

MAPPING SUSTAINABILITY STANDARDS SYSTEMS FOR MINING AND MINERAL SUPPLY CHAINS

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Figure 1: Tin ore (cassiterite) mining, cassiterite pre-concentrate and tinplate in coils.

INTRODUCTION

Industries along the minerals supply chain – from mining to manufacturing – are continuously developing new corporate policies to address environmental and social challenges. In this context, sustainability standards systems are one key means for stakeholders to engage with companies in the mining sector and downstream industries, and for companies to demonstrate that they are operating responsibly. A standards system is the collec-

tive of organizations responsible for the activities involved in the implementation of a standard, including standard setting, capacity building, assurance, labelling and monitoring (ISEAL 2018).

The number of initiatives to establish sustainability standards systems for mining and mineral supply chains has grown rapidly, with varying scope and specificity. Most were established by the mining industry itself, by upstream companies, financial institutions or multi-stakeholder groups. As these systems have proliferated, users and observers have raised concerns about duplication of efforts, lack of accountability and effectiveness. This article sets out the challenges to drive

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knowledge and cooperation amongst civil society, industry, governments, researchers and multi-stakeholder initiatives. It summarizes findings from three research projects, which have analyzed a selection of relevant systems targeting mining as well as mineral supply chains:

- “Approaches to reducing negative environmental and social impacts in the production of metal raw materials- UmSoRes” funded by the Federal Ministry for Environment, Nature Conservation, and Nuclear Safety (BMU). The project has been initiated and supervised by the German Environment Agency (UBA) and carried out by adelphi in cooperation with the University of Leoben and MinPol; 2013 – 2015
- “Sustainably produced mineral resources – NamiRo” carried out by four business economics departments of the University of Ulm, Kassel and Hohenheim, the Federal Institute for Geosciences and Natural Resources of Germany (BGR) and BEAK Consultants GmbH, funded by the German Federal Ministry of Education and Research (BMBF); 2015 – 2017
- “Leveraging greater impact of mineral sustainability initiatives: An assessment of interoperability“ undertaken by the Centre for Social Responsibility in Mining (CSRMin) at the University of Queensland and funded by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); 2016 – 2017

Together, these studies map the current sustainability landscape for mining and mineral supply chains, and propose recommendations and future steps to the schemes, their stakeholders and policy makers.

OVERVIEW OF SUSTAINABILITY STANDARDS SYSTEMS

The sustainability standards systems covered by the three research projects all aim at promoting more responsible practices in raw material production and/or sourcing and are part of a global governance system that is made up of various functional levels:

- 1. International normative frameworks or normative global standards:** These standards set global and general minimum standards and principles. They are generally non-binding, but often constitute international and customary international law and include UN declarations, such as the United Nations Declarations on Environment and Development (Rio Declaration) or the United Nations Declarations on the Rights of Indigenous Peoples (UNDRIP). Many standard initiatives and regulations reference these global standards.
- 2. Legally binding standards:** These include primarily national and EU regulations, laws and provisions, some of which can also have an extra-territorial and global impact, such as the Dodd-Frank-Act (DFA) or the EU Conflict Minerals Regulation. This category also includes international agreements that are binding under international law. Conventions such as those of the International Labour Organization (ILO) become binding when ratified by countries which then commit themselves to applying the convention in national law. In practice, there is a lack of proper implementation and enforcement in several countries, though.
- 3. Implementation guidelines and principles:** These translate global standards or legally binding standards (category 1 or 2) into implementation guidelines for companies or sectors. This includes for example the Organization for Economic Cooperation and Development (OECD) guidelines and guidances, the UN Guiding Principles on Business and Human Rights and guidance documents by industry associations, such as the International Council on Mining and Metals (ICMM).
- 4. Sustainability standards systems:** These systems are established by initiatives and develop, revise and/or implement sector- or problem-specific standards that set sustainability practices and/or reporting indicators. Largely they also require certification or verification processes. They are mostly voluntary.

Figure 2 shows the governance system for the issue of so-called ‘conflict minerals’ (addressing conflict finance, tax evasion and human rights abuses in mineral supply chains from conflict-

affected and high risk areas) and highlights how different systems are interlinked across the governance levels through mutual referencing. Although not covered by this article, international conventions and global standards, such as UN conventions and guidelines, such as the OECD Guidelines for Multinational Enterprises, provide the overall framework and important reference points for sustainability standards systems. Furthermore, legally binding regulations, such as the Dodd-Frank Act Section 1502 and the EU conflict minerals legislation, which are based on the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, served as important catalysts for the debate on supply chain transparency and responsible sourcing and initiated the development of several sustainability standards systems. At this level, the standards systems often cross-reference each other, for example, the Responsible Minerals Assurance Process (RMAP, formerly CFSP) and the Responsible Jewellery Council, who cross-recognise their independent refiner audits.

Most standards systems cover various topics, ranging from economic, environmental and social issues to governance and management. There are many common issues which are covered by nearly all analysed initiatives, such as the prevention of child labour. Other topics are only covered by one or two standards systems. Environmental issues, in particular, are not addressed comprehensively. Besides this lack of coverage of specific topics, some confusing overlapping of topics occurs, hampering correct implementation. These overlaps reflect interrelations between different issues in the mining sector (for example, treatment of effluents and mining wastes and water quality; human rights of workers and communities).

Trying to generate an overview or comparison of standards systems proved to be challenging, since each standards system has identified issues and built requirements in its own way. As part of NamiRo, for instance, the thematic scope of mining sustainability standards systems was analyzed by using a semi-quantitative approach (BGR, 2017): First, 86 common and less frequent

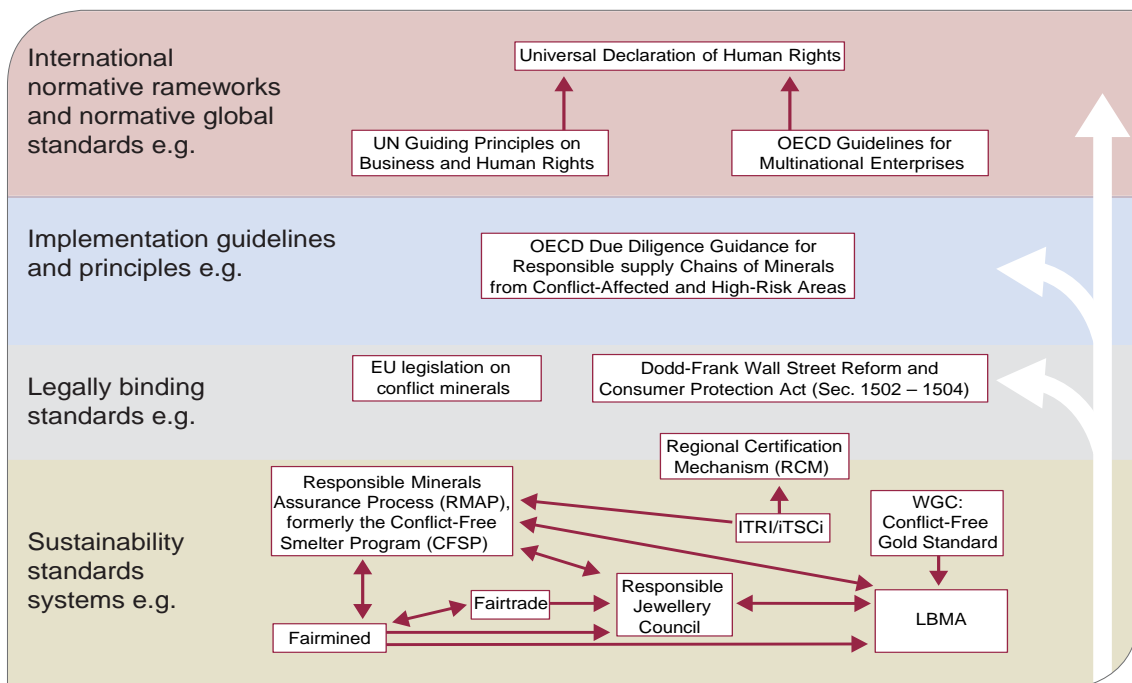


Figure 2: Governance system for the issue of so-called 'conflict minerals', showing different systems which are interlinked across and within governance levels. The arrow points from one initiative to the other, when the latter is mentioned by the former as a reference, or when it is considered to be in compliance with the former's standard.

topics were determined to form a consolidated framework of mining issues. Then the number of issues per standard was counted. Furthermore, the scope of each topic was estimated only using text length as a proxy indicator since it is not fully transparent how rigorously requirements are put into practice. Results of this study may differ from other benchmarks due to the selected topics and the depth of the analysis. In fact, benchmarks will remain rather subjective as long as there is no globally agreed reference framework for responsible mining.

Figure 3 roughly displays the standards thematic scope for the mining and processing level. Of the 17 standards systems analyzed, 15 specify requirements for the mine site level – either for lar-

ge scale mining (LSM), artisanal and small-scale mining (ASM) or for all scales. All three projects came to the conclusion that standards systems range from narrow scope with a selected set of (priority) issues to wide scope. The chosen scope depends on the objective of a standards system and its initiators. Some only cover specific “risk issues” or demand minimum (reporting) requirements (e.g. TSM, ICMM, Cyanide Code; conflict mineral initiatives) and thereby head for broad participation. For instance, multi-industry initiatives of entire supply chains also rather define minimum standards in order to gain outreach (e.g. RJC, ASI). Others predominantly target forerunners by defining comprehensive requirements (LSM: IFC, IRMA, GRI; ASM: Fairmined and Fairtrade).

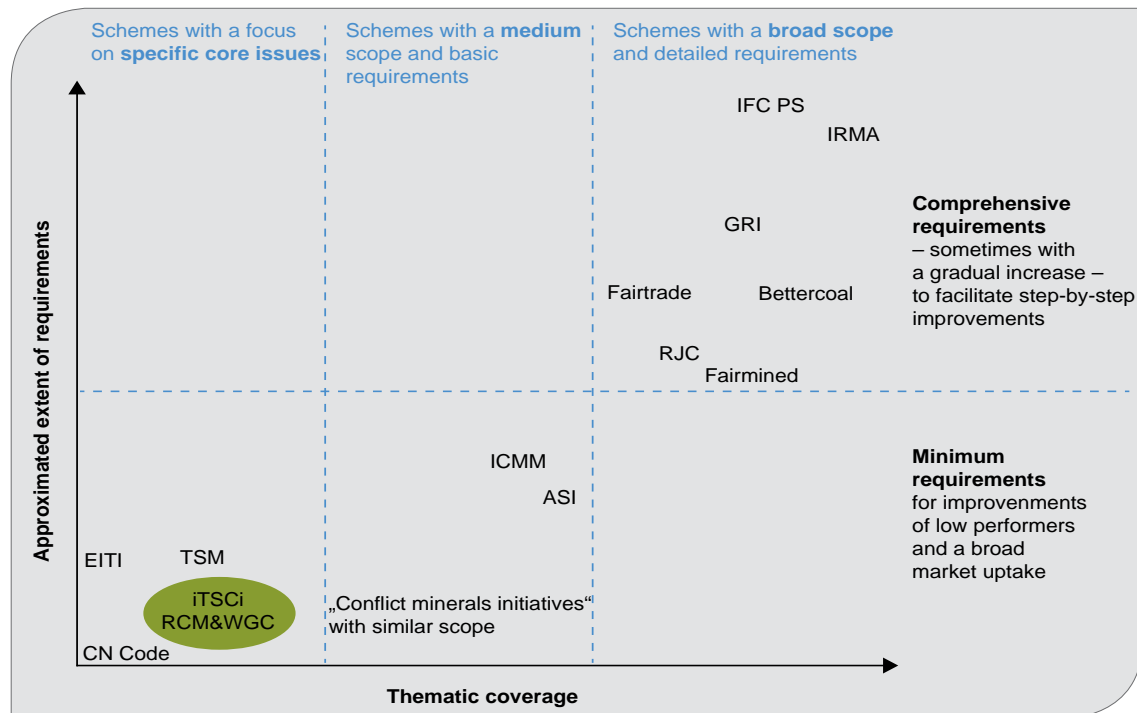


Figure 3: Sustainability standards systems' scope regarding thematic coverage and extent of requirements for the mining and processing level. Abbreviations: CN Code (International Cyanide Management Institute's International Cyanide Management Code for the Man Reporting Initiative's Reporting Principles and Standards Disclosure and Sector Supplement), Sustainable Development Framework by ICMM (International Council on Mining and Metals), IFC (International Finance Corporation's Environmental and Social Performance Standards), IRMA (Initiative for Responsible Mining Assurance's Standard for Responsible Mining), iTSCi (ITRI (International Tin Research Institute) Tin Supply Chain Initiative), LBMA (London Bullion Market Association's LBMA Responsible Gold Guidance), Mining Association of Canada's TSM (Towards Sustainable Mining), RCM (Regional Certification Mechanism of the International Conference on the Great Lakes Region), RJC (Responsible Jewellery Council's RJC Code of Practices and RJC Chain-of-Custody Standard), WGC (World Gold Council's Conflict-Free Gold Standard)

CHALLENGES AND RECOMMENDATIONS

The three projects have identified four main challenges and derived recommendations arising from the research findings. Each recommendation is directed at one or more stakeholder groups, which are marked using the following abbreviations: civil society (CIV), industry (IND), governments (GOV), research (RES), multi-stakeholder Initiatives (INI).

Challenge 1: Heterogeneous standards systems and requirements

Most standards systems address similar issues, but there are also important issues only covered by some standards systems due to focus and desired ambition level. Similar issues are addressed using dissimilar terminologies, various requirements and differing degrees of detail. While diversification can help bring attention to new topics, important issues need to be further harmonized. Particular environmental, social and governance issues require more attention, such as exploration, water extraction, mine hydrology, financial surety for post-closure activities, efficient energy use, renewable energies, land use conflicts, sustainable sourcing, local workforce and procurement, infrastructure investments, contributions to regional development, strengthening of institutional capacity, corporate governance and business ethics.

Recommendations:

- Harmonization of and cross-recognition between standards systems should be enhanced where possible by supporting vertical and horizontal collaboration. Vertical collaboration is the collaboration among systems operating in different stages of the supply chain while horizontal collaboration is applicable to systems operating in the same stages of the supply chain. Standards systems may compare their standards and requirements with systems of similar scope and harmonize their normative documents. This would require cooperation between commodity specific systems and generic mining systems. Governments and international organizations should support dialogue

between standards systems. (INI, IND, CIV, GOV)

- Systems should seek to align their standards with internationally acknowledged and comprehensive frameworks, ranging from overarching frameworks such as the UN Sustainable Development Goals to issue- and sector-specific frameworks such as the ILO standards. Governments and international organizations should actively support and call for harmonization efforts. The OECD Alignment Assessment illustrates an effective benchmark mechanism that assesses standards systems, while establishing a dialogue towards alignment with OECD requirements. (INI, GOV)
 - The development of a consolidated framework for responsible mining and mineral supply chains could be initiated and could compile a complete catalogue of issues and tiered requirements, from basic to best practice. This should build on existing standards and could be also used as a tool for stakeholder information, coordination and mutual learning among initiatives. It could serve as a modular reference standard that systems can use to assemble their individual standard according to their desired scope while maintaining comparability. Special issues or new standards could be integrated on the basis of regular revisions. Further cooperation and (market) research on a clear design of standards systems and guidance documents, as well as on standardized methods for the monitoring and evaluation of impacts, is recommended. (INI, RES)
- Challenge

Challenge 2: Fragmentation through a focus on single commodities or regions

Analysis of the impacts of the DFA and related initiatives show that standards systems that set a geographic scope (e.g. on the DRC and neighboring countries) risk causing a “de-facto-embargo” of that region with related negative economic and social impacts. At the same time they catalyze the development of new approaches to address problems in these regions. However, an ongoing focus on certain countries or commodities could further increase fragmentation. A variety of commodity-specific supply chain systems may be a barrier for

uptake by downstream companies, especially Original Equipment Manufacturers, which regularly use a large number of commodities.

Recommendations:

- Research on the impacts of regionally focused systems or national/regional frameworks is needed to understand their (unintended) effects, e.g. the effect that companies shift supply chains from high-risk to low-risk areas. (RES)
- A country-specific regulation or media campaign or simply practicality from a supply chain perspective may be the reason to focus a system's initial activities on a certain region. However, over the medium term, successful standards systems should open up to other regions and should clarify this possibility right from the start in order to prevent regional shifting by companies. (INI)
- Cooperation among standards systems across commodities can help to decrease fragmentation and link existing systems. Downstream companies as well as other relevant actors should engage with systems towards practical and customer-friendly solutions. (INI, IND).

Challenge 3: Lack of legitimacy or broad-based support

Stakeholder participation in standard setting as well as evaluation and revision increases acceptance and legitimacy of the developed standard requirements, however, this requires time and resources, as shown by the long development time of some systems, e.g. IRMA. Especially participation of civil society stakeholders from developing countries and affected local communities in standard setting, mine site evaluation or local governance is sometimes lacking due to a lack of resources or capacities.

Recommendations:

- There should be more international support for participation of relevant civil society organizations and public authorities of target countries in standard setting as well as in their implementation, supervision and evaluation processes. In particular, local actors should be empowered to become involved e.g. through

providing training or independent funding mechanisms. (INI, GOV)

- Standards systems should build and explain links to national and local frameworks, programs and authorities to allow for better participation. (INI)
- The ISEAL Standard-setting Code for better stakeholder participation should be considered by standards systems. In addition, there is a need for research on the effectiveness of its implementation. (INI, RES)
- There is a common societal consensus that standards systems should not substitute national law and its enforcement by governments, but rather strive to support strong government institutions and good governance. Possible accompanying strategic measures "on the ground" or via higher-level interventions need to be further developed. (INI, RES)



Figure 4: Third Party Audit of an artisanal mine site.

Challenge 4: Mineral extraction under various legal settings and problems of cost recovery

Where regulations in the extractive sector are less comprehensive or weakly enforced, voluntary efforts of companies with regards to sustainability standards can result in a competitive disadvantage. Industry stakeholders often point out the lack of a level playing field for mining and manufacturing companies and the difficulty of recovering the costs related to voluntary systems. For mining companies this is especially challenging when commodity prices are low and cost pressure is high. Current standards systems show various approaches of incentivizing responsible mining practices and recovering costs from actors along the supply chain and customers, however for most systems this remains a challenge.

Recommendations:

- Enhanced sector-wide as well as societal discussion and research is needed on costs related to more sustainability in mining and mineral supply chains, especially in areas of weak governance, and on effective mechanisms of cost internalization and recovery. Current incentives, like pressure from civil society and shareholders or long-term business strategies taking into account reliable supply or access to finance, need to be analysed and further developed. Lessons-learned from other sectors e.g. agriculture, forestry and textiles, as well as from company supplier programs, should be incorporated. (GOV, RES, IND)
- Bi- and multilateral development cooperation or direct industry-development-partnerships with up- and downstream industries can help create stronger institutions and support good governance in addition to or in collaboration with the work of standards systems. Strengthening control mechanisms of authorities can ultimately reduce due diligence efforts and costs. (GOV, INI, IND)

OUTLOOK

Sustainability standards systems for mining and mineral supply chains have evolved as widespread models for demanding and demonstrating good practice in the minerals and manufacturing sector. The current efforts towards harmonization and mutual acknowledgement of standards systems are a crucial step towards a common understanding in the sector across various jurisdictions and along different commodity supply chains. They also enhance wider acceptance and uptake. However, more needs to be done to increase the impact on sustainability performance as well as the systems' contribution to improve governance in mineral producing countries. Looking forward, the implications of systems for commodity markets remain to be seen, be it through diversifying products according to sustainability requirements or admission requirements e.g. those already set by some stock exchanges. In the future, more governments especially from producing countries as well as local actors need to get involved for mutual learning on fostering sustainability standards systems in the mining sector.

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RECOMMENDATIONS FOR FURTHER READING

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