management o Energy consumption o Greenhouse gas emissions o Air emissions o Management of emission reduction o Assessment of biodiversity, ecosystem services and management plans o Invasive species o No-go areas in world heritage areas o Protected areas o Waste water management o Waste, waste management und reporting o Management and reporting about leaks, accidents and outlets o Residues of bauxite (refinery) o Management of used pot linings and dross (smelters) o Slags (foundries, re-smelters, refinery) o Environment management systems o Environment impact assessment o Reporting about different themes/topics/areas
	Social and societal issues	o Social policy o Human rights and due diligence o Indigenous people and livelihood support programs o Mitigation measures o Gender equity and Women`s empowerment o FPIC o Cultural heritage o Resettlement and displacement o Rights and livelihoods of the communities o Conflict-affected and high- risk areas o Safety practices o Reparations/ make amends o Remuneration o Freedom of association and collective bargaining o Child labour o Forced labour o Anti- discrimination o Openness to dialogue with workers o Safety practices o Informing workers of rights o Violence and harassment o Health and safety for workers: policy, risk assessment, workers' commitment, management system o Emergency plan o Stake holder information o Community development and stakeholder engagement o Grievance of stakeholders and solution mechanisms o Whistle- blowing systems for non- compliance o Social management system o Impact assessment for social, cultural and human rights
	Govern-ance issues	o Governance policy o Code of conduct o Leadership o Compliance o Reporting about non- compliance o Action plans for improvement o Corruption o Cartel

	o Impact assessment (environmental, social and human rights) o Management systems (environment and social) o Responsible procurement/sourcing o ASI chain of custody standard o Risk assessment of suppliers o Material handling and storage o Supplier due diligence o Improvement measures o Material accounting system/ inventory periods o Outsourcing and subcontractors o Due diligence for mergers and acquisitions o Closure/decommissioning/divestment with environmental, social and governance aspects o Transparency of payments to government o Sustainability reporting o Leadership
Rigor or flexibility of the standard model for compliance	Obligatory standard catalogue (incl. incremental catalogues and deadlines for corrective measures). Certification against the ASI Performance Standard is a mandatory requirement for two classes of ASI Members as follows: o Members in the 'Production and Transformation' and 'Industrial Users' classes must achieve ASI Certification against applicable requirements of the ASI Performance Standard for at least one Facility or Product/Program. o The deadline for Certification for each Member is within two years of joining ASI, whichever is e later. ASI aims to take a Risk-based approach to assurance that enhances consistency and materiality of Audits, while maintaining the role of Auditor judgement. An individual Member or Entity's exposure to Risks will be based on a number of factors, which include: o Type of sector or business in the aluminium supply chain o Global, regional and/or local context of operation/s o Type, range and complexity of operations and activities o Type, range and complexity of products o Outcomes of previous ASI Audits (or other equivalent standard systems / schemes recognised by ASI) o Demonstrated management controls, for example through other audit programs o Known Risks or issues in the public domain.

Provided documents and tools	o ASI Performance Standard V3 (2022)
	o ASI Performance Standard Guidance V3 (2022)
	o ASI Chain of Custody Standard V2 (2022)
	o ASI Chain of Custody Standard Guidance V2 (2022)
	o ASI Assurance Manual V2 (2022)
	o ASI Claims Guide V2 (2022)
	o ASI Glossary V1 (2022)
	o ASI Performance Standard V2 (2017)
	o ASI Performance Standard Guidance V2 (2017)
	o ASI Chain of Custody Standard V1 (2017
	o ASI Chain of Custody Standard Guidance V1 (2017)
	o ASI Assurance Manual V1 (2017)
	o ASI Claims Guide V1 (2017)
	o Auditor Accreditation system:
	  - ASI Auditor Accreditation Procedure (Version 3, July 2021)
	  - ASI Accredited Audit Firm / Individual Auditor Application Form (Version 3, July 2021)
	  - Fulfilling ASI's requirements to become an ASI Accredited Auditor (Version 1.4 – May 2020)

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	- ASI Auditor Competence and Assessment Procedure (Version 2 – April 2020) - educationAI: ASI online learning portal for auditors and members o Monitoring & Evaluation Plan (2021)
Number of quoted international conventions and other guidance	> 20
Referral to other standards for more information or guidance	Yes, e.g.: o Global Reporting Initiative (GRI) Standards o International Council on Mining and Metals (ICMM): Good Practice Guidance on Mining and Biodiversity; Good Practice Guidance on Indigenous Peoples and Mining; Overview of Leading Indicators for Occupational Health and Safety in Mining o International Finance Corporation (IFC) Performance Standards 1 (ESIA), 5 (Resettlement), 6 (Biodiversity), 7 (Indigenous People), 8 (Cultural heritage) o Standard of the Extractives Industry Transparency Initiative (EITI) o ISO Standards (ISO 14001, ISO 45001, ISO 50001, ISO 14046, ISO 45003 o European Norms: EN15804 and EN15978 o IRMA Responsible Mining Standard: Environmental and Social Impact Assessment & Management o Responsible Jewellery Council Code of Practices
Recognition of other standards for the proof of compliance of certain issues	Yes The Aluminium Stewardship Initiative (ASI) aims to harmonise with relevant external Standards and Schemes wherever possible and appropriate, in order to enhance collaboration, reduce unnecessary duplication, and inform ASI's learning and continual improvement. ASI has a Standards Benchmarking & Recognition Procedure in place which describes the identification, benchmarking and review of external Standards and Schemes for potential harmonisation with, including recognition by and of, ASI Standards. Table 3 in the Assurance Manual summarises the relevant external schemes which share issues and objectives with ASI Standards. Where equivalency has been determined below based on alignment between the external scheme and the ASI Certification Scope, the criteria in the ASI Standards can be assessed by an Auditor as Conformant without additional review, subject to verification by the Auditor regarding the status and relevance of the equivalent initiative. While an Auditor is not expected to evaluate Conformance for Equivalent Criteria, an Auditor may do so if there is evidence that a Non-Conformity may exist in that Criteria. For instance, if an Entity has an ISO 45001 certification at a Facility within their Certification Scope that is deemed to be Equivalent but the Auditor sees concerns with health and safety during the site visit, the Auditor may assess the Criteria that were excluded from the Audit Scope for Conformance and, if warranted, a Non-Conformance may be issued to the Entity (ASI Assurance Manual, 3.7 'Harmonisation and Recognition of External Standards and Schemes)
Assessment of Standard Compliance and Transparency of the Results	
Subject- matter of the conformity assessments	For ASI Certification, independent third party Audits are conducted by ASI Accredited Auditors. The purpose is to verify that a Member's policies, systems, procedures and processes conform to the requirements specified in the applicable ASI Standard. The process undertaken by Auditors is to collect Objective Evidence from a representative selection of the Member's Certification Scope. An

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	Audit and subsequent Audit Report is required before ASI Certification can be issued.
Type of conformity assessment (audit)	Verification and Certification
Auditor status and frequency of audits	3rd Party A Member's Certification status is determined based on the outcome of the Certification Audit: Certification (3 years), Provisional Certification (1 year) or not Certified. Surveillance Audits take place within 6-18 months as required.
Assessment elements	Self-Assessment, Certification Audit, Audit Report, Certification Issued, Periodic Reviews (Self-Assessment (2) Document analysis (3) Site inspection (4) Interviews with workers, managers, etc)
Grievance mechanisms for auditor decisions	Yes, via the auditors internal systems and via the ASI Complaints Mechanism

Whistle-blowing mechanism for standard non-compliances	Yes
	    a) Can be submitted by employees of Members, Auditors or ASI (can be handled anonymously)
	    b) Process is handled under ad-hoc panel (ASI staff members, lawyer, third party)
	    c) Ad-hoc panel may i.e. request for further information or commission additional audits
	    d) Ad-hoc panel makes recommendations to ASI and decides about appropriate actions
	    e) Appropriate actions include loss of membership, withdrawal of certification, corrective actions, matter being flagged for next audit

Party publishing the results	Standard initiative: ASI is publishing the results both of the audit and the certification process. Also complaints will be disclosed.
Degree of detail of the published results	A Public Summary Audit Report is published on the ASI Website. ASI Audit Reports and Summary Audit Reports for all ASI Certifications are stored in elementAl, ASI's online assurance platform. In 2021, ASI has launched a Public Dashboard in elementAl (ASI's online Assurance System), so that users (Members, Auditors and others with an elementAl account) can more easily access, download and analyse published and aggregated data on ASI Certifications
List of References	

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- Aluminium Stewardship Initiative (2022): ASI Performance Standard, Version 3 -Guidance https://aluminium-stewardship.org/wp-content/uploads/2022/05/ASI-Performance-Standard-Guidance-V3-May2022-1.pdf
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- ASI's Claims Guide V2 (2022): ASI Complaints Mechanism, Version 2, available online at https://aluminium-stewardship.org/wp-content/uploads/2022/01/ASI-Complaints-Mechanism-V2-Sept2021.pdf
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- Aluminium Stewardship Initiative (2017): ASI Performance Standard, Version 2, 2017; https://aluminium-stewardship.org/download/64258/
- Aluminium Stewardship Initiative (2017): ASI Performance Standard, Version 2 -Guidance https://aluminium-stewardship.org/download/64260/

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- Aluminium Stewardship Initiative (2017): ASI Chain-of-Custody Standard, Version 1, Available online at https://aluminium-stewardship.org/download/64262
- Aluminium Stewardship Initiative (2017): ASI Chain-of-Custody Standard, Version 1, Available online at https://aluminium-stewardship.org/download/64264/
- Aluminium Stewardship Initiative (2015): ASI Complaints Mechanism, Version 1, available online at https://aluminium-stewardship.org/download/64291/
- Aluminium Stewardship Initiative (2016): ASI History. Available online at http://aluminium-stewardship.org/about-asi/asi-history/
- Aluminium Stewardship Initiative (2016): Standard Setting Group. available online at http://aluminium-stewardship.org/standard-setting-process_ssg/standard-setting-group/

Aluminium Stewardship Initiative (2016): ASI Claims Guide, available online at https://aluminium-stewardship.org/download/64256/

Aluminium Stewardship Initiative (2017): ASI Assurance Manual, Version 1, available online at https://aluminium-stewardship.org/download/64241/

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ResponsibleSteel Standard	
Background Information	
Initiators of the standard	Companies from the steel value chain and organizations: The Australian Steel Stewardship Forum, Arcelor Mittal, BlueScope Steel
Standard initiative/ Administrative body	ResponsibleSteel
Founding date and location	2016 – founding, Australia
Publication of the first standard version	ResponsibleSteel Standard version 1.0 (November 2019)
Up-to-date certification program and next revision	ResponsibleSteel Standard version 1.1 (June 2021); Version 1.1 is for immediate use and supersedes version 1.0. The original version 1.0 was drafted in accordance with the ResponsibleSteel Standard Development Procedure from February 2017 through to October 2019, approved by a ballot of the ResponsibleSteel membership and formally ratified by the ResponsibleSteel Board of Directors in November 2019. The official and full review of the Standard V1.1 will start in 2023. ResponsibleSteel Assurance Manual Version 1.0, December 2019. Revision scheduled for 2022
Background of the standard initiative	The concept was adopted and developed in Australia following the ISEAL guidelines (2011 – 2015). Initiative established exclusively for the standard development and implementation of a global system for responsibly sourced and produced steel. The use and recycling of steel are part of the RS strategy. A feature of the initiative and its standard is the consensus-building among members and stakeholders.
Stakeholder groups participating in a) first standard-setting b) latest revision (if applicable)	(1) Civil society (a, b) & social/environmental organisations (2) Private sector (a, b) – business organisations (3) Public institutions (a,b) – associate members; these also include trade associations, standards bodies, conformity assessment bodies and academic institutions, as well as businesses that are not part of the steel value chain
Subject-Matter of the Standard	
Main objective	The ResponsibleSteel Standard is designed to support the responsible sourcing, production and use of steel, as a tool for the achievement of ResponsibleSteel's vision: to maximise steel's contribution to a sustainable society. Its mission is to enhance the responsible sourcing, production, use and recycling of steel by: ○ Providing a multi-stakeholder forum to build trust and achieve consensus; ○ Developing standards, certification and related tools; ○ Driving positive change through the recognition and use of responsible steel.
Target commodities	Steel
Application of the standard along the supply chain	This ResponsibleSteel Standard applies to operational steel sites and to related sites that process raw materials for steelmaking, or that produce steel products. It does not apply to service providers, mine sites, or to sites producing final products made with steel components.
Proof of origin	A site's commitment to the ResponsibleSteel Principles extends both to its steel production and to its sourcing of raw materials. The proof of origin is not explicitly mentioned. However the Criterion 2.2 is about Responsible Sourcing, demanding that there are effective procedures in place to ensure that the responsible sourcing commitments of the site's

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	corporate owner are implemented for the site's own procurement. The Responsible sourcing will include chain of custody requirements. Sites are advised to use the OECD Due Diligence Guidance to identify if they are active in conflict-affected and high-risk areas.
Assessment unit	The certification scope shall include all facilities and associated activities that are directly related to steel making and processing, and which are on-site and under the control of the certification client. Sites that are fulfilling the existing requirements (the Standard version launched in Nov 2019) are referred to as "Certified Site".
	Facilities and associated activities related to raw material extraction, including the transportation of raw materials, shall not be included in the certification scope until now.
	However, the ResponsibleSteel requirements for "Certified Steel" (in development) are likely to require that an increasing amount of raw materials used at a site is sourced from mines that participate in a mining programme that ResponsibleSteel considers to be credible (e.g. IRMA, TSM, Bettercoal) and that the mines improve their performance under that programme over time. ResponsibleSteel Requirements, Options and Consultation Questions on Responsible Sourcing of Input Materials Draft Version 1.0, August 2020 and Responsible Sourcing Framework (n. y. published), which will serve as the basis for the final draft of the responsible sourcing requirements.
Geographic focus	Globally
State of implementation	ArcelorMittal has 10 sites certified in various countries (in July 2021), Aperam has 2 sites, Voestalpine has 4 sites. https://www.responsiblesteel.org/certification/issued-certificates/.
Membership program	o 3 Membership Categories: **Business Organisations** (including steelmakers, raw material suppliers and downstream users) o For example, Anglo-American, Aperam, ArcelorMittal, Arch Resources, BHP o Bilecik demir celik,BlueScope, BMW, Boston Metal, BRS Group o Carport Central Inc, CLN Group S.p.A, Cogne Acciai Speciali, Daimler AG, Ferrexpo Plc, HARSCO, Grimshaw Global, Heathrow, HSBC o Hyundai Steel, Lendlease, Kaptan Demir Celik, outokumpu o Rhi Magnesita, Tata Steel, Teck, U.S. Steel, VAMA, voestalpine o Civil Society & Social/ Environmental Organisations (organisations with social or environmental missions and trade unions) o Bio Regional, CDP, Ceres, Clean Air Task Force (CATF), Climate Catalyst Fauna & Flora International, IndustriALL, IUCN, MERG, Mighty Earth, The Climate Group, We Mean Business Coalition o Associates (including governmental organisations, trade associations, standards bodies, conformity assessment bodies and academic institutions) o In total: 27 industry members (steelmakers, raw material suppliers, downstream users); 11 civil society members; 56 associates
Governance	ResponsibleSteel is governed by the Board that includes three business, three civil society and three independent representatives, together with the ResponsibleSteel™ Executive Director. The ResponsibleSteel™ Secretariat is in charge of the day-to-day running of ResponsibleSteel.
Funding	ResponsibleSteel™ is currently funded through membership fees paid by business members and for-profit associate members. Not-for-profit members do not pay a membership fee. In addition, financial contributions are made by its founding members – BlueScope Steel and ArcelorMittal – by philanthropic bodies. ResponsibleSteel is actively seeking additional funding from new members, grants from philanthropic foundations and in-kind contributions from its civil society participants. https://www.responsiblesteel.org/apply-for-membership/
Recent developments	o ResponsibleSteel™ is an international, multi-stakeholder membership organisation. New members are welcome from anywhere in the world, including businesses from every part of the

		steel supply chain, civil society groups, associations, and other organisations with an interest in a sustainable steel industry. Organisations that are not eligible for full membership but wish to show their support and be kept informed as the programme develops are invited to join as Associates.
		o ResponsibleSteel is working in partnership with IRMA (Initiative for Responsible Mining Assurance), TSM (the Mining Association of Canada's 'Towards Sustainable Mining' programme), Bettercoal and RJC (Responsible Jewellery Council) in the mining sector, to develop tools that support alignment of our various programmes and to create a common platform for engaging with stakeholders. RS also aims to recognise programmes that credibly verify mine site ESG performance to assure purchasers that all iron and steel is responsibly sourced throughout their supply chains. Initially, these are suggested to be Bettercoal, TSM and IRMA.
		o Development of ResponsibleSteel Standard for "Certified Steel", meaning additional responsible sourcing and GHG requirements to be finalised in 2022
		o RS passed the 100 members mark
		o RS has achieved charitable status
		o The issued "Certified Site" certificates are also recent developments
		o Published methodology for the recognition of input material programmes (such as mining) and we have published the first recognition assessments, see https://www.responsiblesteel.org/recognition/

Requirements of the Standard
Version 1-0: 12 principles and 49 criteria with 370 auditable requirements: corporate leadership, ESG governance systems, OHS, labour & human rights, stakeholder engagement, local communities, climate and GHG, environmental issues (noise, air emissions, spills and leakage, waste, biodiversity), closure; Version 1.1: Maintains the same standard requirements

Summarized standard requirements	Environ--mental issues	o Principle 8. Climate Change and Greenhouse Gas Emissions
		o Criterion 8.1: Corporate commitment to achieve the goals of the Paris Agreement
		o Criterion 8.2: Corporate Climate-Related Financial Disclosure
		o Criterion 8.3: Site-level GHG emissions measurement and intensity calculation
		o Criterion 8.4: Site-level GHG reduction targets and planning
		o Criterion 8.5: Site-level GHG or CO_2 emissions reporting and disclosure
		o Principle 9. Noise, Emissions, Effluents and Waste
		o Criterion 9.1: Noise and vibration
		o Criterion 9.2: Emissions to air
		o Criterion 9.3: Spills and leakage
		o Criterion 9.4: Waste, by-product and production residue management
		o Principle 10. Water Stewardship
		o Criterion 10.1 Water-related context
		o Criterion 10.2 Water balance and emissions
		o Criterion 10.3 Water-related adverse impact
		o Criterion 10.4 Managing water issues
		o Principle 11. Biodiversity
		o Criterion 11.1: Biodiversity commitment and management
		o Principle 12. Decommissioning and closure
		o Criterion 12.1: Decommissioning and closure
	Social and societal issues	o Principle 7. Local Communities
		o Criterion 7.1: Commitment to local communities
		o Criterion 7.2: Free, Prior and Informed Consent (FPIC)
		o Criterion 7.3: Cultural heritage
		o Criterion 7.4: Displacement and Resettlement.
		o Principle 4. Labour Rights

		o Criterion 4.1: Child and juvenile labour o Criterion 4.2: Forced or compulsory labour o Criterion 4.3: Non-discrimination o Criterion 4.4: Association and collective bargaining o Criterion 4.5: Disciplinary practices o Criterion 4.6: Hearing and addressing worker concerns o Criterion 4.7: Communication of terms of employment o Criterion 4.8: Remuneration o Criterion 4.9: Working time o Criterion 4.10: Worker well being o Principle 5. Human Rights o Criterion 5.1: Human rights due diligence o Criterion 5.2: Security practice o Criterion 5.3: Conflict-affected and high-risk areas o Principle 6. Stakeholder Engagement and Communication o Criterion 6.1: Stakeholder engagement o Criterion 6.2: Grievances and remediation of adverse impacts o Criterion 6.3: Communicating to the public
	Govern-ance issues	o Principle 1. Corporate Leadership o Criterion 1.1: Corporate Values and Commitments o Criterion 1.2: Leadership and Accountability o Principle 2. Social, Environmental and Governance Management Systems o Criterion 2.1: Management System o Criterion 2.2: Responsible Sourcing o Criterion 2.3: Legal compliance and signatory obligations o Criterion 2.4: Anti-Corruption and Transparency o Criterion 2.5: Competence and awareness o Principle 3. Occupational Health and Safety o Criterion 3.1: OH&S policy o Criterion 3.2: Health and Safety (OH&S) management system o Criterion 3.3: Leadership and worker engagement on OH&S o Criterion 3.4: Support and compensation for work-related injuries or illness o Criterion 3.5: Safe and healthy workplaces o Criterion 3.6: OH&S performance o Criterion 3.7: Emergency preparedness and response
Rigor or flexibility of the standards and assurance model for compliance		The whole standard will be applicable; The auditor will decide about any exclusions due to non-applicability. Classification in 3 classes of compliance: a) Conformity b) Minor non-conformity (have to addressed by the next audit) c) Major non-conformity (no certificate issued or certificate suspended)
Provided documents and tools		o ResponsibleSteel_Standard_v1.1. o ResponsibleSteel-Assurance-Manual-v1-0 o ResponsibleSteel-Auditor-Assessment o ResponsibleSteel-Site-Self-Assessment o Implementation Instructions Version 1.1 o Glossary o Guidance-on-Defining-the-Certification-and-Audit-Scope o ResponsibleSteel-Responsible-Sourcing-Requirements-Draft-1 and 2 o Responsible Sourcing Framework o Audit protocols (summary) o Guidance-on-stakeholder-engagement-January-2020
Number of quoted international conventions and other guidance		> 20
Referral to other standards for more information or guidance		o Sites that are operating in conflict-affected and high-risk areas shall refer to the OECD DD. o The Occupational Health and Safety Principle fully aligns with the ILO Convention C155.

	o Policy on association and collective bargaining shall be in line with ILO Conventions C87 and C98. o Effective fatigue management shall be in line with ILO Convention C001 o The requirement 4.9.1.d has been framed around ILO Convention C132 - Holidays with Pay. o The term "indigenous peoples" is understood as described in Article 1 of ILO Convention 169. o As a minimum, the site must consider the GHG emissions associated with the materials listed in ISO 14404-1:2013 Table 2 and other materials that may be associated with significant GHG emissions. o The ETI (Ethical Trading Initiative) Base Code, ISO 26000 - Social responsibility, or the Caux Moral Capitalism Principles are examples of frameworks that might help sites define or review their code of conduct. o ISO 20400: (2017) Sustainable procurement – Guidance might help with the implementation of sustainable procurement practices. o 2.1.3. The site's system for the management of environmental aspects is certified by a competent third party as complying with the requirements of ISO 14001: Environmental management systems – Requirements with guidance for use. o The site's management systems may be integrated to form a single overarching management system or may consist of various stand-alone management systems. Examples for recognized international management system standards that the site may use to manage its social and governance aspects and risks include ISO 9001, ISO 37001, ISO 45001 (replacing OHSAS 18001), ISO 50001, and SA8000. o Sites may find ISO 37001 – Anti-bribery management systems useful for this Criterion. o (8.3.2) ResponsibleSteel currently recognizes the following international or regional standards: o The GHG Protocol and EN 19694 (parts as applicable) for measurement of GHG emissions by steelmaking and other sites. - ISO 14404 (parts as applicable) for the measurement of CO_2 emissions by steelmaking sites, as applicable. o ISEAL Impacts Code for the standard development
Recognition of other standards for the proof of compliance of certain issues	Where the ResponsibleSteel Standard's objectives can be achieved most effectively through the recognition of performance Requirements defined and verified by other sustainability programmes in accordance with ResponsibleSteel's Requirements, this shall be the preferred approach. This approach is applied, in the first instance, to the recognition of programmes covering the responsible sourcing of raw materials. https://www.responsiblesteel.org/recognition/
Assessment of Standard Compliance and Transparency of the Results	
Subject- matter of the conformity assessments	The certification scope is defined to include those facilities and activities that contribute to a site's environmental and social performance. Exclusions can only be made if a requirement, criterion or principles do not apply. Risk and complexity of a site are factors that are relevant when determining audit time.
Type of conformity assessment (audit)	Verification and Certification
Auditor status and frequency of audits	o 3rd Party (certification cycle is 3 years with 1 surveillance audit in-between) o Based on the audit report, the certification bodies issue Certification for up to 3 years. Surveillance Audit within 12-18 months required.
Assessment elements	Audits include an on-site visit and interviews not only with site management and process owners but also with workers and external

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	stakeholders. Also, an independent Assurance Panel reviews all audit reports with a positive certification recommendation to ensure they are of high quality.
Grievance mechanisms for auditor decisions	No, however, there is the possibility of report re-submission by certification body and the review by an assurance panel.
Whistle-blowing mechanism for standard non-compliances	o The "Issues Resolution System" provides for avenues to address any kind of complaint, including non-compliances, (Assurance Manual and https://www.responsiblesteel.org/resources/. o The certification bodies must have their own complaints procedures as required by ISO 17021, which is part of our assurance requirements
Party publishing the results	Standard initiative: RS is publishing the results both of the audit and the certification process.
Degree of detail of the published results	Only a summary of the reports is published on the RS Website.

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