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Advancing Responsible Sourcing in Mineral Value Chains

Environmental, Social,
and Economic
Sustainability

Edited by
Masuma Farooki
Alexander Graf
Stefanie Degreif

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Editors

Masuma Farooki
MineHutte
Tunbirdge Wells, UK

Alexander Graf
Vienna University of Economics and
Business
Vienna, Austria

Stefanie Degreif
Oeko-Institut e.V.
Darmstadt, Germany



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PREFACE

The European Green Deal is the European Union's bold ambition to tackle the climate crisis and global environmental degradation. In order to realise this ambition, we need to ensure that the extensive global sourcing and consumption of raw materials required for the green transition is based on sustainability principles and practices. Global supply chains are the backbone of today's economy and improving responsible business conduct within them is key to a more sustainable and equal future. Much of the value created in these supply chains is distributed unevenly, often benefitting wealthy societies at the cost of severe environmental and social impacts in mineral producer countries: child and forced labour, dangerous working conditions, unfair wages, pollution, environmental disasters and more.

This book is the result of a four-year multi-stakeholder exchange process with multi-national companies, policy makers, think tanks and civil society organisations both in Europe and globally. The authors complement this approach with a comprehensive research endeavour covering innovative business cases as well as recent political developments. In doing so, it captures the immensely dynamic and fast-moving discourse on responsible sourcing in Europe and worldwide to drive change towards more equal cost-benefit sharing.

A team of 35 international experts representing 12 European and international organisations formed the [RE-SOURCING Multi-Stakeholder Platform](#) for Responsible Sourcing in Mineral Value Chains, in particular renewable energy, mobility and electronics. The platform organised a

variety of webinars, workshops, in-person events and other activities. It offers a platform website not only containing all project outputs but also covering a significant array of topics, references to external sources, etc.

It is both the project team's ambition and hope that together, we have been significantly advancing the responsible sourcing agenda globally and inclusively through awareness raising and advocacy, research, knowledge exchange and peer learning.

The authors hope that this book is not only an inspiration but remains also critical wherever needed. It is intended to be thought-provoking for practitioners and scholars to draw lessons for their work: How companies can meaningfully engage with their supply chain partners, moving away from mere compliance, reporting exercises and risk aversion towards mutual and inclusive benefits that improve working conditions, livelihoods and respect the integrity of the environment; for civil society to watch corporate misconduct, and inform and support all involved stakeholders in the implementation of responsible sourcing; for policy makers to understand the intricacies, power dynamics and trade-offs of responsible sourcing to create an enabling legislative framework without disadvantaging or leaving anyone behind; and for all involved stakeholders to engage in mutual exchange for continued learning and improvement.

As mentioned above, the RE-SOURCING project and its results form the basis of this book and are the collective effort of all project partners. More concrete information about contributions can be found in the section on Acknowledgements. In addition, the RE-SOURCING team thanks everyone who supported, followed and participated in the project.

Tunbirdge Wells, UK
Vienna, Austria
Darmstadt, Germany

Masuma Farooki
Alexander Graf
Stefanie Degreif

ACKNOWLEDGEMENTS

This report is based on the work of the project team of the [RE-SOURCING Project](#) that was conducted over the course of four years (November 2019 to October 2023). The authors would like to acknowledge their contribution in generating the information summarised in this document.

It reflects the research and engagements organised by sector leads of the project: Marie-Theres Kügerl and Michael Tost at Montanuniversität Leoben (Renewable Energy), Stefanie Degreif, Johannes Betz and Hannah Bachmann at Oeko-Institut (Mobility), Alejandro Gonzalez, Irene Schipper and Miles Litvinoff at Stichting Onderzoek Multinationale Ondernemingen (Electronics).

Engagements outside the sector specific workshops and consultations were undertaken under Global Advocacy Forums. These reflect the engagements and workshops organised by the efforts of Shahrzad Manoochehri, Emanuele DiFrancesco and Mathias Schluep from The World Resources Forum Association (WRFA). For Latin America, the engagement effort was led by Iris Wunderlich and Christoph Meyer (AHK Business Centre/“CAMCHAL”), for Africa by Andrew van Zyl and Lisl Pullinger (SRK Consulting South Africa) and for China by Andrew van Zyl and Pengfei Xiao (SRK Consulting China).

Moreover, this work reflects the rich discourse of panel discussions at the RE-SOURCING conferences and webinars hosted over the past four years. These reflect the efforts of Alexander Graf, Andreas Endl, Noe Barriere and their team at the Institute for Managing Sustainability at the Vienna University of Economics and Business (Austria).

We would also gratefully acknowledge the contribution to discussions, networking connections and reviews over the course of the project from Jan Rosenkranz (Luleå University of Technology), Patrick Nadoll and Esther Laabs (EIT Raw Materials), Tobias Kind-Rieper and Moritz Kramer (WWF, Germany) and Karin Robam and Veiko Karu (Tallinn University of Technology).

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**Institute for Managing Sustainability, Vienna
University of Business and Economics**
(Coordinator)
Austria
www.wu.ac.at



OEKO-Institut E.V.
Germany
www.oeko.de



World Resources Forum Association
Switzerland
www.wrforum.org



Montanuniversität Leoben
Austria
www.unileoben.ac.at



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NOTES ON CONTRIBUTORS

Stefanie Degreif is a senior researcher and deputy head of the division of resources and transport at Oeko-Institut e.V, Darmstadt, Germany. Her thematic focus is on environmental and social impacts in the primary production and in the raw material supply chains.

Emanuele Di Francesco is communications manager at the World Resources Forum Association, where he focuses on the responsible sourcing of primary and secondary resources, with a distinct attention to economic development and socio-cultural issues.

Andreas Endl, PhD, works as a project manager and senior research fellow at the Institute for Managing Sustainability, Vienna University of Economics and Business. Through his many years of work in EU and international projects, he has gained extensive experience in policy analysis in the resources sector, the application of sustainable development and the design of workshop-based stakeholder and peer-learning processes.

Masuma Farooki is a development economist working on corporate social responsibility issues, within the wider sustainability agenda. She is the Consulting Director at MineHuttenberg, focusing on the implementation of responsible business practices in the global mining industry.

Alexander Graf is a senior project manager at the Institute for Managing Sustainability, Vienna University of Economics and Business, and senior consultant at Kumi Consulting. His work focuses on raw materials strategy and responsible sourcing at the interface of global value chains and EU national and regional regulatory efforts.

Shahrzad Manoochehri is the Programme Director at the World Resources Forum Association. As a geologist, her primary focus lies in advancing responsible sourcing practices and improving environmental, social and governance conditions in the global raw materials supply chains.

Mathias Schluep is the Managing Director at the World Resources Forum Association. He is a sustainability professional with a distinct focus on responsible resource extraction, circular economy strategies, the sustainable management of secondary raw materials and global resource policies.

ABBREVIATIONS

ADB	African Development Bank
AMDC	African Mineral Development Centre
ARM	Alliance for Responsible Mining
ASM	Artisanal and Small-Scale Mining
ATFA	African Tax Administration Forum
AU	African Union
CAHRA	Conflict Affected and High-Risk Areas
CCCMC	China Chamber of Commerce of Metals, Minerals and Chemicals
CRM	Critical Raw Materials
CRMA	Critical Raw Materials Act
CSO	Civil Society Organisations
CSR	Corporate Social Responsibility
DRC	Democratic Republic of Congo
ECLAC	Economic Commission for Latin America and the Caribbean
EEE	Electrical and Electronic Equipment
EHS	Environment, Health and Safety
EIB	European Investment Bank
EoL	End-of-Life
EPR	Extended Producer Responsibility
ESG	Environmental, Social and Governance
GHG	Greenhouse Gas Emissions
GIIP	Good International Industry Practice
GRI	Global Reporting Initiative
HREDD	Human Rights and Environmental Due Diligence
ICC	International Chamber of Commerce
ICMM	International Council on Mining and Metals
IEA	International Energy Agency

IFC	International Finance Cooperation
IFRS	International Financial Reporting Standards
IGF	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
IIED	International Institute for Environment and Development
ILO	International Labour Organization
IRENA	International Renewable Energy Agency
IRMA	Initiative for Responsible Mining Assurance
ISO	International Standards Organisation
JSE	Johannesburg Stock Exchange
LCA	Life Cycle Assessment
LME	London Metals Exchange
LSM	Large-Scale Mining
MNE	Multi-National Enterprises
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
PV	Photovoltaics
RBA	Rights-Based Approach
RE	Renewable Energy
RMAP	Responsible Minerals Assurance Process
RS	Responsible Sourcing
SADC	South African Development Community
SDGs	Sustainable Development Goals
SLO	Social Licence to Operate
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UN	United Nations
WECD	World Commission on Environment and Development
WEEE	Waste Electrical and Electronic Equipment

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The Evolution of Responsible Sourcing

Masuma Farooki

Abstract This chapter explores the evolution of responsible sourcing in mineral supply chains, given the precedence of negative environmental, social, and economic rights that have been part of our global extractive history. It tracks the evolution of concepts of sustainability from a siloed approach to the trade-offs involved in weak and strong sustainability approaches. The chapter introduces the RE-SOURCING Project’s definition of Responsible Sourcing, based on four years of research and consultations. Taking a rights-based approach, it addresses the responsibilities of duty-bearers to the rights-holders. The definition reflects the societal need to change behaviours within mineral supply chains, requiring a halt to negative impacts but also stressing the need to create positive outcomes from operations. The challenges within environmental, social, economic, and governance landscapes are outlined, and the efforts to address these challenges are summarised. The chapter sets out the analytical framework, explored in greater depth in other chapters, addressing how the need to secure a sustainable future translated into a need for changing codes of behaviour in governance, supply chains, financial valuation, and engineering and production methods. A host of guidelines, standards, and

M. Farooki (✉)
MineHutte, Tunbirdge Wells, UK

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legislation have pushed for changes in how the private and public sectors operate, contributing to securing a sustainable future.

Keywords Mineral supply chains • Rights-based approach • Sustainability framework

The history of civilisation is interwoven with mankind's ability to use minerals—the Stone Age progressed to the Bronze Age when humans advanced in metalworking and fashioned tools from bronze, copper, and tin alloys. The Iron Age, with the knowledge to heat and forge iron, paved the way for advances in architecture and agriculture. The Industrial Revolution (1750–1850) in the United Kingdom (UK) relied on minerals: Coal to generate energy for steam locomotives and ships; steam engines in mills; coke for blast furnace production of iron and other metals; iron ore for tools, machines, and infrastructure; copper for electrical engineering. The California Gold Rush (1848–1852) was at its time one of the largest migratory events in the United States of America (USA) and the impetus for the cross-country railroad line. Minerals provided the underpinning for advancements in agriculture, manufacturing, and infrastructure.

The relationship between mankind and minerals, from extraction to their use, has also been a controversial one. In the UK, coal mining was undertaken under abysmal working conditions. The Gold Rush in the USA led to severe environmental impacts and water degradation. Natural resource extraction (including minerals) was part of the colonial strategy: the Spanish conquests in Latin America focused on gold whilst Belgian, Portuguese, and British colonisation extracted gold, diamonds, and other minerals in Africa and Asia. These actions led to the displacement and eradication of Indigenous and Aboriginal People and human rights atrocities across Asia, Australia, and Latin America.

Such negative environmental, social, and human rights impacts are not limited to the preceding centuries. Today, mining operations continue to damage ecosystems and violate human and labour rights. Local communities bear the largest share of negative impacts of mining activity and manufacturing operations. Many resource-rich developing countries fail to capitalise on the benefits of their natural resource wealth or even suffer because of it. The “resource curse” remains a challenge for many.

In 1998, nine international mining companies set up the Global Mining Initiative to understand and change their operations to meet societal expectations. This was a response to internal as well as external pressures. Companies were increasingly facing community discord, often accompanied by: Violent incidents such as community protests and blockades of mine access roads; opposition to planned construction of mining projects; and corruption and bribery accusations. Companies faced threats of mining projects being nationalised by host governments and targeted campaigns focusing on their treatment of their workers. The reputational damage from these issues risked impacting their share prices.

Around the same decade, international policy (and politics) was increasingly focusing on securing a sustainable future for mankind and acknowledging that continued damage to the environment would be detrimental to all. Successive global summits—from the United Nations’ “Earth Summit” in Rio de Janeiro (1992) to the Paris Climate Accords (2015)—focused on global targets for the better governance and management of the planet’s resources (Bacchetta 2023).

In the same period, consumer awareness and citizenship advocacy also began to push for greater adherence to sustainable public policies, with the environmental agenda becoming an important political topic. Some businesses and investors, first gradually and then in increasing numbers, began to focus on the sustainable sourcing practices within their supply chains. For governments, corruption and bribery in the extractive sector were identified as major issues to be tackled (Bhattacharyya and Hodler 2010). There was a collective, although not coordinated, movement to change operating behaviours in the extractive sector and mineral supply chains.

The initial push for better codes of behaviour originated from several actors. These included the United Nations (UN) working towards more responsible business practices across the globe through the establishment of the UN Global Compact and the UN Guiding Principles for Business and Human Rights (UNGPs), as well as the work of agencies such as the UN Environment Programme (UNEP) and UN Development Programme (UNDP). The World Bank and the International Finance Cooperation (IFC) set out performance standards for sustainable practices. The International Labour Organisation (ILO) continued its push for workers’ rights and protection. Likewise, the Organisation for Economic Co-operation and Development (OECD) began consulting and publishing guidelines for companies, such as the OECD Guidelines for

Multinational Enterprises (MNEs), and guidance on due diligence to manage human rights risks arising from mineral extraction in conflict zones. The Extractive Industries Transparency Initiative (EITI) was created to tackle corruption risks in the extractive sector. Financial institutions signed up to the Equator Principles. Civil society actors, at local, national, and international levels, increased their advocacy efforts, bringing to light some of the worst incidents in mineral supply chains. These efforts initially began as guidelines, evolving to standards and eventually, some took the form of legislation (Kolk 2010).

The drive towards more responsible sourcing (RS) was not exclusive to mineral extraction. The devastating impact of irresponsible and unsustainable production of goods and services was being flagged by academic research on environmental degradation and the toll on human rights by civil society and the media for many industrial sectors. Together, these campaigns and developments led to a dramatic increase in the global awareness of the role of supply chains in managing sustainability. Consumers and citizens grew aware of different actors in supply chains and their ability to leverage each other's actions, and consequently the importance of this relationship in implementing responsible business practices.

Today, the relationship between the advancement of mankind and the use of minerals continues to be entwined, with the ambition to learn from previous mistakes and create a sustainable future that leaves no one behind: The Global South will continue to require raw materials for its development, even as it makes the energy transition. The Global North, while shifting towards more green economies, will require materials for its transition. The green transition, including the shift to renewable energy, is heavily dependent on the consumption of minerals (IEA 2021). However, the resulting negative impacts on ecosystems, human rights, and economic inequality are no longer acceptable. The mining sector and the supply chains it participates in are firmly pushing towards becoming more responsible in their operations, with sustainable practices as a core objective.

In this chapter, we outline the framework to understand what is driving RS in mineral supply chains, its expected beneficiaries, and the tools being deployed. Before advancing further, it is important to first define the terminology and methodology underpinning this work.

1 CONCEPT OF SUSTAINABILITY AND RESPONSIBLE SOURCING

Sustainability: In 1987, the World Commission on Environment and Development (WCED) introduced the concept of sustainable development on the international political agenda as: “Meeting the needs of the present without compromising the ability of the future generations to meet their own needs” (WCED 1987). Often referred to as the Brundtland Commission report, it offered the first coherent definition of sustainable development. The drafting of the UN Sustainable Development Goals (SDGs) in 2012, provided a global consensus on the urgency and importance of providing a high quality of life that is equitably shared and within global ecological boundaries (Costanza et al. 2014; Sachs et al. 2021). While the operationalisation of sustainable development in business and policy continues to evolve, the current discourse on sustainability has expanded to outlining key principles such as planetary boundaries and participatory and deliberative approaches. It is addressing key underlying assumptions, such as the integration of human development and ecological boundary dimensions.

The definition as set under the Brundtland Commission is extensively used as the reference or foundation by others to define sustainable development. For example, the European Union (EU) considers sustainable development to mean meeting the needs of the present whilst ensuring future generations can meet their own needs (European Commission n.d.). The National Environmental Policy Act (1969) of the USA refers to sustainable development as the policy “to create and maintain conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations” (USA EPA 2019).

The International Standards Organisation (ISO) definition reflects the same language: “The state of the global systems, which includes environmental, social and economic subsystems, in which the needs of the present are met without compromising the ability of future generations to meet their own needs” (ISO n.d.).

In current literature, most sustainable development discussions use the UN SDG framework as their primary reference before addressing/focusing on specific sustainability issues. Sustainable development often refers

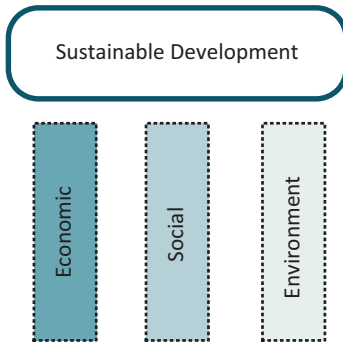
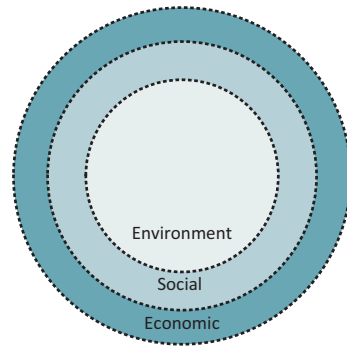
Three pillars for sustainable development**Nested circles for sustainable development**

Fig. 1.1 Approaches to define sustainable development

to three pillars: environmental stewardship, social inclusion, and economic growth. Initially, the three pillars were presented together to imply balance between them (Fig. 1.1). However, scholars and practitioners criticised its conceptual simplicity as being misleading, since different perspectives (e.g. human development centred versus ecological boundaries), as well as dependencies among them, were not addressed.

A more nuanced conceptualisation resulted in the nested model approach (Fig. 1.1) which was more sympathetic to integration of the three factors. The nested circles do not imply hierarchy, i.e. economic issues are not understood as more important than social or environmental issues. The nested circles only imply the interdependence of these spheres. The nested model still faced limitations, including the inability to break boundaries between the three circles that would allow for the merging of society and economy into human well-being or human capital.

This was addressed under the concept of planetary boundaries, which consisted of nine thresholds within which humanity may act in a safe manner without causing catastrophic environmental change. The nine defined planetary boundaries are: climate change, stratospheric ozone, biogeochemical nitrogen cycle, phosphorus cycle, global freshwater use, land system change, rate of biological diversity loss, chemical pollution, and atmospheric aerosol loading. For the last two boundaries, no suitable threshold has yet been identified (Rockström 2009).

Another sustainability approach discusses the concept of weak and strong sustainability for mineral resources (Dietz and Neumayer 2007; Tost et al. 2018). This refers to the concept of interchangeability of human capital with natural capital. For example, human capital such as infrastructure and energy production can be developed at the cost of depleting natural capital (such as water and clean air)—but this is weak sustainability. Strong sustainability argues that natural capital cannot be completely substituted by manufactured capital. Therefore, certain human actions can entail irreversible consequences (Pelenc 2015).

Responsible Sourcing (RS): RS is a contributory factor to sustainable development as well as economic growth and focuses on the behaviour of firms and their operations. Although there is yet no common definition and operationalisation of RS (Farooki 2020), several organisations (business, civil society organisations (CSOs), policymakers) and academic discourses formulate diverse definitions depending on whether the focus is on management of Environmental, Social and Governance (ESG) impacts, supply chain management including responsible purchasing practices, or transparency and due diligence (Kügerl et al. 2023). Brink et al. (2019), finding no concrete definition in the raw materials sector, offer: “The management of social, environmental and/or economic sustainability in the supply chain through production data.” This strictly process-oriented definition—as opposed to more impact-focused renditions (examples see below)—combines two important dimensions of RS: (1) the management of organisations and supply chains through supplier monitoring and (2) development and production of data and information on production location and processes.

The British Standards Institution defines RS as “the management of sustainable development in the provision or procurement of a product” (BRE 2016). The International Chamber of Commerce defines RS as “... a voluntary commitment by companies to take into account social and environmental considerations when managing their relationships with suppliers” (ICC 2008). The ISO 20400 (2017) Guidance on Sustainable Procurement defines sustainable procurement as “... the process of making purchasing decisions that meet an organization’s needs for goods and services in a way that benefits not only the organization but society as a whole, while minimizing its impact on the environment. This is achieved by ensuring that the working conditions of its suppliers’ employees are

decent, the products or services purchased are sustainable, where possible, and that socioeconomic issues, such as inequality and poverty, are addressed” (ISO n.d.).

In understanding RS, the RE-SOURCING Project focused on two aspects: (1) the management techniques employed by organisations to implement RS practices (such as company code of ethics, operations, labour policy, environmental policy, supplier development, etc.) and (2) on processes providing data that assist with RS (such as mapping supply chains, use of technology for establishing mineral provenance, due diligence schemes, use of certification schemes, etc.).

The RE-SOURCING project specified these processual aspects with a clearer view of impact and needs-based local prioritisation. Based on our research and consultations with stakeholders, we define RS in mineral supply chains as “... a process where duty-bearers ensure policies, processes and compliance mechanisms exist to deliver the environmental, social, and economic rights, as prioritised by stakeholders who are impacted by the activities within a mineral supply chain” (Farooki 2023).

Both sustainable development and RS are evolving concepts, they continue to be improved as stakeholders identify the negative impacts of the operations in mineral supply chains and how these need to be curtailed and mitigated to create net-zero or even net-positive results. The management of impacts is considered under environmental, social, economic, and governance factors, with an understanding that these are interdependent and changes in one are often derived from changes in the other. Therefore, they need to be collectively addressed rather than considered under a silo approach.

Mineral supply chains: A *supply chain* represents the flow of minerals in the provisioning system of mineral products and consecutive production of goods and services. Mapping a supply chain does not typically consider the power relations that exist between the firms in a chain. In contrast, a *value chain* notes where “value” is created along the supply chain—which firms have the power of design, governance, standard setting, procurement guidelines, auditing control, financial control, etc. The research under the RE-SOURCING Project used both concepts, the supply chain to identify key actors and the value chain to understand power and influence. The included actors are:

- Upstream actors: Refers to the extraction process and includes exploration, mining, and processing and intermediary and export of minerals. Smelters and refineries are included in this segment of the chain.
- Downstream actors: Refers to (re)import, semi-fabrication, material conversion, and manufacturing and assembly.
- Use/re-use phase actors: Wholesale and retail, waste collection, and recycling/smelting are included as a third segment, allowing for an evaluation of RS practices specific to the recycling node of the chain.

Approaches, initiatives, and practices: These represent different ways in which stakeholders implement RS approaches, which come in many shapes and forms: guidelines, initiatives, standards, reporting requirements, advocacy campaigns, due diligence exercises, government policies, and business strategies. For ease of purpose, we use RS approaches as an all-encompassing term for the set of actions addressing RS.

Having outlined how the Project considers RS and mineral supply chains, the next section moves to the purpose of RS—the negative impacts and operational behaviours RS addresses and seeks to transform.

2 BEHAVIOURS REQUIRING CHANGE

The negative legacy of mining reads of multiple failings in the environmental, social, economic, and governance spheres. These challenges continue to plague mineral supply chains today and the operating behaviours that lead to them require change. A summary of the key challenges identified under the RE-SOURCING Project, being tackled by RS approaches, is provided here (Fig. 1.2). The issues are categorised under environmental, social, and economic factors for ease of drafting only. These are inter-linked and impact each other.

2.1 *Environment Issues*

Environmental issues relate to impacts on communities and citizens in countries where minerals are extracted; impact of emissions and pollution from operations; and the environmental impact of recycling activities as well as disposal (end-of-life of product or waste). The main environmental challenges are summarised here:

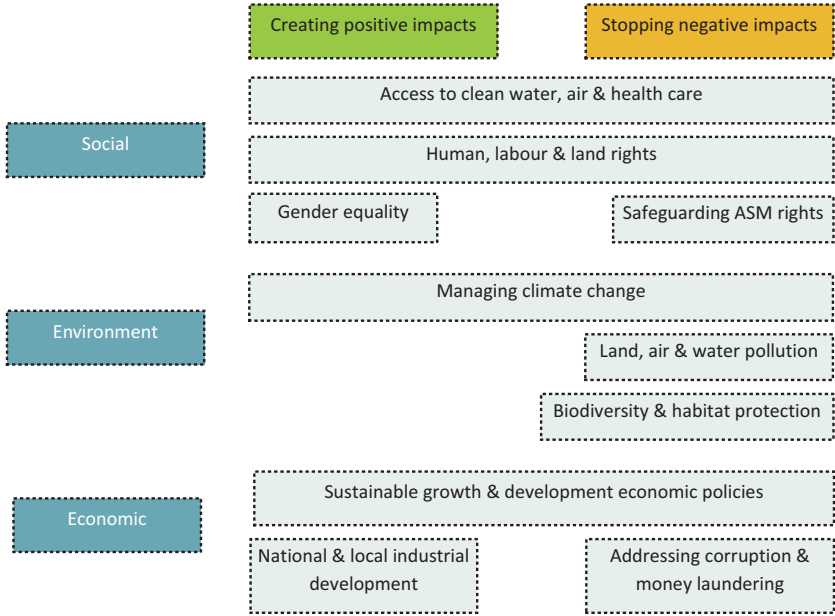


Fig. 1.2 Creating positive behaviours and discontinuing negative impacts. For a more detailed analysis of challenges, please see Degreif and Betz (2022), González and Schipper (2021), and Kügerl and Farooki (2021)

Biodiversity and habitat protection: Activities across the mineral supply chain impact the biodiversity of the region of operations. These include the direct impacts of chemicals and physical waste, chemical waste discharge, and indirect impacts from mineral supply chain associated infrastructure and human habitation. These are often cumulative impacts negatively impacting the habitats of flora and fauna, human culture, livelihoods, and quality of life.

Curtailling land, air, and water pollution: Operations across mineral supply chains have led to the decline or destruction in the quality of land. This includes air pollution from operations, which is not limited to greenhouse gas (GHG), water pollution including acid mine drainage, heavy metal contamination, pollution from processing chemicals, erosion and sedimentations, and suspended matter. RS approaches require such pollutions to be curtailed as they have cumulative impacts on wider ecosystems and community health.

Managing climate change: Climate change refers to the long-term shifts in temperatures and weather patterns across the planet and has been mainly associated with global GHG emissions. In the short-term, it is generally connected to achieving the Paris Agreement (2015) goal of holding the increase in global average temperatures well below 2 °C. For mineral supply chains, the net impacts of their operations need to be considered, acknowledging that, while they make positive contributions to managing climate change (such as expanding the use of renewable energy and e-mobility), it should not detract from their negative environmental impacts at extraction or recycling stages.

2.2 *Social Issue*

The social challenges raised by the operations of mineral supply chains impact how people live and work. The major challenges include:

Access to clean water, air, and health care: Usually considered as a part of the Social Licence to Operate (SLO), RS approaches advocate for benefits to accrue to local communities in close vicinity of operations and therefore directly impacted. This includes creating and maintaining access to clean water, air, and health care services.

Gender equality: This refers to the importance of using the “gender lens” in viewing the impact of operations on women in communities and societies. These challenges include gender representation in employment and access to decision-making at all levels of operations.

Human rights: Human rights cover civil, cultural, economic, political, and social rights and within mineral supply chains include rights of workers, communities, and human-rights defenders. The challenges emphasise protecting the right of freedom from violence, conflict, harassment, and coercion.

Respecting land rights: Protection of land rights is separated from human rights to emphasise their importance, particularly those that address the treatment of Indigenous People and their ancestral land.

Labour rights: Labour rights are mentioned separately from human rights to emphasise the importance of protecting workers, whether employed directly or through sub-contractors by an organisation. Labour rights include the right to decent work and decent work and respect from employers, as well as the payment of fair wages. It also addresses the importance of providing safe working conditions for workers and for

communities that may be impacted by the operations along the mineral supply chain.

Safeguarding the Artisanal and Small-Scale Miners (ASM): The ASM sector faces unsafe working conditions, child labour, lack of fair pricing by traders, and in some cases violence. Excluding ASM from mineral supply chains is not a viable solution, as it leads to further deterioration of the rights of artisanal miners who depend on it for their livelihoods. Safeguarding and improving the social and economic rights of the ASM sector is a major challenge.

2.3 *Economic Issues*

Economic issues are heavily interwoven with realising other human rights such as adequate sustenance, housing, education, health, and employment. The main economic challenges include:

Addressing corruption and money laundering: Corruption and money laundering have been a major challenge in mineral supply chains. Often, mineral revenues have been used for fuelling conflict and violence and not for the betterment of the citizens of resource-rich developing countries.

Promoting sustainable growth and development: RS needs to address the wider sustainable development agenda and the importance of changing consumption patterns to use fewer natural resources and emphasise the importance of more sustainable production processes. This requires supportive government policies and planning.

Enabling national/local industrial development: Aimed at addressing the state of resource-rich developing countries, these challenges work towards improving the economic contribution of mineral supply chains where they begin (extraction) or where they end (recycling or waste disposal). They address issues such as increasing local procurement and employment opportunities and setting up higher value-added activities in developing countries.

While this summary list of environmental, social, and economic issues is comprehensive, it is by no means exhaustive. More issues and challenges continue to be added and their prevalence is highly specific on the geographic as well as socio-economic context. The provided overview highlights major challenges, and hence behaviours, most referenced in internationally recognised research and reference frameworks, that RS approaches are attempting to change.

The following three points are to be noted for this summary: First, environmental, social, economic, and governance impacts can be experienced at any stage of the mineral supply chain, although they tend to occur mostly at the extractive stage. The impacts are noted in the transport, manufacturing, and (non-)disposal of mineral-based products. Second, these impacts are not limited to developing resource-producing countries; they also occur in developed economies. It is how operating companies prepare and mitigate their operations, and how governments monitor and enforce their mining, environmental, and waste regulations that determine the extent of the detrimental impacts created.

3 DRIVING CHANGE IN BEHAVIOUR

In 1998, on the tenth anniversary of the Rio Earth Summit, nine of the largest mining companies came together to understand the societal challenges arising from their operations and how to address them. To create meaningful change in their industry, the Global Mining Initiative was created to assess and consult on how to improve the impacts created by the industry. The resulting Mining, Minerals and Sustainable Development Project (2000–2002) was the first extensive research and consultation project undertaken to formalise the responsibilities of and societal expectations from the mining industry (MMSD 2002).

Since then, a plethora of guidelines, standards, assessment and certification schemes, regulations, and legislations have emerged, addressing RS in mineral supply chains (see Box 1.1 for examples). These initiatives are led by actors from the industry, civil society, financial institutions, and international development institutions (Erdmann and Franken 2022). The responsible practices under consideration have expanded in scope, with standards and guidelines covering the behaviour of mid-stream and downstream actors in addition to upstream actors. In Europe and other countries, the voluntary measures have begun to be incorporated into legislation and regulations (Franken and Schütte 2022).

The RS approaches incorporated one or more methods to assist companies in understanding and diagnosing their commitments, operations, and strategies for sustainable corporate behaviour. At the same time, these approaches promoted transparency of company operations for other stakeholders, such as communities, regulators and governments, clients and consumers, and investors.

Box 1.1 Illustrative Examples of Responsible Sourcing Standards and Schemes

All-encompassing frameworks: International Council on Metals and Minerals (ICMM) Mining Principles responding to social expectations from the industry. The performance expectations and position statements outline the requirement of good practices on the environment, social, and governance indicators by ICMM members.

Due diligence approaches: The [OECD Due Diligence Guidance for Responsible Mineral Supply Chains](#) of minerals from conflict-affected and high-risk areas can be regarded as the first internationally accepted approach for due diligence specifically in mineral supply chains. Although originally focused on the risks of sourcing from conflict-affected and high-risk areas (CAHRAs), its use has since expanded. The OECD has also published more general guidance, such as the [OECD Due Diligence Guidance for Responsible Business Conduct \(RBC\)](#). Together, they are referenced as the foundation for many current and upcoming regulations and national legislation for responsible management of supply chains.

Reporting-based approaches: The [Global Reporting Initiative \(GRI\)](#) has been designed to report on the underlying question of how an organisation contributes or aims to contribute in the future, to the improvement or deterioration of economic, environmental, and social conditions at the local, regional, or global level.

Audit-based approaches: The [Initiative for Responsible Mining Assurance \(IRMA\)](#) offers a third-party assessment of mine sites, that is inclusive of multiple stakeholders, to ascertain the responsible mining practices being undertaken.

Government Directives: European Union Directives on Conflict Minerals; Non-Financial Reporting; Battery Regulation, upcoming Corporate Sustainability Due Diligence, and Critical Raw Materials Act all address various aspects of sustainable development along mineral supply chains entering the EU markets.

Regulations: London Metals Exchange (LME) Responsible Sourcing Requirements, set as a regulatory requirement for its members, is a compliance policy to ensure a level playing field for clients using the LME warehouse. Given the status of the LME in the global metal trading system, this private regulation impacts several of the largest producers and consumers of metals.

The multitude of RS approaches developed has been a positive step in addressing the societal expectations from actors in the mineral supply chain. However, these approaches often have differing assessment criteria and applicability, often leaving companies and stakeholders struggling to identify what is required of them (PwC 2017). At the same time, human rights violations and severe environmental impacts remain persistent in businesses (UN HRC 2020). Given what is seen as a lack of progress from the corporate world taking up RS practices, some RS approaches have been heavily criticised (Bonnitcha and McCorquodale 2017). Some are considered inadequate and insufficient due to their voluntary requirements for compliance.

There are several reasons for the slow uptake and performance of RS approaches themselves. This stems from the diversity of the stakeholders involved and impacted by mineral supply chains. Mining companies are operated by the private sector as well as state-owned enterprises. They operate in jurisdictions with stringent environmental and social legislation (with the capacity to enforce these regulations) as well as countries with weaker legislation or the lack of capacity to monitor and regulate them. The cross-jurisdictional nature of mineral supply chains means that minerals are extracted, refined, manufactured, consumed, recycled, or disposed of as waste in different countries and hence a single supply chain can be subject to a multitude of legislation, as well as socio-economic and cultural contexts.

The power of compliance—between those who are required to follow/take up RS practices and those who define and hold to account this uptake—has a large impact on RS implementation. The need for a level playing field, where all actors are obliged to operate under similar rules, is therefore important. In order to better understand why and how RS approaches may/may not accomplish their goals, the next section provides a rudimentary framework for how the RS ecosystem works.

4 UNDERSTANDING THE RESPONSIBLE SOURCING ECOSYSTEM

Understanding the RS ecosystem may appear to be a gargantuan task, with many approaches, entities, actors, and systems involved in developing and implementing these approaches. To understand the main narrative that flows through the RS landscape, it is helpful to visualise how these various streams interact (Fig. 1.3).

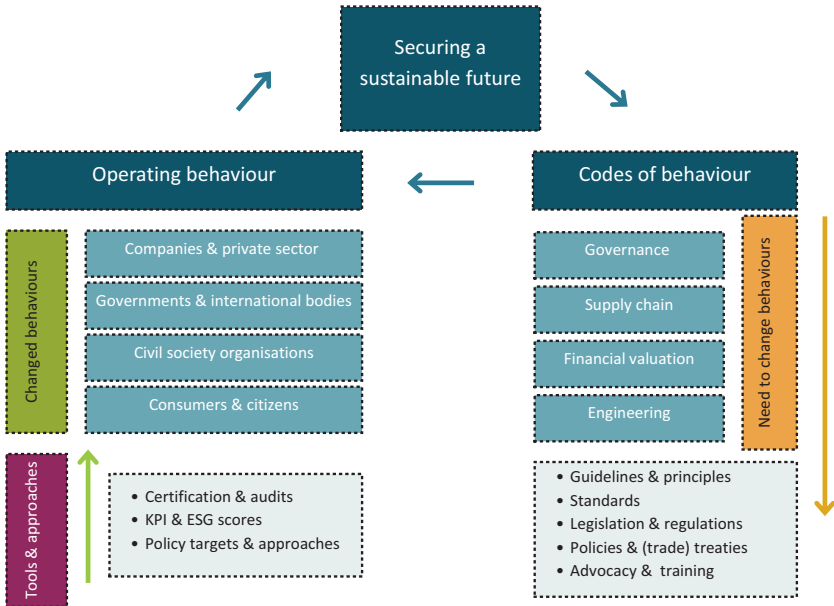


Fig. 1.3 Understanding the responsible sourcing context

We start with the fundamental objective of all stakeholders, which is to secure a sustainable future, acknowledging that the definition of what is sustainable will continue to evolve over time as more scientific and social knowledge is added. To secure a sustainable future requires changes in our current behaviour. Current behaviours, to an extent, are determined by societal expectations. These expectations are normally translated into acceptable codes of behaviour. Within the minerals and related industrial complex, this includes codes of behaviour for: (1) governance; (2) supply chains and procurement practices; (3) the valuation of assets by financial markets; and (4) the engineering and production methods. Codes of behaviour are usually normalised through guidelines and principles, standards, legislation and regulations, public policies, and advocacy and accountability. Therefore, changes to behaviour are brought about by changing the codes that govern them.

The codes of behaviour are enacted by the actors involved, which include (1) corporate and private sector entities; (2) governments and international institutions; (3) consumers and their representatives; and (4)

civil society organisations. To observe that changes are indeed taking place, evidence is provided under voluntary and regulatory assurance mechanisms. These assurance mechanisms include policy commitment and reporting on the implementation of sustainability practices by the company; the use of due diligence processes to identify human-rights violation risks and develop mitigation measures; creating data and measurement indicators to report on company performance on sustainability and chain of custody mechanisms that trace and track minerals within a supply chain. The mechanism measures key performance indicators and assessments against environmental, social, and governance metrics, ascertaining compliance with public policy targets.

Where the system flows well, codes of behaviour change, compliance is verified, and the system progresses towards securing a sustainable future.

RS approaches may consider all or some of the codes of behaviour. Some may focus on supply chain and procurement issues only, whilst others will include elements of governance as well. Some approaches may only focus on creating a desired code of behaviour (such as creating guidelines) whilst others may also incorporate a compliance mechanism (such as a standard that requires third-party auditing).

Therefore, in assessing or understanding an RS approach, the framework requires first identifying what code of behaviour is being addressed, what template is being used to change the code, who the code is directed at and how its impact is being measured.

Over the course of the research and consultations that inform this chapter, one essential element was noted with regard to the need to change behaviours—they are required in multiple areas, and together they support successful progress towards securing a sustainable future. For example, making supply chains operate under more responsible practices has to be accompanied by improvements in governance that focus on delivering human rights. Engineering to make more sustainable products is only feasible when supported by financial markets rewarding environmental impact management and penalising human rights violations. This implies that to be effective, changes to codes of behaviour have to come in all four aspects. Simply addressing one aspect, such as supply chain management, will not address the risks and negative impacts that arise from bad governance. For example, requiring firms to conduct due diligence on their supply chains for the presence of materials mined by artisanal and small-scale miners or child labour is not sufficient. Public policy and governance will also need to be strengthened to ensure children have access to schools and miners are safe from violent and organised criminals.

5 A COMMON DENOMINATOR IN RS APPROACHES

In analysing the objectives and targets of various RS approaches, we identified one common denominator: the need to address the power imbalance between stakeholders in decision-making. Within the context of mineral supply chains, power imbalances can be defined as when a group directly impacted by decisions is unable to meaningfully participate in the decision-making process. For example, when a lead firm decides on selecting a manufacturing process, its decision is informed by government regulations and industry best practices. The government and the industry have influence over the decision. Local communities that may be impacted by the manufacturing process may or may not be able to influence this decision. RS approaches work towards ensuring these communities can have influence by requiring meaningful community engagement and a consent-obtaining process.

Therefore, most RS approaches, at their core address the protection of stakeholders¹ who are disenfranchised within a supply chain. Given the different levels of empowerment and access to redress processes (legal or otherwise), in different countries and contexts, the definition of vulnerable and disenfranchised groups in each supply chain can differ. For example, communities that exist in countries with strong legislation have greater power to challenge companies and government decisions through established systems than communities in weak legislative jurisdictions. In general, vulnerable stakeholders have been identified as follows:

Local communities: The communities within a certain distance (often defined as 10–50 km of mine site) will bear the brunt of the negative environmental, social, and economic impacts of extractive, manufacturing and waste/recycling activity. Indigenous People, in particular, have historically seen their land and livelihood rights being marginalised. Thus, RS approaches tend to have a strong focus on companies obtaining and maintaining an SLO, community consultations, and consent and inclusion in decision-making.

Workers: The history of mining and production has been mired with neglect of worker rights, whether it was in the coal mines in the UK during the industrial revolution or the current plight of workers in the mica industry (González and Schipper 2021). Workers, directly employed or

¹To avoid over complicating this discussion, the authors consider non-human stakeholders, such as flora and fauna, heritage and ancestral sites, and water bodies as stakeholders.

through sub-contractors, have been regularly identified as a vulnerable stakeholder group. Worker rights are often marginalised across mineral supply chains: the right to work in a safe environment, assurance of fair wages, and the right to assemble are under pressure in recycling plants; assembly and manufacturing of electronic equipment and in the extraction of minerals. Worker rights also address the ASM sector, where unsafe working conditions, lack of protective equipment, and child labour expose workers to hazardous conditions.

Therefore, many RS approaches lay out due diligence requirements, standards, and third-party reporting requirements to be met to ensure worker safety and fair economic compensation for their work.

Consumers: While not generally considered as a disenfranchised group, research under the RE-SOURCING Project has considered the rights of consumers in line with consuming responsibly produced products, as well as looking at longer-term considerations of resource efficiency and resource use. RS approaches therefore consider whether: (1) consumers have information on the sustainable provenance of the goods they consume, and (2) if they choose to consume sustainable products, does the market provide adequate choice. Sustainable consumption and sustainable production are two sides of the same coin. However, the scalability of sustainable consumption remains limited until sustainable production is scaled up. RS approaches consider this including, but not limited to, encouraging product longevity, products using recycled materials, products with second life use, and products that use less minerals in their manufacturing. RS approaches encourage Life Cycle Assessment (LCA) business models, considerations for circular economy and recycling and better waste disposal management.

In addressing the power imbalances between actors in mineral supply chains, RS approaches share the following objectives:

- Promoting material inclusivity of vulnerable groups in decisions that impact their environmental, social, and economic rights. This inclusivity not only implies consultations but also transparency in information and data sharing, allowing for better-informed decision-making. These will also include elements of monitoring and evaluation and redress to grievances.
- The internalisation of external costs in public and corporate policies, i.e. companies and other operators should not pass the cost of the negative impacts of their activities (such as pollution and land degra-

dation) on to communities and workers. RS approaches also encourage companies to not pass on the cost of RS compliance to their suppliers, for example, through over-reliance on audits, with the cost to be covered by suppliers, etc.

- Promoting transparency in financial payments and flows. These approaches address corruption and the financing of violence that has often accompanied extractive activity. Transparency in payments to governments, politically exposed individuals, transfer pricing, money laundering, bribery, and corruption in obtaining licences and permits, etc. fall under these schemes. Other RS approaches focus on promoting transparency and reducing information asymmetries about the source origin of resources, as a key determinant to assess and address sustainability risks in the supply chain.

The push for responsible practices across mineral supply chains has come from several primary and secondary stakeholders: mining companies, manufacturers, civil society organisations and rights defenders, investors and financial institutions, international development institutions, and governments, both in the Global North and in the Global South, local communities, and citizens.

The underlying message from these stakeholders is that the industry and its supply chains must incorporate and reflect societal values in their operations and business management. Power imbalances need to be addressed. The corporate behaviour that existed in the preceding centuries is no longer acceptable. More responsible and sustainable practices need to be undertaken and evidenced. Stakeholders need to understand why RS is important for a sustainable future.

RS is aimed at protecting the rights of the most vulnerable: The aim of establishing responsible business conduct in mineral supply chains is to improve livelihoods, working conditions, and respect for human rights of the most vulnerable groups and the environment. Vulnerable groups, in most instances, are defined by the lack of an institutional system that guarantees their rights (e.g. safe working environment). For RS to truly have an impact, the focus needs to shift away from the dominant corporate perspective, where human rights risks have been mainly risks to a company's operation, rather than risks faced by vulnerable rights holders or at-risk groups (Türke 2018).

RS is looking at equitable distribution of benefits and costs: While the due diligence process can facilitate the implementation of RS practices

down the supply chain, it also creates compliance costs. Due diligence processes themselves (to check for irresponsible sourcing practices) have the potential to create additional administrative burden. Flanking measures are necessary (trade and investment finance linked to social and environmental sustainability criteria) for suppliers and producers to respond adequately to RS demands imposed by clients. The same holds true for vulnerable groups that bear most of the costs associated with sourcing and manufacturing practices.

RS is in private and public business interest: Considering the implementation of due diligence procedures and the consequent impact of RS practices down the value chain, several benefits to businesses can be identified: improved processes, reduced costs, increased productivity, innovation, and improvement of societal outcomes. While benefits such as improved process and increased productivity directly transform into cost savings, improvement of societal outcomes indirectly protects a company's reputation and brand value.

6 CONCLUSION

This chapter began by acknowledging the historical role of the minerals sector and progressing civilisation, highlighting the negative impacts of the industry. The need for making mankind's relationship with minerals a sustainable one is urgent. Several RS approaches have been developed and recommended for corporate actors, ranging from due diligence exercises to constant monitoring of workers' rights, from developing national mining policies through a consultative process to regulating the recycling of manufactured products. These pathways differ across mineral supply chains and different countries prioritise different sustainability goals, reflecting their own priorities (Farooki 2023).

Why have RS approaches in mineral supply chains become important? The repercussions of mineral demand and industrialisation are largely being borne by those with little to no economic and political power (Owen et al. 2021). There is little to no societal acceptance of such a state. Therefore, the state must change to address this imbalance. Part of addressing the imbalance comes from restoring the power dynamics between the powerful and the disenfranchised—the duty-bearers and the rights-holders. A second part is that this must be addressed across mineral supply chains—a level playing field must be created. The level playing field implies that all actors have similar rules for operations. This does not

translate as a “minimum” sustainable development standard. It allows frontier firms to advance their RS credentials whilst requiring the laggards to meet the minimum standard. It also implies that those who are capable should, and those who require assistance should be provided support, to do so. It also encapsulates the principle of fair play: No actor should be penalised for implementing RS practices, and similarly, no actor should gain a benefit from non-compliance.

In the remainder of this book, the RE-SOURCING Project shares its research and insights gained over the past four years. In Chap. 2, we outline the political, social, and economic drivers that pushed for RS and the pathways RS approaches have taken to engender change in the operating behaviours. Chapter 3 drills down to specific RS practices undertaken by frontier firms, where through taking ownership of RS thinking, changing business models, and working with CSOs, operational changes in corporate behaviour have resulted. Chapter 4 turns to policymakers and outlines how regulatory and legislative changes have adapted to the demands for RS, attempting to create a set of rules for corporate behaviour. In Chap. 5, we turn to a more global perspective, examining how China and countries in Africa and Latin America consider RS. Concluding in Chap. 6, we emphasise the need to align RS thinking and approaches, not under a single standard or guideline, but under an RS framework, such that when different actors push for RS, they are pushing in the same direction.

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The Political, Economic, and Social Drivers of Responsible Sourcing Standards

*Masuma Farooki, Alexander Graf, Andreas Endl,
and Stefanie Degreif*

Abstract This chapter explores the societal drivers pushing for more responsible sourcing practices and behaviours and the pathways that were adopted to advocate for these changes. Underlying concepts promoting better governance, fair share of value, and securing and protecting the

M. Farooki (✉)
MineHutte, Tunbirdge Wells, UK
e-mail: info@minehutte.com

A. Graf
Vienna University of Economics and Business, Vienna, Austria
e-mail: alex.graf@kumi.consulting

A. Endl
Institute for Managing Sustainability, Vienna University of Economics and
Business, Vienna, Austria
e-mail: andreas.endl@wu.ac.at

S. Degreif
Oeko-Institut e.V., Darmstadt, Germany
e-mail: s.degreif@oeko.de

rights of vulnerable stakeholders resulted in several standards and tools to improve and monitor corporate performance. From sustainability guidelines to certification schemes and eventually legislation, this chapter drills down to the common denominator within these approaches and how they drive more responsible sourcing practices. These approaches included building awareness and increasing transparency around the environmental, social, governance, and economic impacts of operations. Civil society organisations and leading private and public sector actors, through advocacy and collaboration, influenced powerful actors within supply chains to enact change. Advocates provided recommendations for what responsible behaviours and objectives should be undertaken. Others constructed assurance mechanisms to evidence that change has taken place.

Keywords Good governance • Transparency • Value-creation • Assurance mechanism

The publication of the Brundtland Report in 1987, defining sustainability as “meeting the needs of the present without compromising the ability of the future generations to meet their own needs” (Brundtland 1987), was the culmination of decades of efforts to better articulate the impact of humanity on the planet. The report was meant to be cautionary; mankind needed to change their production and consumption behaviour for the sustainability of the planet. Tost et al. (2021) highlight how the definition of sustainable development has expanded since the Brundtland Report. It now includes paradigms focusing on the integration of human society and environmental dimensions; planetary and ecological boundaries to maintain the global bio-physical systems; and participatory and deliberative engagements.

By 2023, the call to change behaviours that supported sustainable development was reflected in multiple responsible sourcing (RS) approaches, largely addressing corporate entities within mineral supply chains. The clamour for more responsible corporate behaviour was being driven by a combination of political, social, and economic drivers, calling for these entities to meet the societal expectations of local communities, workers, consumers, governments, and investors.

In this chapter, we examine how three sets of drivers—political, economic, and social—pushed for changing what was thus far considered as acceptable corporate behaviour in mineral supply chains. The need for

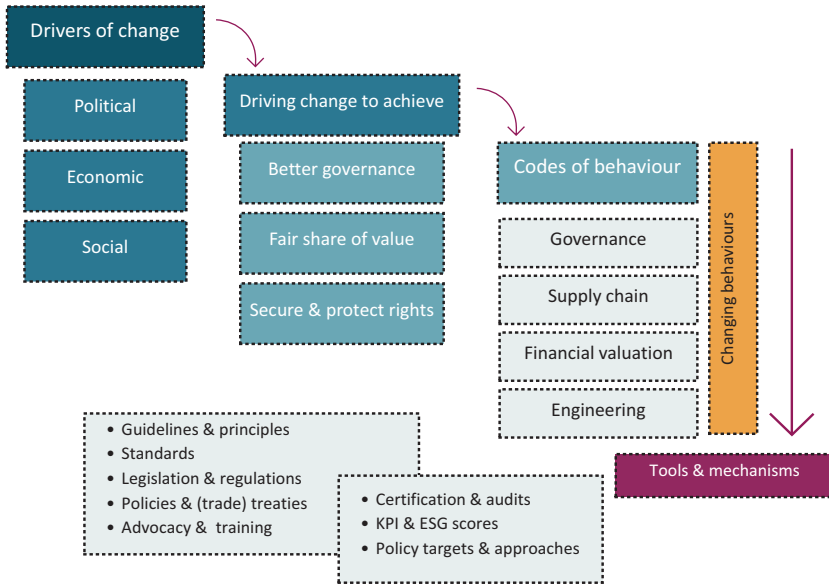


Fig. 2.1 Drivers of change and their impact on codes of behaviour

better governance, fair share of value, and the security and protection of human rights were set out as major objectives for the main actors in mineral supply chains. RS required improvements in the codes of behaviour that oversaw: (1) corporate governance; (2) supply chains and procurement procedures; (3) the valuation of assets by financial markets; and (4) the engineering and production methods used (see Fig. 2.1). RS approaches consulted, drafted, and advocated for these changes through numerous pathways that are discussed in the second half of this chapter.

1 POLITICAL DRIVERS ADDRESSING BETTER GOVERNANCE

Historically, resource-rich developing countries suffered from several negative consequences for their growth and development that could be attributed to their natural resource sector. The recognition of the ‘resource curse’ by Auty (1993) and Sachs and Andrew (2001) discussed these negative aspects that included: lagging economic growth rates compared to their peers; large debt-surplus cycles within government budgets; and appreciation of exchange rates negatively impacting other domestic

industries (Dutch-Disease). Over time, new ‘curses’ have been added to this list. The Natural Resource Governance Institute (NRGI 2015) notes resource dependent countries can suffer from negative impacts on democratic processes; rise in internal (armed) conflicts; limited resource revenue flows (rent capture) to the government; elite capture leading to restrained development of governance institutions; extreme stresses on environmental and social dynamics; and patriarchal cultures that give rise to gender-based challenges. Szablowski and Campbell (2019) note that when extractive interests dominate governance regimes, they can compromise development and protection of human rights.

Reflecting these challenges, the focus of political drivers¹ was on addressing the ‘governance-gap’ linked to the extractive sector. This was largely approached through establishing multi-stakeholder-based initiatives to set up voluntary standards to address challenges at the local, national, and international levels. Fransen (2012) suggests that these initiatives, through consensus-building, are attempting to create a pathway for incremental and stable governance. Governments, international development, and financial institutions have been working to improve governance structures; address the capture of governance reform by the extractive industry (Frederiksen 2019); address the repression and criminalisation of human rights defenders against extractive interests (Huizenga 2019); and protection and respect for Indigenous Peoples Groups (UN Human Rights Council 2018).

To achieve these objectives, RS approaches have focused on improving the capacity of governments to advance the governance of their extractive sectors. For example, the Inter-Governmental Forum (IGF) on Mining, Minerals, Metals and Sustainable Development, with more than 80 member countries, supports governments in developing and implementing better environmental and social impact assessments, environmental management practices, improving mine closure and post-mining transitions, extracting financial benefits through better taxation and fiscal regimes, designing and implementing local content policies, improving and addressing gender equality, and incorporating new technologies in governing their extractive sectors. The Extractive Industries Transparency Initiative (EITI), set up in 2003, works with more than 50 member countries, the extractive industries, and civil society organisations to promote and

¹ Political drivers encompass a range of actors, from politicians to policymakers and policy advocates. They also include academics, researchers, and advocates who seek to influence political discourse.

implement an agreed standard for governance of the extractive sector. The EITI Standard 2023 (EITI 2023) sets out requirements on fiscal transparency and accountability of natural resource revenue flows, as well as addressing environmental and social impact measurements.

There are several similar initiatives, aiming at improved resource governance (for a selection, see Box 2.1). They tend to operate through multi-stakeholder platforms, often funded by the governments from the Global North, with governments from the Global South as members. A common thread noted in these initiatives is to address the power imbalance within mineral supply chains, which have their origins in colonial extractive strategies (Ross 2015). To address this historical legacy, political drivers focus on restoring power and governance capabilities to governments and decreasing their opaque influence on extractive industries (Campbell and Hatcher 2019).

RS approaches addressing governance also consider issues such as land rights and the protection of the livelihoods of communities and Indigenous Peoples Groups, to ensure they do not carry the burden/cost of extractive activities. For engagement with Indigenous Peoples, the Free, Prior, and Informed Consent (FPIC) principles, recognised under the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), are considered crucial by RS approaches. Transparency in how mining licences are awarded and retained; reporting on communities that are displaced due to extractive activities; and the requirement to have community development agreements are noted within many RS approaches and legislation (IIED n.d.).

Box 2.1 Example of Responsible Sourcing Approaches Focusing on Governance Issues

Natural Resource Charter (2014): Developed by the Natural Resource Governance Institute (NRGI) it provides a set of principles for governments with tools and options to avoid the mismanagement of natural resources and provide for sustained returns to its citizens.

European Bank for Reconstruction and Development: The Bank's mining strategy (2018–2022) provides guidance for governments on policy development and issues, such as local sourcing, new

(continued)

Box 2.1 (continued)

technologies and operational efficiency, following EITI principles, energy efficiency and EHS regulations, financial instruments to support development and mitigate market shocks, addressing access to new markets, and mining structure use by local communities and businesses.

ILO Standards: The International Labour Organization (ILO), an agency under the United Nations, broadly seeks to provide a system of international labour standards that support social justice. The standards, policies, and programmes that it develops promote safe and decent work. Labour standards are defined under legally binding ‘conventions’, eight of which are seen as fundamental, as well as certain associated protocols and non-binding recommendations.

Basel Convention: This international agreement addresses the control of transboundary movements of hazardous wastes and their disposal. Lithium-ion batteries at their end of life, for example, fall under the Basel Convention, if they are to be shipped to a different recycling/disposal site.

International Conference on the Great Lakes Region (ICGLR): An inter-governmental organisation of 12 member states, it governs the extraction of conflict minerals. The ICGLR uses a Regional Certification Mechanism to guard against illegal exploitation of natural resources in the Great Lakes Region.

UNEP Minamata Convention on Mercury (2013): The convention seeks a ban on new mercury mines, phasing out existing mines, and reducing and eliminating the use of mercury in products and processes. It also seeks to regulate the use of mercury in the informal/Artisanal and Small-Scale Mining (ASM) gold sector.

EU-Latin American Partnership on Raw Materials: An EU-funded project that aims to move one step further towards integrating strategic industrial value chains for both regions, exploring new business models, and delivering value for society while keeping high environmental and social standards at the core of this partnership.

2 ECONOMIC DRIVERS TO ADDRESS FAIR SHARE OF VALUE

Mineral supply chains create value through extracting and then transforming mineral raw materials. As with any value chain, the greater the degree of transformation, the greater the value. However, specific to the mineral sector, part of the value comes from the raw material resource. The resource is, under most national legislation, considered the responsibility of the government, which manages it on behalf of its citizens. In limited cases, the resource is considered to belong to the landowner. In either case, the actors who own, manage, and transform mineral resources create value. RS approaches note that the disenfranchised groups in this supply chain are often not granted a fair share of the value that they create. This requires equitable sharing of costs and benefits across supply chain and involved actors (including workers, affected communities, etc.).

As noted under the resource curse literature, resource-rich developing countries often suffered from low economic growth compared to their peers and unstable government budgets. The NRGi (2015) notes revenue management and distribution challenges to include finite and volatile resource revenue flows to governments and imbalances in allocating revenues between current and future generations. Combatting corruption and bribery remains a significant impediment for governments to realise their natural resource wealth.

In addition to these national economic challenges, disenfranchised stakeholders within mineral supply chains are not seeing a fair share of economic benefits whilst shouldering the burden of mineral extraction. The Organisation for Economic Co-operation and Development (OECD) research on the challenges facing the well-being of populations in mining regions notes that income inequalities, mismatch of skills for the local workforce, pressures on public services and infrastructure, and the depletion of natural capital (degradation of air, water, and land quality) are often associated with communities around mining regions (OECD 2020). The lack of payment of a living wage and/or fair wages for workers has been documented in several mineral supply chains (Mancini and Sala 2018). Issues such as child and forced labour, hazardous working conditions, and lack of freedom of association are some of the practices noted in the mineral supply chains for the renewable energy (Kügerl and Tost 2021), e-mobility (Betz et al. 2021), and electronics sector (González and Schipper 2021). The underlying narrative common to these challenges is

the power imbalance that allows for an unfair allocation of the costs and benefits resulting from mineral supply chains.

Several RS approaches focus on addressing this inequality and promoting better allocation of resource revenue flows (through fiscal and tax policies) and the payment of fair wages and compensation. Apart from the governmental initiatives discussed in the previous sections, RS approaches focused on increased transparency of financial flows, with the aim of improving the share of value for the disenfranchised and weaker stakeholder groups. The objective was to increase the accountability of governments to deliver on development for their citizens and combat corrupt practices. The EITI has been the leading initiative on reporting and transparency of payments to governments. In 2013, the European Commission introduced disclosure requirements for the extractive sector on payments to governments (European Commission 2013). Similar steps were taken under the Dodd-Frank Act in the United States in 2016 (US SEC 2016).

Requirements for companies to report on the payment of wages, the presence of child or forced labour, and the right of association are commonly present in voluntary RS approaches. The International Council on Minerals and Metals (ICMM) requires its members to report on their contracts with governments (ICMM 2021). The Global Reporting Initiative (GRI 2023) for the mining sector (draft version 2023) requires companies to report on wage rates and gender pay gaps. Similar reporting requirements are noted for other leading RS reporting approaches, such as The Copper Mark (The Copper Mark 2020) and the Initiative for Responsible Mining Assurance (IRMA) Standard (IRMA 2018).

Several developing countries have drafted legislation that now includes local content provisions that set expenditure thresholds for companies to procure goods and services from local firms for their extractive sectors (Korinek and Ramdoo 2017). RS approaches, such as [Mining Shared Value](#), work with companies to develop and operationalise local procurement policies and strategies.

The economic drivers focus on establishing and promoting practices where a fair share of the value generated by the mineral supply chains is allocated to vulnerable stakeholders. This is not to be misinterpreted as charity but to reflect a representative remuneration of their efforts (wages); relinquishing access to land (fees); and compensation for changes to their livelihoods and cultures as a direct result of the mineral supply chain operations (compensation).

3 SOCIAL DRIVERS TO SECURE AND PROTECT RIGHTS

Social and human rights violations have been a critical challenge for the extractive value chain (Kügerl and Tost 2021; Betz et al. 2021; González and Schipper 2021). The litany of these violations ranges from violent suppression of communities and land defenders; pollution and degradation of communities' water, land, and air assets; gender inequality; and lack of meeting labour rights and occupational health and safety rights. Over the past decade, there has been an increasing use of the term Environmental, Social, and Governance (ESG) performance and reporting within voluntary and mandatory approaches to capture this range (Bruce 2014).

The pressure for improved performance on social and human rights is being driven by communities, consumers, and investors. In a 2021 survey, PwC found an overwhelming majority of consumers' and employees' preference for buying and working for companies that share their values on ESG, particularly for companies that go beyond compliance requirements (PwC 2022). The concept of obtaining a Social Licence to Operate, reflecting awareness of the social and economic rights of communities, has become mainstream in extractive operations (Hitch and Barakos 2021). In some cases, the ESG requirements are considered under risk management by companies, as the failure to undertake these considerations can halt or delay projects (Smith and McCormick 2019; Holly and Mitcham 2016). Investors have also joined the push for companies to consider and evidence ESG performance in their operations and supply chain management (Maybee et al. 2023).

RS approaches have taken numerous pathways for pushing for the protection of these rights and usually build on foundational frameworks such as the UNGPs, OECD Responsible Business Conduct Guidelines (2018a), and core ILO conventions. They range from advocacy and awareness-raising (Farooki 2021a) to improving the monitoring and reporting of company performances. In more recent years, as international legislation has changed, companies are being taken to court for the human rights violations resulting from their operations (Kirkpatrick 2021).

One of the more commonly used pathways has been the development of due diligence requirements for companies to ascertain the risk of human rights violations in their supply chains. The OECD's Due Diligence Guidance for Responsible Business Conduct (RBC) including its sector-specific guidelines, in the context of mineral supply chains, most notably

the OECD Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD 2016), is one such example. The OECD guidance is referenced in several regulations and declarations, including the EU Conflict Minerals Regulation, the final rule implementing Section 1502 of the US Dodd-Frank Act, the EU proposal for Mandatory Human Rights Due Diligence, and the EU Batteries Regulation. Many industry actors indicate that their standards and programmes are based on the OECD guidance (OECD 2018b).

The social drivers are the most clearly linked to societal expectations, where campaigns from civil society organisations have brought increased awareness to consumers and investors of the negative impacts of extractive activity. Terms such as ‘blood diamond’ and the hazardous conditions faced by artisanal miners in the DRC collecting cobalt for smartphones have become more prominent in our daily lives. The response from consumers and investors has been a push to stop such practices from occurring.

4 DRIVING A HOLISTIC VIEW

One additional note on RS approaches is the adaption of a holistic view, not only in terms of the interdependence of political, social, and environmental factors. RS approaches need to consider the length of the mineral supply chain and not just each segment separately to enact change.

Consider the case of wind turbines: As final products, they are an essential for renewable energy and make beneficial contributions towards the energy transition and addressing climate change. However, according to Kiezebrink et al. (2018) on manufacturers supplying wind turbines to the Dutch market, the largest impact of production of wind turbines stems from the mineral extraction stage: turbines require aluminium, copper, iron, and rare earth elements for production. The manufacturing of wind turbines, where it is undertaken under unsafe working conditions, has been reported to involve violations of worker rights (including access to fair wages). The recycling of wind turbine blades is fairly limited at this time and discarded blades are more likely to end up in landfills rather than recycling centres. This creates more waste and reduces the circularity of minerals in the production cycle. Therefore, when considering responsible practices for one technology, the impacts created along the mining, manufacturing, and end-of-life management stages can each hold negative repercussions. While the impact of the technology of creating renewable energy is positive, the overall footprint of the supply chain may have a net negative impact. Successful RS approaches, therefore, address actors along the entire supply chain.

By 2023, political, economic, and social drivers were pushing for more responsible practices across mineral supply chains. To enact these changes, RS approaches developed several pathways to influence stakeholders. Under the research and consultations of the RE-SOURCING Project, four major pathways were identified:

1. Building awareness, creating knowledge, and increasing transparency around the environmental, social, governance, and economic impacts of operations.
2. Through advocacy and collaboration, influencing powerful actors within supply chains to enact change.
3. Provide recommendations for what responsible behaviours and objectives should be undertaken.
4. Require assurance mechanisms as evidence that change has taken place.

5 AWARENESS BUILDING AND ADVOCACY AND KNOWLEDGE CREATION

A first step for RS approaches has been to build awareness amongst stakeholders by identifying and articulating the environmental, social, governance, and economic impacts of supply chain operations.

Given the complexity and length of mineral supply chains, lead firms such as Original Equipment Manufacturers (OEM) did not recognise or take into consideration the impacts in their upstream segments, particularly on the most vulnerable stakeholders. This RS pathway relied on developing awareness amongst lead actors that the most vulnerable groups in their supply chains were likely to be subjected to the highest negative impacts. These groups included artisanal miners, local communities, workers in industrial minerals mining, and workers in mining and smelting operations, as well as those in the recycling sector.

To create awareness, RS approaches have used track and trace approaches to map complex supply chains so that lead firms view the multiple nodes and jurisdictions that mineral products travel through. For example, cobalt extracted through artisanal mining in the DRC, through traders, will make its way into China for semi-fabrication and battery manufacturing before being shipped to Europe for installation in an automobile. The complexity of the supply chain makes it difficult for the end manufacturer to be aware of the concerns that are being raised at the upstream nodes. This has led to the use of ‘chain-of-custody’ approaches, to track where

minerals have originated from and trace their journey from the extraction point to the end-use/manufacturing.

Tracking refers to following a mineral downstream in its journey along the supply chain. This is usually approached through documentation certifying ‘chain-of-custody’, through various technological platforms (from joint supplier platforms by lead firms, joint database of certifications and audits, and blockchain-based approaches). Ensuring chain-of-custody during the smelting process can be difficult to maintain, as minerals from various origins are blended.

Tracing refers to a lead firm moving upstream, tracing the minerals’ journey backwards within the supply chain. This can also employ a ‘chain-of-custody’ approach.

Track and trace approaches are not without complications and dependent on the ability to correctly tag/identify materials at their point of origin. Traceability is a means to an end for lead firms, civil society actors, and governments to be able to identify vulnerable communities at the point of origin of minerals. Once the vulnerable groups have been identified, RS approaches provide guidelines for lead firms on engaging, consulting, and assisting these communities.

Apart from vulnerable groups, the task of identifying lead firms is not always easy. For example, a single mining site may be the origin for multiple supply chains, feeding into multiple OEMs. Creating awareness of the upstream issues requires identifying the multiple suppliers/lead firms that benefit from the minerals produced. The track and trace approaches can assist in this. Once the correct beneficiaries have been identified, they are approached to change/improve their responsible practices.

6 INFLUENCING ACTORS TO ENACT CHANGE

Awareness building is then followed by advocacy campaigns. Now that actors are aware of impacts along supply chains, they must address them. RS approaches engage with the responsible entities, which can include multiple actors (such as an industry cluster) or focus on individual companies, consumers, or investors. Identifying and assigning ‘responsibility’ for abuses or improvements at the mine site to a single OEM is not sufficient to improve corporate behaviour. Effectively addressing the concerns of the vulnerable would require measures to be undertaken by all manufacturers sourcing from that area—which is a coordination and motivation challenge. For example, if one automobile manufacturer engages with a vulnerable community and the second one does not, effectively addressing

human rights abuses will be a challenge. The RS approaches therefore require a unified effort by multiple actors; a single entity does not have the resources or scope of influence to enact effective change on a large scale. Given the growing complexity of mineral supply chains, multi-stakeholder approaches are used by RS advocates.

A number of RS approaches have focused on industrial clusters, such as the automotive sector or the mica supply chains, to influence change in behaviour. There are several advantages in working through industrial clusters and alliances. First, given the complexity of supply chains and the fact that several manufacturers share smelters or suppliers, a wider group can be driven to change behaviour. Second, entities that join alliances find they benefit from a shared platform to discuss RS challenges with peers and external stakeholders, are able to express dissatisfaction with the current RS statutes as well as the inaction of peers and push for improved performance, and they gain a seal of approval from peers, clients, and governments. See Box 2.2 for examples of RS alliances.

Successful RS approaches have shown that an alliance allows for streamlining the RS requirements for members and lead firms (informed by civil society, academia, and technical experts) to a manageable and implementable level by all companies. Alliances take a unified approach on RS standards and collectively focus on the impacts of their RS activities rather than trying to, ineffectively, meet multiple standards. Given the cross-jurisdictional and global impact of most RS issues (climate change, biodiversity threat, gender rights, poverty) full risk mitigation cannot be accomplished by a single entity. Given the multiple mineral products that feed into downstream entities, a global/collective approach for tackling RS issues is imperative. This also creates a level playing field for all actors within the sector (Farooki 2021c).

While the necessity for alliances to deliver on the implementation of RS practices is uncontested, it is also clear that there are several internal and external balancing acts that successful alliances must undertake. An alliance serves to formalise the collaborative effort of concerned stakeholders to understand and implement RS practices. A transparent governance mechanism is essential to be made publicly available and be transparent on the processes for independent decision-making.

An alliance also seeks a seal of approval from policymakers. This is different from having policy and government agencies as part of the stakeholder group and focuses more on engagement with policymakers to support the RS actions proposed by the alliance. Such support strengthens the confidence and trust that is placed in the alliance by other RS actors.

Box 2.2 Examples of Responsible Sourcing Alliances

Responsible Business Alliance was formed in 2004 by leading electronics companies and works towards supporting the rights of workers and communities affected by the supply chains of their members in electronics, automobile and toy sectors, and retail.

The Fair Cobalt Alliance joined key stakeholders Huayou Cobalt, Glencore, Tesla, The Impact Facility, the Responsible Cobalt Initiative, and Sono Motors in an agreement to improve working conditions at ASM sites in the Democratic Republic of the Congo. The group seeks to implement responsible mining practices by eliminating child labour and increasing household incomes.

The European Raw Materials Alliance seeks to promote economic resilience in the EU by addressing EU difficulties in securing access to sustainable raw and advanced materials as well as the necessary processing expertise. The initiative is organised under EIT Raw Materials and has two main workstreams: value-chain-specific consultation processes and investment channels for raw materials projects. Its objective is to diversify supply chains and attract investment by supporting innovation and training.

European Battery Alliance was initiated by the European Commission in 2017 with a focus on making the region a global leader in sustainable battery production and use. The alliance brings together stakeholders from governmental authorities and industry research institutes to promote a thriving, but also sustainable, battery value chain in Europe.

The Global Battery Alliance is a global collaboration platform, hosted by the World Economic Forum, to catalyse and accelerate action towards a socially responsible, environmentally sustainable, and innovative battery value chain to power the Fourth Industrial Revolution.

The Alliance for Responsible Mining seeks to promote ‘inclusive and sustainable development’ to legitimise the ASM sector. The alliance has set up voluntary standards and certification schemes and promotes the legitimacy of responsible ASM in commodity markets. ARM supports gender equality, diversification, and socially and environmentally responsible production through implementing good practice techniques and certain technological advances.

7 RECOMMENDATIONS FOR ACCEPTABLE BEHAVIOURS

Awareness and advocacy focus on impacts that result from operations that need to be curtailed and mitigated. Taking that reasoning to the next step, RS approaches provide guidance to companies for behaviours and approaches that should be part of their operations. These recommended behaviours are presented as standards and guidelines. Standards will take a more rigorous approach than guidelines, outlining specific actions, processes, or impacts that need to be undertaken.

For example, awareness-raising would focus on curtailing forced labour within artisanal mining; guidelines will then recommend companies undertaking a human rights risk due diligence exercise to ensure minerals resulting from forced labour are not part of the mineral supply chain. Standards will require specific actions and reporting to be undertaken to ascertain that the ASM minerals in the supply chain were produced without the use of forced labour.

Several guidelines have been issued by international development institutions and the UN and address both companies and governments. Guidelines can be wide-ranging in the issues they cover. For example, the [OECD Guidelines for Multinational Enterprises](#) (2023) address: disclosure requirements, human rights, employment and industrial relations, environmental impacts, bribery and corruption, consumer interest, science and technology, competition, and taxation. Guidelines also offer a foundation for more rigorous standards. For example, the UN Guiding Principles for Business and Human Rights (UN 2011) are aligned with and incorporated in the ISO 26000 standard on social responsibility (ISO n.d.).

Standards are an important cornerstone in an integrated and complementary mix of mutually reinforcing RS measures, including supporting legal requirements. Standards provide support to companies in the implementation of RS practices by specifying sustainability and RS objectives for producers, traders, and manufacturers. Standards are also used as a diagnostic tool for a business to understand where its risks and weaknesses in implementing RS lie. Businesses that have suffered RS-related reputational damage will often seek compliance with a standard to improve their operations.

The drafting of RS standards is based on multi-stakeholder consultations, each group with their own objectives and needs. These groups can include middle and downstream purchasers, local communities, investors,

governments, and consumers; they have different (often overlapping) objectives when it comes to RS implementation. The diversity of the group objectives can lead to many ‘sticking points’ in multiple stakeholder consultations—explaining the long time required for consultations for standard settings. Achieving consensus on best practices across all stakeholders is near impossible and therefore trade-offs need to be managed within a standard (Farooki 2021b).

8 ASSURANCE MECHANISMS FOR CHANGE

The implementation of standards mostly remains under voluntary mechanisms, although with increased purchaser and industry peer pressures, they are taking on a more mandatory aspect. Table 2.1 provides a summary of the compliance mechanisms under some of the more commonly used RS schemes. These compliance mechanisms include the implementation of the standards as set out by an RS scheme; publicly committing and

Table 2.1 Certification schemes by type of requirements

<i>Compliance requirements</i>	<i>Scheme</i>
Implementation of sustainability requirements beyond commitment and reporting (may include due diligence on conflict risks and human rights violations)	<ul style="list-style-type: none"> • IFC • IRMA • Fairmined • CTC • ASI • RJC (Responsible Jewellery Council) • Fairtrade • Fairstone
Sustainability commitments in company policies; sustainability reporting requirements	<ul style="list-style-type: none"> • GRI • MAC (Mining Association of Canada) • ICMM
Requires traceability and tracking of origin of raw materials, i.e. mine or secondary source	<ul style="list-style-type: none"> • ASI • Fairmined • Fairstone • CTC (Certified Trading Chains) • Fairtrade
Requires supply chain due diligence on conflict risks and human rights violation	<ul style="list-style-type: none"> • WGC (World Gold Council) • RCM (Regional Certification Mechanism) • CFSP (Conflict Free Smelter Programme) • ITSCI (only 3T) • LBMA (London Bullion Market Association)

Source: Based on Kickler and Franken (2017)

reporting on the company's sustainable operations; providing provenance of minerals used in manufacturing through a track and trace scheme; and supply chain due diligence approaches.

Self-reporting requires companies to provide information on the sustainability aspects of their business practices and, while encouraging, is considered the least satisfactory of assurance mechanisms discussed here. A commonly used standardised self-reporting template is the Global Reporting Initiative (GRI). GRI is an independent international organisation, in operation since 1997, working with a host of actors from governments, international institutions, and firms and addresses a range of sectors, including the extractive sector. The GRI has been designed to report on the underlying question of "how an organization contributes, or aims to contribute in the future, to the improvement or deterioration of economic, environmental, and social conditions at the local, regional, or global level" (GRI n.d.). The reporting requirements and formats include a range of topics, some are mandatory, whilst others are encouraged. Table 2.2 outlines the major topics that the GRI Reporting Standard for the extractive sector addresses. While GRI reporting itself does not lead to certification, the standardised reporting template can be used for third-party auditing purposes.

Other rigorous self-reporting assurance mechanisms combine due diligence, management approaches, and reporting, such as the standardised reporting template created by the [Responsible Minerals Initiative](#). The RMI (n.d.) has developed a host of general assessment tools for firms, with individual templates for tin and tantalum, tungsten, and gold. The tools follow a due diligence approach, requiring firms to provide information on corporate policy, mapping of their supply chains, risk mitigation employed, mine site assessments, and public disclosure.

The next level of assurance is where the self-reporting mechanism is combined with third-party verification. For example, the reporting template developed under The Copper Mark combines RS performance with verification. The RMI's Responsible Minerals Assurance Process (RMAP) provides a set of standards and assessments that can be employed for auditing purposes. The approach focuses on identifying social, environmental, and governance issues and associated management practices of a firm to address these issues. The reporting template allows for auditing of information received from a firm.

The Initiative for Responsible Mining Assurance (IRMA) offers a voluntary certification for large-scale mines of all commodity types according to its *Standard for Responsible Mining*. This set of criteria certifies

Table 2.2 Sustainability within the GRI Sector Standard for Mining

<i>Sphere</i>	<i>Indicators for measurement</i>
Economic	<ul style="list-style-type: none"> • Economic dimension • Market Presence • Indirect Economic Impacts • Procurement Practices
Social	<ul style="list-style-type: none"> • Employment • Labour management relations • Occupational health and safety • Training and education • Diversity and equal opportunity • Non discrimination • Freedom of association and collective bargaining • Child labour • Forced or compulsory labour • Security practices
Environmental	<ul style="list-style-type: none"> • Materials used • Energy • Water and effluents • Biodiversity
	<ul style="list-style-type: none"> • Anti-corruption • Anti-competitive Behaviour • Tax • Rights of indigenous peoples • Human rights assessment • Local communities • Supplier social assessment • Public policy • Customer health and safety • Marketing and labelling • Customer privacy • Socio economic compliance • GHG emissions • Effluents and waste • Environmental compliance • Supplier environmental assessment

Full list of indicators and sub-indicators can be found at [GRI Standards Download Centre](#)

Source: [GRI Reporting Standards \(2016\)](#)

individual mines, not mining companies, based on requirements for (1) business integrity, (2) planning for positive legacies, (3) social responsibility, and (4) environmental responsibility. The standard was developed in a multi-stakeholder process of mining companies, raw material purchasers, affected communities, NGOs, and organised labour. Through certification, the performance of the mining operations is verified by an independent third party for demonstrating sustainable and responsible production methods.

While there is progress being made on assurance mechanisms, auditing—particularly independent auditing—remains one of the weakest areas for RS implementation. Of seven major assurance schemes that have auditing aspects and apply to large-scale mining activities, an IGF review found that while six of the seven required third-party assessment, only four required third-party assessment as a key determinant of the assessment (Turley et al. 2018).

It is also important to stress that assurance mechanisms for due diligence have only limited power to drive change on their own, if not complemented by responsible purchasing practices and the willingness to engage in meaningful, collaboration including investment into suppliers. Otherwise, assurance mechanisms—as much as binding regulation—risk to fuel a rather costly compliance and audit machinery that often increases the burden of upstream actors with the main outcome of more requirements without additional means (financial, capacity, and skills, etc.) to meaningfully address them. Secondly, international consensus grows—e.g. enshrined in OECD frameworks and EU and national legislation—that assurance and certification do not reduce or shift the responsibility of companies to conduct their own due diligence in their supply chains, including the resulting liability for non-compliance if this responsibility is being disregarded. The OECD (2022) published a [background note](#) on the role of voluntary standard schemes in mandatory due diligence, providing various insights about the meaningful utilisation of voluntary standard schemes to drive actual change.

9 THE USE OF LEGISLATION

Some standards have become the foundation for the drafting of regulations and legislation. For example, the Dodd-Frank Act and the EU Regulation 2017/821 specify that importers of tin, tantalum, tungsten, and gold from conflict-affected and high-risk areas must use the five-step OECD framework to conduct due diligence on their value chains. Similar references are noted in the French Corporate Duty of Vigilance Law, German Act on Corporate Due Diligence in Value Chains, and the EU Corporate Sustainability Due Diligence requirements.

As the successful RS standards were based on stakeholder consultative process, discussions on objectives and impacts have been considered and measurement metrics outlined. This makes them more conducive as a template for governments to convert into regulatory requirements. See [Box 2.3](#) for a few examples of legislation directly addressing RS practices.

Regulations and legislation can often speed up the process of wider and quicker implementation across players. This process does require a vigorous standard-setting process to have occurred in the first place. If the standards are focused on the upstream (mining stage), the government must balance the impact this can have on downstream (manufacturing) stage actors and vice versa. For example, the EU Regulation on Conflict Minerals (European Commission [n.d.](#)) requires importers to adhere to the

Box 2.3 Examples of Responsible Sourcing-Related Legislation

2010: Dodd-Frank Act, Section 1502, conflict minerals

2010: California Transparency in Supply Chains Act

2014: EU Non-Financial Reporting Directive

2016: UK Modern Slavery Act, Transparency in Supply Chains Clause

2017: French Corporate Duty of Vigilance Law

2017: EU Conflict Minerals Regulation 2017/821 laying down supply chain due diligence obligations for Union importers of tin, tantalum, and tungsten, their ores, and gold originating from conflict-affected and high-risk areas

2019: EU Supplementing Regulation for the recognition of supply chain due diligence schemes concerning tin, tantalum, tungsten, and gold (supplement to the Conflict Minerals Regulation)

2019: Dutch Child Labour Due Diligence Law

2021: German Supply Chain Due Diligence Act

2021: Norwegian Transparency Act on business transparency, human rights, and decent working conditions.

2022: EU Corporate Sustainability Due Diligence Directive

2023: German Supply Chain Act (Lieferkettensorgfaltspflichtengesetz; LkSG)

2023: EU Battery Regulation 2023/1542 concerning batteries and waste batteries, incl. due diligence obligations for four major battery raw materials: lithium, nickel, cobalt, and natural graphite

2023: EU Critical Raw Materials Act

due diligence recommendations of the OECD Guidance (2021). However, the regulation is only applicable to EU firms importing raw materials and does not focus on sourcing of semi-manufactured products that may include conflict minerals.

RS-based regulations have many objectives and intentions, one of which is to manage the supply risk and economic disruptions of vital economic sectors, guaranteeing access to critical mineral resources necessary for the green transition. However, in meeting their sustainability agenda, governments also want to ensure that vulnerable groups within these supply chains are protected through legally binding systems upholding their rights.

10 DRIVING RESPONSIBLE SOURCING IN THE FUTURE

In this chapter, we looked at the political, economic, and social drivers of RS and the pathways developed to implement change. While we do not possess a crystal ball, some observations can be made about the future drivers of RS approaches.

During the last decade, recurring global supply chain disruptions (e.g. COVID-19 pandemic and war in Ukraine) highlighted the need to foster more resilient global supply chains. Corporate due diligence processes will need to become stronger in risk identification and mitigation to improve any potential disruptions from social and environmental factors.

The link between economic, environmental, and social drivers will remain, with increased recognition of addressing these impacts together rather than separately. In addition, greater recognition of the ‘trade-offs’ that exist between the three, due to the limitations of financial and human resources, will become more widely recognised amongst RS proponents. A strong sustainability approach will need to be adapted with the recognition that natural capital cannot be traded off for man-made capital.

Efforts to address supply chain nodes—extraction, processing, manufacturing, and end-of-life management—will move towards more holistic management. This will stem from the recognition that the cumulative impact of supply chains requires solutions that go beyond addressing individual nodes. Approaches such as Life Cycle Assessments will become more widespread, allowing corporate entities to consider the (ecological) impact of their products from the beginning of the planning process. This will also lead to more integrated approaches with other areas of sustainability—it is foreseeable that so-called Designing for Sustainability will become more entrenched (Rosenkranz 2022).

RS approaches will move further from mitigation and net-zero impact creation to requiring more active contributions to sustainability. Creating net-positive impacts to limit impacts of existing operations and address impact of past operations and damage will begin to emerge. This will also require changes in current business models and consumption behaviours—the move towards less resource use in general and more managed consumption. Whether through increased recycling material requirements or repair rather than replace policies for decreasing consumption will strengthen.

Fragmented RS approaches will begin to align rather than converge. Equivalence and interoperability will become better established, allowing

different standards to orientate themselves towards global benchmarks whilst allowing them to reflect specific issues and stakeholders. Given the diversity of topics and issues covered by each standard, convergence to a single standard is unlikely to happen, nor would it provide an effective way forward.

The requirement for information and data to prove RS practices in a clear and transparent manner will increase. Companies and governments will move towards a standardised reporting template for sustainability reporting. This process will be complicated by the agreement on what factors will be included given commercial sensitivities for companies, how the factors will be measured, and indeed if they can be meaningfully measured.

As we continue to build our scientific (both technical and social) knowledge on the impacts of mineral supply chains, the characterisation of what is responsible behaviour will continue to evolve. The pathways for achieving these changes will also evolve, as will strategies to foster change. However, based on regional priorities and capacities, the balance between awareness, advocacy, standards, and assurance will differ.

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Changing Behaviours: Responsible Sourcing by Companies

Masuma Farooki and Stefanie Degreif

Abstract Based on case-studies, this chapter summarises good practices and approaches undertaken by firms in undertaking responsible sourcing operations. Major themes discussed included taking ownership of corporate sustainability policies, where internal drivers and decision-making were key ingredients in changing corporate practices. Firms benefitted from external, robust and sustainability standards, incorporating them into their own management practices and encouraging/facilitating their suppliers to follow suit. Other firms explored and executed sustainability-based

This chapter draws heavily from the reports produced by the RE-SOURCING Project researchers: Marie-Theres Kügerl, Johannes Betz, Alejandro Gonzalez and Irene Schipper.

M. Farooki (✉)
MineHutte, Tunbirdge Wells, UK
e-mail: info@minehutte.com

S. Degreif
Oeko-Institut e.V., Darmstadt, Germany
e-mail: s.degreif@oeko.de

business models, from developing Life Cycle Assessment approaches to designing products for longevity to decreasing mineral resource use over the long term. Lead firms, with multiple supplier tiers, have strengthened oversight and governance of their supply chains by using independent third-parties to determine and improve responsible sourcing practices within their supply chains and by coming together to develop assessment mechanisms to monitor and report responsible sourcing performance amongst their shared suppliers. One key approach has been encouraging assessments as a diagnostic tool to improve performance and not as a pass/fail audit approach. The chapter outlines the performance of leading firms, while noting that while different companies are moving at different paces in addressing sustainability impacts, the general trend shows increased observance of responsible sourcing behaviours.

Keywords Sustainability standards • Life-cycle assessment • Certification

The political, social and economic drivers discussed in Chap. 2 outlined the societal expectations that were being raised with companies post 2000. Actors within the mineral supply chains were required to respond.

There are several reasons for businesses to comply with Responsible Sourcing (RS) standards and practices. The first and foremost reason is to meet legal obligations. For example, EU businesses which have conflict minerals in their supply chains are required to comply with the EU Regulation on Conflict Minerals that requires importers to adhere to the due diligence recommendations of the OECD Guidance (European Commission [n.d.-a](#)). Reporting requirements are also emerging under regulations, such as the EU Non-Financial Reporting Requirements (European Commission [n.d.-b](#)) necessitating companies to disclose information on their operations and management of social and environmental challenges. Most comprehensive and well drafted environmental legislation cover aspects of emissions, water management and protecting biodiversity. Tax laws are increasingly addressing transparency concerns, while labour laws will cover issues related to treatment of labour unions, minimum wage rates and gender equality.

Second, voluntary commitments by companies to international principles (such as the UN Human Rights Principles) or industry association standards (such as the Automobile Association) encourage compliance from their members. A business that has committed to sustainability and RS principles is deemed responsible to its shareholders to meet these commitments (Scles and Klimenko 2019).

Third, given the integration of firms within global supply chains, inclusion in these chains is becoming increasingly linked to compliance with standards set out by lead firms. For example, Apple publishes a list of cobalt refiners involved in its supply chain that have been verified by third-party auditors. Refineries that do not meet its standards have been removed from its supply chain (Kelly 2019).

Fourth is the emergence of accessing finance based on RS performance. This refers to the standards being set by financial institutions as the basis of providing equity or debt financing for projects. These include the International Finance Corporation's Performance Standards, The Equator Principles and The European Investment Bank's Environmental and Social Standards for its funding (Crawford 2021). Investors are increasingly moving towards not only setting sustainability standards for the projects they finance, but also withdrawing funding from companies that do not meet these standards. For example, the Norwegian Government Pension Fund withdrew its investments from Vale over its successive tailings dam failure in 2019 "due to an unacceptable risk that the company is contributing to or is itself responsible for serious environmental damage" (Freitas Jr. and Andrade 2020).

As legal, industry and voluntary requirements for businesses to meaningfully adapt RS practices increase, the cost of non-compliance can impact a firm's ability to generate finance, meet customer requirements, access markets and remain competitive.

Various strands of RS approaches, such as those addressing labour rights, financial transparency, local communities, pollution, etc. are starting to merge into an overarching framework. A business may choose to commit to RS principles, but it will find its competitiveness lessened if it does not implement this commitment. However, moving towards compliance and implementation is not an easy task in this still fragmented and evolving landscape. While guidelines and standards have been created, practices and reporting remain a key challenge for many firms.

1 WHY DID THE PRIVATE SECTOR ADAPT RS APPROACHES?

Companies participating in mineral supply chains have been a major focus for the required changes in codes of behaviour to secure a sustainable future. Large scale companies in the extraction, manufacturing and recycling sectors have been driven by internal and external factors to adapt their policies, operations and supply chain management to reflect RS practices.

Within mineral supply chains, extractive companies began addressing sustainability in their strategic decision-making process over two decades ago (Cragg 1998). These considerations acknowledged the finite nature of non-renewable mineral resources as well as the positive and negative economic impacts on resource-rich developing economies and on local communities. Terms such as Corporate Social Responsibility (CSR) emerged to identify sustainable practices. While progress was made by many companies, research suggested that the focus was more on environmental issues in the mining sector (Daddi et al. 2016; Hamann 2003; Gorman and Dzomba 2018), with social and economic issues not receiving the same level of attention.

According to Sammalisto and Arvidsson (2005), managing environmental impacts was initially seen by companies as a means to meet client specifications, legal compliance, conform to industry standards and for management of risk and corporate reputation. With improvements in available technologies, this became easier as a potential means to decrease environmental impact. Grewal and Dharwadkar (2002) noted that companies would duplicate the efforts made by their peers and competitors when it came to CSR policies. Others documented the importance of improving corporate image through the management of their environmental impacts as a reason for compliance (Alemagi et al. 2006).

Castaka and Balzarova (2008) argue that the pressure from RS advocates and civil society organisations was a major driver in changing behaviour for most companies in implementing CSR policies. A majority of companies were also implementing green supply chain methods in their procurement and operations to avoid penalties and external restrictions (Bansal and Roth 2000).

Famiyeh et al. (2021), in a larger study on driving forces of sustainability in the mining sector, contend that different factors drive different aspects of sustainability. Their results indicate that coercive (success

depends upon the approval and acceptance by another agency) and normative (appropriate within a culturally designed set of value) drivers lead companies to address economic, social and environmental factors. Mimicking other institutions and peers was found to have greater relevance for companies observing environmental and social sustainability standards but not prioritising economic sustainability issues.

Overall, advocacy and awareness and pressure from clients as well as legislation were forcing change in the implementation of RS practices. Chapter 2 outlined the political, social and economic drivers that are influencing actors in mineral supply chains to adopt more responsible practices. In discussing the pathways to achieve this change, awareness building, advocacy and influence, standards and regulations and assurance mechanisms were noted as being commonly deployed by RS advocates.

Figure 3.1 outlines how the drivers for change pushed for codes of behaviour to reflect practices that work towards securing a sustainable future. In this chapter, we examine how changes to codes of behaviour were taken up by companies in their operating behaviour.

The RE-SOURING Project examined good practices being undertaken by European firms in the renewable energy (Farooki et al. 2021),

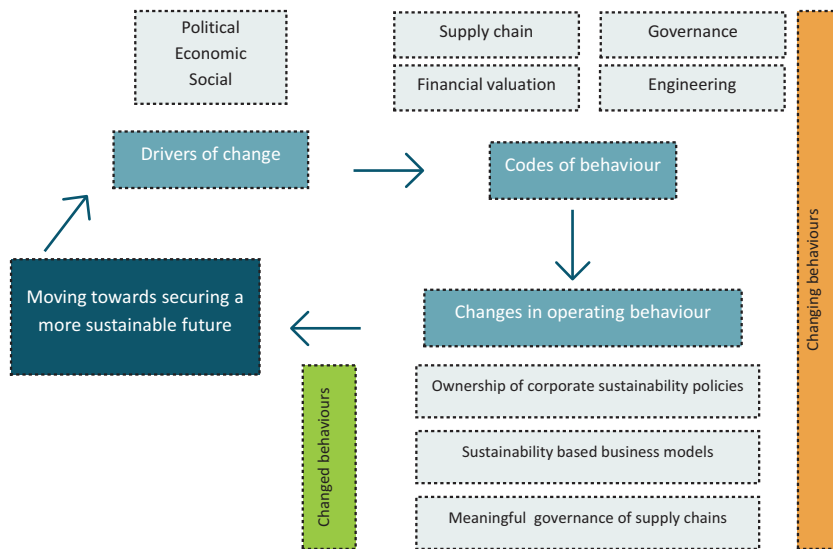


Fig. 3.1 Driving change in operating behaviour

e-mobility (Degreif et al. 2022) and electronic equipment sectors (Farooki et al. 2023) to understand how firms have responded to the requisites RS demands. This included extractive, processing, manufacturing and recycling firms. Three common good practices are discussed in this chapter:

1. Taking ownership of corporate sustainability policies;
2. Moving towards resource efficiency and circularity-based business models; and
3. Undertaking meaningful collaboration along supply chains and industry clusters.

2 TAKING OWNERSHIP OF CORPORATE SUSTAINABILITY POLICIES

A corporate sustainability policy outlines the firm's commitment towards sustainability and is seen as a precursor to executing a sustainability programme. The policy establishes the general principles and organisational structures that guide all business activities and responsibilities to shareholders and stakeholders. The RS approaches require businesses to incorporate environmental, social and governance considerations in their operations, often outlining guidelines and standards they must respect. The translation of these 'external' outlines to 'internal' commitments are reflected in the corporate sustainability policy. Some firms that have only paid lip-service to sustainability commitments have been accused of 'green washing' (EBA 2023). Other firms complain about challenges of too many competing requirements, causing confusion on what their sustainability policies need to incorporate (Murray 2021).

RE-SOURCING Project research and consultations indicated that the firms that have done well on developing and implementing their sustainability strategies have relied on both internal and external resources.

They recognised that the development of a clear sustainability strategy helps to align a company's internal efforts and bring different groups and departments on the same page. They also acknowledge that a sustainability strategy is becoming corporate standard and RS is not limited to the procurement departments. The engineering, marketing, production and finance departments are increasingly equally involved in implementing sustainability policies. By committing to sustainability at the corporate level, the firm is communicating the objectives of the business to all internal employees—it is taking ownership.

A strong corporate sustainability policy is also used to communicate to external stakeholders the firm's understanding of RS opportunities and risks and how it will address them. Given that external stakeholders have become a major force for corporate accountability, the corporate sustainability policy has become a tool to engage with these stakeholders.

Firms have also found that a strong sustainability strategy can become a competitive advantage. A cohesive policy indicates to shareholders, clients and investors that the company has a credible, 'fit-for-future', strategy in place. A clear and transparent sustainability strategy reflects a company's compliance with national legislation and alignment with sector/industry standards. Such a strategy is also becoming a pre-requisite to attract investments, access certain markets and attract a skilled labour force. With future legal requirements for RS practices expected to become more stringent, early voluntary incorporation of RS practices signals to the markets the firm's competence.

2.1 The Development of a Corporate Sustainability Strategy

The process for developing a strong corporate sustainability strategy is similar to any other corporate policy: It starts with creating a vision; setting goals and objectives; designing an implementation strategy and finally a reporting mechanism to measure performance. The difference from other corporate policy developments is that the factors under consideration are largely focusing on the firm's external impacts—such as carbon emissions, impacts on local communities, fair wage considerations, etc. The following outlines the main caveats of the best practice approaches used by companies in developing a corporate sustainability strategy.

Understanding RS to create a vision: Through internal and external consultations, a company articulated a sustainability vision which was clear and meaningful and did not rely on vague or overly ambitious sustainability terminologies. Terminologies such as 'human rights', 'protecting the environment', 'safeguarding communities' were identified at a functional level of the operations of the firm. The company collected data and information at different levels of the organisation (from senior management to on-site workers) in understanding these terms and how they are applied. Thus, the process of creating a vision for sustainability started with the firm's own understanding of what sustainability entailed.

One aspect in creating this understanding was the use of a materiality analysis. The firm recognised that it had limited human, financial and

other resources to devote to its sustainability approach. By conducting a materiality analysis, the firm was able to prioritise some issues over others, based on their importance to the firm and its stakeholders.

Defining objectives: Having understood what RS and sustainability meant for the firm, the next step was to access external expertise to assist in defining the objectives to be achieved. Again, the effort was to move away from vague terminology and establish clear understandable objectives that were neither too open nor too narrow. Three key features were noted in the identification of these objectives:

1. Objectives outlined the individual steps or milestones of achieving an outcome.
2. Objectives were outlined after consultations with national authorities, civil society organisations (CSOs) and other stakeholders such as employees, business partners and specialized associations such as Responsible Business Alliance/Responsible Mining Initiative, European Partnership for Responsible Minerals and Corporate Sustainability and Responsibility Europe.
3. Objectives were aligned with internationally recognised standards/approaches to sustainable business practices (UN Global Compact, OECD Due Diligence Guidelines (2016)) and industry standards.

Drafting a policy and setting target: Having defined the objectives, the next step was to create a set of guidelines and tools to govern and inform the employees about the actions required from them. The policies defined the scope of action and decision making as well as the role and responsibilities at different managerial levels. The policy development took a bottom-up approach for target and action setting, with targets appropriate for each node of business operations. There was a clear understanding that the targets/actions were not required to be uniform across the business but reflect the context of the business node. Therefore, as required, they reflected quantitative targets (such as emission levels), qualitative targets (such as processes to be undertaken) and those requiring external validation of company performance (such as gaining and maintaining certifications). A secondary part of this target setting was identifying and providing the appropriate tools for employees to achieve set targets and implement actions. The firm consulted existing external tools and templates produced by industry associations, CSOs and other think tanks before drafting them for internal use.

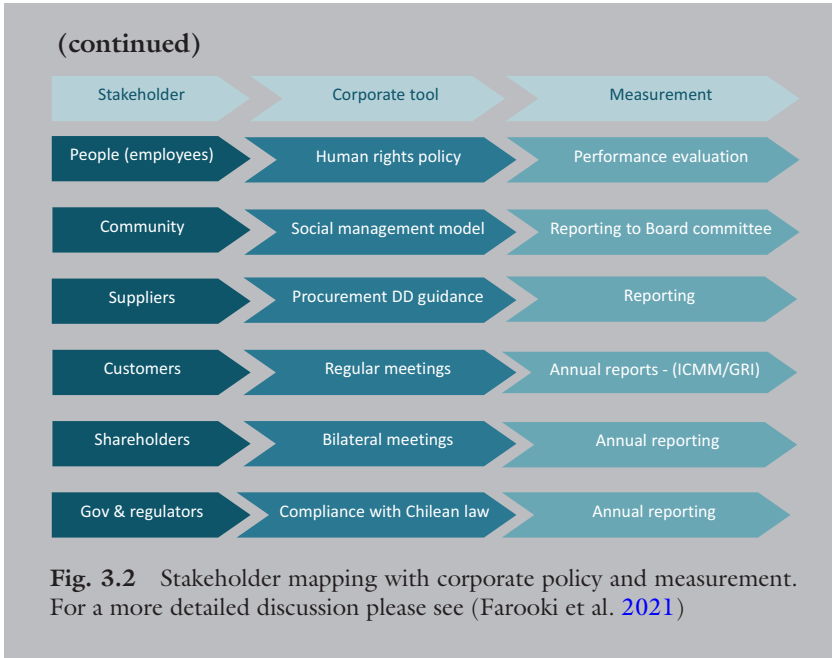
Reporting and communication on sustainability performance: The company did not wish to be perceived as ‘greenwashing’ its reporting and focused on designing a clear communication strategy for its sustainability policy for both internal and external stakeholders. An internationally accepted reporting template (such as the GRI) was used. To strengthen the assurance of its reporting, the information was audited by an independent third-party.

As part of its communication strategy, the firm outlined the difference between its communication and its engagement strategy. Communication focused on content being delivered to a defined audience, while engagement was considered as a learning and discussion process. Therefore, the communication strategy focused on defining what information the company wanted to convey and whether this was the information that stakeholders required. A second part focused on the process and means of communication, how the communication would take place. This could then feed into the engagement strategy with stakeholders.

Case Study: Antofagasta Mining Company

Antofagasta is a major Chilean mining company, providing copper to a diverse international market, including European clients. The company developed a cohesive approach to address its sustainability commitments that encompass environmental, social, governance and economic standards. It developed an overarching sustainability matrix to focus its corporate sustainability strategy. One approach in the development of this matrix was the identification of key stakeholders together with the tools to reflect their sustainability commitments and measuring their performance. The figure below summarises the strategy developed by the company. For example, in dealing with suppliers, the main corporate tool used was the procurement due diligence guidance, the results from which would be used for reporting purposes. The importance of the matrix approach was connecting identified stakeholders with the corporate tools and how measurement of performance would be undertaken (Fig. 3.2).

(continued)



2.2 *Aligning with an Internationally Established RS Standard*

For individual firms that are located upstream, designing a corporate sustainability policy was found to be largely limited to their own corporate structures. However, downstream firms, particularly lead firms, were noted to use established RS standards for their suppliers as a means for implementing a corporate sustainability strategy.

Lead firms, in responding to RS requirements, found they had several layers of suppliers, some not even visible to them at first instance (Betz et al. 2021). In contrast, small and medium sized suppliers found that in providing goods and services to several clients, they were subject to a multitude of RS requirements, sometimes from entirely different industrial sectors. The practical implication of providing RS information across chains became extremely challenging for both sides.

To tackle this challenge, the RE-SOURCING Project illustrated in its best practice cases the use of international RS standards by lead firms to standardise the RS requirements for their suppliers/clients in an effective manner. The use of these international standards became part of the

company's corporate sustainability policy. Large companies (whether manufacturing or mining) were able to communicate their corporate sustainability requirements through an established standard, while suppliers were able to address multiple clients by meeting one standard.

Such a strategy was only considered to be successful if a strong RS standard was chosen. While there can be multiple characteristics that define a strong standard, RE-SOURCING Project found three elements to be essential:

1. The standard is based on engagement and a seat at the table with local stakeholders such as workers and communities;
2. The standard includes mandatory transparency in the audit and the public disclosure of results; and
3. The standard is based on a consultative approach to corrective actions required from suppliers.

For lead firms, selecting a strong standard came with its own challenges, given the number of options available (Degreif et al. 2022). The lead firm based its choice on identifying a standard that was best aligned with its own sustainability strategy and was advanced enough to be embedded in its processes.

Most lead firms found that by adhering to a single standard it was unable to achieve this, as none covered all issues in complex supply chains. For example, promoting the use of recycled material was addressed by one standard and raw material procurement by another. Certification schemes tend to be mineral specific, such as those for copper (The Copper Mark), aluminium (Aluminium Stewardship Initiative Performance Standard) and steel (Responsible Steel International Standard).

To address this, the lead firm undertook an internal due diligence exercise to benchmark different standards and certification schemes. A standard that offered greater coverage took precedence over others if the quality was otherwise equal. This benchmarking was not considered as a one-off proposition. With standards changing and evolving in scope and criteria over time, the company maintains a matrix of changes in standard compliance requirements.

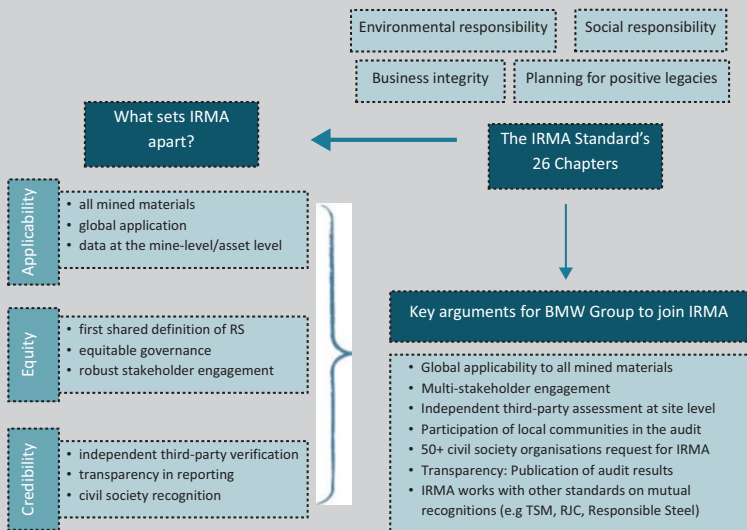
Once a set of standards was internally agreed, the requirements were clearly communicated to the suppliers, starting from the pre-award stage. The company's purchase contracts, service agreements and code of conduct for suppliers included references to the selected RS standards. Where available, the reporting templates accompanying the chosen standards were also

provided to the suppliers. Additionally, the lead firm began increasing awareness of their selected standard within the larger industry. It was hoped that as other lead firms selected the same/similar standard it would encourage compliance and greater uptake amongst their shared suppliers.

Case Study: IRMA and BMW

The automobile industry has been criticized for not paying sufficient attention to environmental and social challenges in battery production with the transformation to e-mobility. To address this, automobile companies like BMW, Daimler (2020), Ford and General Motors (2021) have joined IRMA, with some pledging to source from IRMA-certified mines (including mentioning it in purchase contracts).

IRMA (2018) offers a comprehensive global standard covering all industrial mined materials (except energy fuels) including social responsibility, environmental responsibility, business integrity and planning for positive legacies. IRMA was developed by including different stakeholders including NGOs and communities (equal voices) in a public consultation process and gives equal voice and vote to all stakeholders at the table.



For more details, please see (Degreif et al. 2022)

3 BUSINESS MODELS IMPROVING RESOURCE-USE EFFICIENCY AND CIRCULARITY

A majority of RS drivers are focused on improving the way minerals are extracted and processed in the supply chain. Within the RS agenda, we also find responsible practices that focus on the reduced consumption and resource-use efficiency (González and Schipper 2021). This has led to several manufacturing companies to adapt their operating models to be more inclusive of circular and efficient resource-use business models.

The role of government policies in this has been central. For example, one of the strategic priorities in the EU's Green Deal Roadmap is to put industrial modernisation at the centre of a fully circular economy. In addition, government policies looking at securing critical raw material supplies, also require greater recycling and circularity of these minerals, rather than reliance on virgin raw materials to secure supply. Some of these policies are reflected in legislation. Under the EU WEEE Directive, a recycling mandate exists in European member states. The EU legislation has set a recovery target of 85% and a preparation for reuse and recycling target of 80% for solar panels in place. In Switzerland, companies bringing batteries to market have to either pay a fee to an existing recycler or organise their own recycling facilities. For the latter, companies in Switzerland have to prove that they achieve an equal or even better recycling performance. The EU has a recovery target of 50% by weight for lithium-ion batteries (LIBs) in place (Degreif et al. 2022).

In response to increasing policy, legal and industry requirements for supporting the circular economy and resource-use efficiency, the RE-SORUCING Project noted the following best practice cases amongst EU manufacturing companies:

1. Using a Life Cycle Assessment (LCA) business model;
2. Product designing to incorporate end-of-life management; and
3. Production aimed at increasing product longevity.

3.1 Life Cycle Assessment Model and Designing for Recycling

The circular economy has gained traction over the last decades, with the EU setting ambitious goals to transition towards a circular economy (European Commission 2020). Circular economy considerations, at the firm level, can be assisted by several approaches, one of which is the Life

Cycle Assessment (LCA) approach. The LCA assesses the environmental impacts of all stages of product manufacturing; from the supply of inputs to the production process and managing the product once it has completed its life cycle. Firms pursuing an LCA based business model found they can meet the RS agenda on two fronts: (1) By lowering demand for virgin raw materials and reliance on non-EU regions for critical materials supply; and (2) Decreasing the waste and material in landfills.

In one of the LCA best practice cases explored by the RE-SOURCING project (Farooki et al. 2021), the firm had to fully understand the environmental impacts of its production cycle, from mine site to end-of-life. To do this it needed to identify and incorporate the following elements in its business model:

1. Material sourcing: Fully utilising the raw materials for the product;
2. Product design: Designing for high value recycling;
3. Manufacturing: Manufacturing with less energy, water and GHG emissions; and
4. High-value recycling: High material recovery rates at end-of-life.

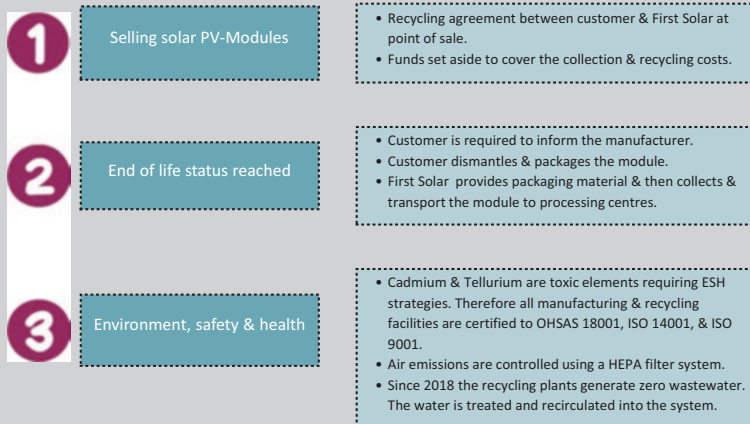
As the first step in developing a LCA based business model, the firm found assistance in using eco-design process and environmental hotspot analysis both for the inputs for the product as well as for where the product will be deployed/consumed. The analysis was able to indicate the more critical hotspots that could be linked to the material footprint of the product. A number of these hotspots were then addressed through extended producer responsibility and through implementing high volume recycling.

A second step was for the firm to consider lowering the intensity of primary raw material use by incorporating secondary materials in its manufacturing process. To achieve a reduction in the intensity of primary material use, high recycling rates were required and, hence, the product design incorporated recycling. The manufacturing process was designed to incorporate recycled materials. To ensure that the manufacturing process that relied on recycled materials feed was stable, the firm established its own commercial scale recycling facilities at their major manufacturing sites. To further improve their environmental footprint, these recycling facilities generated their own renewable energy and the water used for the separation process was treated and reused.

One challenge noted in the recycling sector is the high financial cost of collection, transport and recycling. To address this, the firm provides its clients two options at point of sale. The first allows the client to recycle the product themselves—under the specifications set by the firm. For the second, they can have the company recycle it. Under either choice, the firm offers its customers and clients fully costed recycling options, that are based on realistic and clear commitments and are backed by funds that will continue to be available even if the firm is no longer in operation. Apart from financing, the firm has also put in place a process whereby the return of the product to the company is a manageable process for the customer.

Case Study: First Solar and Recycling as Part of Business Model

First Solar is an American solar technology company with clients across the globe. It provides responsibly produced photovoltaic (PV) cells that are used to generate solar energy. As part of its offering, First Solar collects and recycles its solar PV modules at end of life, as part of its sustainable products strategy. It uses a pre-financing model, where the sums for recycling are set aside at time of sale. The products are recycled at First Solar sites and to achieve high recycling rates, design for recycling is considered in the product design and manufacturing processes.



For more details, please see (Farooki et al. [2021](#))

3.2 *Increasing Product Longevity*

One approach towards improved resource use has been to extend the lifespan of a product, as the fewer the new products manufactured the lower is the use of virgin and recycled minerals. This was found to be particularly important in the electronics sector where new products are launched regularly, usually on an annual basis (González and Schipper 2021). One firm approached the concept of increasing product longevity, starting at the design phase and carrying this throughout the life of the product. It identified three key product design requirements:

Reliability: The construction of the product is required to be robust, allowing for minimal damage in everyday use.

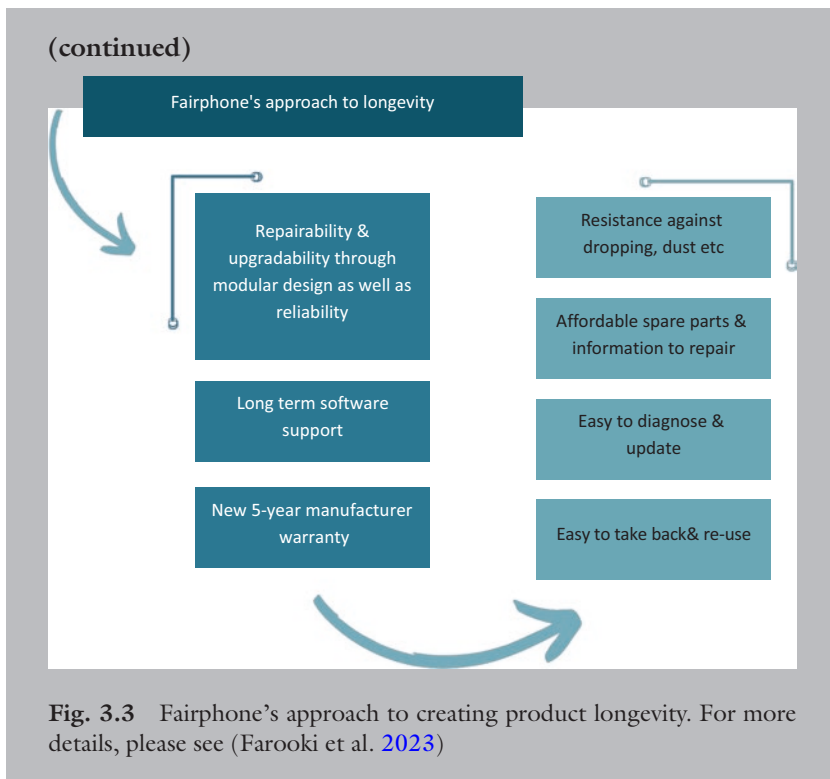
Diagnosis and update: A modular product design was needed, allowing for easier diagnosis of which component is failing. This allows for components to be replaced as needed and the entire product does not need to be replaced.

Affordable spare parts and repair services: When parts are to be replaced, the cost of replacement is not prohibitive and does not encourage consumers to buy new products. This can also be aided by providing a manufacturing warranty, to encourage users to repair rather than replace a product.

Case Study: Fairphone and Product Longevity

Fairphone was founded in 2010 as an awareness campaign about conflict minerals. By 2013, the organisation evolved from campaigning to manufacturing ethically sourced smartphones. In 2021, the company brought its fourth-generation smartphone to markets. The company believes that the longevity of a device is established by two principles: First is the attitude of the consumer towards the device; second is the consumer's trust in the provider of the device. Based on this, the philosophy of the company is to produce an electronic device that creates a positive impact on four areas: fair materials; fair factories; longevity and take-back of electronic waste (Fig. 3.3).

(continued)



4 STRENGTHENING OVERSIGHT AND GOVERNANCE WITHIN SUPPLY CHAINS

RS practices have called upon lead firms to improve the oversight and governance of their supply chains. The ignorance of human, social and environmental rights abuse because it occurred 'elsewhere' is no longer considered acceptable. This created several challenges for lead firms, as they had multiple tiers of suppliers, often located in jurisdictions around the world. However, stakeholders felt that with the power held by lead firms, they are ideally placed to (1) Increase the uptake of RS practices across the sector; and (2) Create a level playing field within the supply industry such that a minimum (higher) RS practice standard could be met.

Given the complexity and numerous tiers of suppliers, this was a challenging task. In the research and consultations under the RE-SOURCING Project, two approaches were identified under best practice:

1. Procurement companies came together to establish a supplier assessment system, operated and administered by a neutral third-party; and
2. Civil society led monitoring and validation for procurement contracts.

Both approaches have three common elements:

1. The use of an independent third-party to determine the RS practices.
2. A range of assessment mechanisms to monitor and report RS performance.
3. Instead of a pass/fail audit approach, use assessments as a diagnostic tool to plan and implement corrective actions.

4.1 Shared Supplier Assessments for Multi-Sectoral Lead Firms

One best practice approach noted in the RE-SOURCING Project was for lead firms to share their resources and collectively agree on the RS practices to be addressed within their supply chains. This was implemented by creating a single initiative that would, through a consultative process, formulate an assessment criterion for suppliers and conduct assessments on behalf of all parties. Where required, it would also work in improving the practices of suppliers that failed to meet the set standards. For multiple sector supply chains, for example those that feed into the renewable, chemical and infrastructure sectors, where multiple sector standards exist, a combined approach was found to capitalise on economies of scale.

The firms involved found that with limited cross-sector equivalence across RS schemes, compliance and resource efficiency could be improved by designing a systematic RS assessment tool, such that all involved actors could benefit from a streamlined and standardised process. Centralising the assessment process and sharing results amongst lead firms carried an economic advantage rather than each individual firm undertaking an assessment exercise with its suppliers. It also reduced the administrative burden for individual businesses, while providing third-party assurance for sustainability performance. The suppliers are also reported to find this more beneficial, as being part of one assessment scheme allowed them to access a larger pool of potential customers.

The initiative was started through consultations with peers to establish the needs of the lead firms. Part of the consultation was done through

existing industry alliances and chambers as well informal conversations with procurement managers from other firms. A working group was formed to discuss ideas and take decisions on next steps.

The working group identified several third parties that were assessment specialists within their sector and had the experience in auditing and assessing suppliers in their industry. These potential suppliers demonstrated the capacity to carry out standardised assessments and had the administrative capacity to construct and manage a large supplier database. It was important that the database was hosted by a third-party to ensure protection of commercial interests and avoid any conflict of interest between the assessors and the suppliers being assessed.

Once the appropriate party had been selected, the working group began to identify and prioritise the assessment criteria, informed by their own internal reporting requirements as well as compliance requirements of the external standards they were committed to. The key in drafting these performance indicators was to take a balanced approach, such that it would not become burdensome for the suppliers to follow. This was done by classifying some indicators as essential and others as optional. The working group also built a process by which the assessment criteria could be revised as required, in response to changes in legislation or RS programme compliance.

The working group then moved towards agreeing on assessment mechanism that included options for self-reporting, audits and equivalence to existing certifications (such as ISO certificates). The working group also needed to agree on how these assessments would be analysed, ensuring that the audit did not take a pass/fail approach, but worked towards creating corrective action plans and increasing supplier compliance with the performance standards.

Various options were considered for funding the initiative, such that a financial burden was not borne by either the lead firms or the suppliers to be assessed. This included looking at establishing the initiative as a not-for-profit entity. In the end, a combination of funding options was used, with suppliers paying part of the cost of assessment and lead firms paying a membership and usage-based fee. Another approach to sharing costs was to increase the number of firms joining the initiative. Both formal and informal communication channels were used to encourage suppliers and other firms to join.

4.2 *Civil Society Driven Monitoring*

A second different approach documented by the RE-SOURCING Project was where lead firms collaborated with civil society led programmes. One good practice focused on empowering the workforce to drive compliance by employers on worker rights (Farooki et al. 2023). Led by an independent entity, it supported buyers to safeguard and improve worker rights and working conditions in their supply chains. The not-for-profit entity moved away from social audits and third-party verifications and certifications, instead putting workers at the centre of the monitoring and remediation process. The approach works on two fronts: (1) It allows workers to raise issues and violations faced in their workplace; and (2) Moves towards a collaborative process to address and remedy these violations. The approach has been found to be successful as it focuses on the betterment of working conditions and not just on reporting challenges faced by the workforce. The continuous monitoring methodology employed provides for long term worker rights and protection systems to be established and a compliance mechanism for the lead firm to monitor its suppliers.

A second practice, also led by a civil society organisation, worked with lead firms that operate in different industrial sectors, but source the same minerals. The focus was on driving responsible practices at the extraction level, regardless of which supply chain the mineral feeds into. By ensuring on the ground implementation of responsible practices, every supply chain benefits. To enact such a change, the CSO identified, advocated and worked with a number of downstream and upstream actors from the different sectors. On the ground, it is working with local mineral processors to gradually close the gaps between the expected workplace standards and the workplace practices (rather than focusing on audits alone). Using training and support to achieve these ends brings practical (and long lasting) impacts on the ground. The lead firms who are part of this collaboration, rely on the initiative to improve the conditions for workers in their supply chain, instead of approaching the issue as merely one of compliance or certification.

Civil Society-Led Responsible Sourcing Implementation

Electronics Watch is an independent monitoring organisation, bringing together public sector buyers and civil society organisations in electronics production regions. The mission of Electronics Watch is to help public sector organisations work together and collaborate with civil society monitors in production regions to protect the rights of workers in the electronics supply chain. The aim is to improve industry compliance with relevant labour regulations and internationally recognised codes and workers' rights standards.

The **Responsible Mica Initiative** provides a supportive approach towards upstream suppliers as part of a holistic program to improve workplace conditions in the mica supply chain (mining and processing) and to eradicate child labour. It does so by developing a holistic approach to improve working conditions and eradicate child labour. It uses a multistakeholder approach at the local level to work on formalisation of the mica industry. Additionally, it uses a block chain traceability tool, develops workplace standards specifically for mica processors and training materials and local staff for support.

5 MAJOR FEATURES AND SUCCESS FACTORS

In the research and consultations on best practices adopted by companies, the RE-SOURCING Project noted several common aspects in firms successfully adapting RS practices.

Clarity of objective is paramount: For the successful implementation of RS practices by a business, it is fundamental to have clear objectives of what the company/entity wants to achieve. These objectives should reflect the company's agenda and therefore be managed and formulated internally. This does not mean that external guidance should not be included, but the good practice cases point to an internalisation of the importance of RS, which is translated into company objectives. Companies that try to adopt external objectives without internalising them, will not take ownership of the RS process they initiate and hence success will be difficult.

Incorporate and use external guidance where appropriate: In the past decade, a large volume of guidance material in the shape of standards, guidelines, sustainability principles and reporting templates have been

developed by technical experts, industry associations, civil society actors and governments. Those wishing to develop and refine their RS approaches should take full advantage of this expertise. While some stakeholders have raised the issue that there are too many guidance documents, both in terms of the number of standards and the number of issues to be covered, looking at established and upcoming externally developed RS approaches nevertheless saves resources.

Assigning responsibility for decision-making and actions: The decision to implement RS approaches must be taken at the highest level, usually the Board of Directors of a company. However, once the decision has been made, the responsibility for developing and implementing these approaches must be conveyed and assigned to all members of the organisation (including its sub-contractors). The best practice cases identified in this project assign the responsibility across the organisation. Those companies who discuss RS only at the senior level, without involving mid-level, junior-level and front-line workers, run the risk of implementation failure.

Designing the right tools: Successful firms have given due consideration to the tools they provide their stakeholders in implementing RS practices. Sincere objectives but faulty policies hinder implementation. Best practice tools are cognitive of the firm's resources (human and financial), its operating context and environment. Designing complicated policies without the processes or tools to implement them leads to failure.

Reporting templates and processes should be well designed: With growing demand from clients, investors, CSOs and communities, the RS performance needs to be reported. The more standardised format this reporting takes, the better the firm is able to communicate its commitment to RS. Reporting and communication are not to be considered as an afterthought in the corporate sustainability strategy but included when objectives are being designed. Successful companies also consider how progress and achievement of RS objectives are to be measured and reported.

Communication strategies are important: Communicating what the firm wants to achieve, why and how they are pursuing RS agendas, is important. Communication strategies on RS practices are most successful when they target the correct audience in a meaningful manner. Bad communication strategies lead to labels of 'greenwashing' and promote mistrust among stakeholders. Too much emphasis on narratives with little evidence can also cheapen the quality of communications. Successful firms

decide on their communication strategy at the time of designing their RS objectives and reporting mechanisms.

Stepping away from silos in designing practices: One common theme noted across the best practice cases is a holistic approach to sustainability and RS. None of the best practice cases exhibit compartmentalisation—a focus only on the environment or on community issues. It is clear that RS is an overarching agenda, and the approaches need to step away from silo thinking. While individual objectives and actions can focus on particular issues, the successful approaches were wider and illustrate inter-connectivity of processes and topics.

While different companies are moving at different paces to address climate change and sustainability issues, it is important to recognise that they are all moving in the same direction. RS approaches ingrained in business practices are becoming more common. While initially successful RS approaches may set a company apart, in the medium term, these approaches are expected to become normal operating procedures. The better the uptake of RS practices, the more level the playing field.

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Legislating for Harmonisation of Practices

Andreas Endl

Abstract Pressure from investor and civil society actors as well as ineffective private sector efforts paved the way for European and national legislations on mandatory due diligence and responsible sourcing. This chapter takes stock of the current policy discourse requiring companies to adhere to due diligence processes and foster responsible sourcing practices in global mineral supply chains. In our analysis on the political economy of current and future policies, we provide an in-depth perspective on the potential of legal requirements in regard to: (1) facilitating responsible sourcing practices across the supply chain; (2) Addressing human rights and environmental aspects; (3) Integrating current discourses into a harmonised legal framework, and (4) creating a level playing field for market actors. We conclude that a dynamically grown policy landscape falls short of an integrated and coordinated policy approach. Against this background, we highlight important lessons learnt and provide recommendations for legal requirements from a governance and policy effectiveness perspective.

A. Endl (✉)

Institute for Managing Sustainability, Vienna University of Economics and Business, Vienna, Austria

e-mail: andreas.endl@wu.ac.at

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Over the last decade, the discourse on Responsible Sourcing (RS) has garnered widespread attention by policy makers and led to the development of a plethora of different voluntary and mandatory policy programmes aiming to broadly change the corporate code of behaviour with regard to environmental, social and governance (ESG) standards (Erdmann and Franken 2022; Farooki 2020). The European Union (EU), following up on its commitments in the [2030 Agenda for Sustainable Development](#) and the [European Green Deal](#), has developed different policies to respond to corporate misconduct on human rights and environmental due diligence (HREDD) and rising discontent of citizens and civil society organisations (CSOs).

This chapter takes stock of the current policy discourse on RS in global supply chains (GSC) for mineral raw materials in Europe as well as recent and future policies (e.g. Battery Regulation, Corporate Due Diligence and Corporate Accountability) requiring companies to implement due diligence processes and foster RS practices. This chapter complements the EU approach by looking into non-EU policy approaches addressing RS challenges. Therein, we centre the analysis on the political economy of the current and future policies for RS, providing an in-depth view on the potential of legal requirements in regard to: (1) Fostering RS practices that improve working conditions, livelihoods and the environment; (2) Addressing the multitude of aspects covered by RS; (3) Integrating and converging current political discourses into a harmonised legal framework; and (4) Creating a level playing field for market actors.

The EU took a decisive step by acknowledging that the time for insufficient voluntary commitments is over and that transition to the mandatory HREDD to foster effective RS practices in mineral supply chains is now required. To achieve this, the EU policy has deployed a plethora of instruments to cover the complexity of RS in GSCs. The resulting policy landscape has dynamically grown over the last decade, although it potentially falls short of an integrated and coordinated policy approach. The attempts have focused on pooling resources, avoiding fragmentation, and reducing complexity or legal uncertainty. Against this background, we highlight important lessons learnt for legal requirements from a governance and policy effectiveness perspective.

1 EU POLICY FOR IMPLEMENTING RESPONSIBLE SOURCING

The EU, under its political economic prosperity and sustainability agenda, perceives RS both as a means and an end towards its goals: RS is urgently needed for assuring (1) Sufficient supply of raw materials critical for the EU twin green and digital transition, and (2) Minimise further societal and environmental harm in and outside the EU in the light of the Europe 2030 Agenda and the SDGs. Against this background, political objectives and respective instruments for supply chain resilience and secure supply of Critical Raw Materials (CRMs) have been designed, as well as those looking to change company practices to minimise environmental and social/human rights impacts.

Consequently, the EU Member States can draw on a mix of instruments to target these objectives on both horizontal and product specific levels, and along voluntary and supporting as well as mandatory and enforcing measures (see Table 4.1): Essentially, the EU can draw on relevant experiences from a wide range of existing programmes, from the support for the implementation of labour standards and human rights in national legislation, to tools to enhance transparency and traceability in GSCs, to capacity building and empowerment of local producers, and support to civil society actors for ensuring corporate accountability (EU 2022).

Table 4.1 Overview of EU Member State and EU level responsible sourcing and due diligence legislation

<i>Year (adopted)</i>	<i>Commodity or sector-specific legislation</i>	<i>Year (adopted)</i>	<i>Horizontal legislation</i>
2020	EU—Taxonomy for sustainable activities (Finance)	2017	France—“Duty of Vigilance Act” (Loi de Vigilance)—France
2021	EU—Conflict Minerals Regulation (tin, tungsten, tantalum and gold)	2019	The Netherlands—“Child Labour Due Diligence Act” (Wet Zorgplicht Kinderarbeid)
2023	EU—Battery Regulation (battery materials)	2023	Germany—“Act on Corporate Due Diligence in Supply Chains” (Lieferkettensorgfaltspflichtengesetz)
2023 (adopted)	EU—Critical Raw Materials Act (EU critical raw materials)	2023 (adopted)	EU—Corporate Sustainability Due Diligence Directive

During the last two decades, private sector governance has left tremendous human rights and environmental impacts in GSCs. Its governance tools such as certification, standards and auditing have been criticised as being corporate-dominated and imposed by actors from the Global North, and suffer from severe legitimacy problems, ineffective auditing processes, liability loopholes, limited uptake, and shortcomings in the traceability of commodity chains (Fuchs et al. 2017; Mol and Oosterveer 2015; LeBaron et al. 2021; Schleifer et al. 2019; Schilling-Vacaflor 2021). Both, as a result of weak state capacity and corporate governance, the EU has devised stricter rules for RS in global supply chains in the form of product specific and sector-agnostic, or horizontal legal provisions, as regulations and directives. The major regulations and directives are described below.

1.1 Corporate Due Diligence and Corporate Accountability

At the EU level, the directive on Corporate Due Diligence and Corporate Accountability (henceforth referred to “Directive on Corporate Due Diligence”) was approved by the Council of the European Union. The directive obliges EU Member States to make laws requiring businesses to carry out effective due diligence in relation to human rights, the environment, and good governance in their operations and business relationships. While the development of the Directive has been welcomed by many actors, there are many open questions as regards its design features and enforcement measures. Several issues, in particular concrete obligations of companies and their legal liability, are highly contested (Schilling-Vacaflor 2021; Schilling-Vacaflor and Lenschow 2023).

1.2 Conflict Minerals Regulation

Concerning conflict minerals and human rights impacts, the EU passed the “Conflict Minerals Regulation” (CMR) in 2017 (EU 2017/821), which entered into force on January 1, 2021. The regulation specifies due diligence obligations for EU importers of tin, tungsten, tantalum, and gold (3TG) originating from Conflict-Affected and High-Risk Areas (CAHRAs). The regulation aims to ensure that: (1) EU importers of 3TG meet international RS standards, set by the Organisation for Economic Co-operation and Development (OECD 2013); (2) Global and EU

smelters and refiners of 3TG source responsibly; and (3) Generally, RS is implemented to end the exploitation and abuse of local communities, including mine workers, and support local development.

1.3 Battery Regulation

The European Commission proposed to apply RS requirements to minerals used in batteries under the so-called “Battery Regulation” (i.e. lithium, cobalt, nickel, and natural graphite) (European Commission 2021). The new European Battery Regulation is part of the larger European Strategic Action Plan for batteries, representing a Europe-wide law to modernise the EU’s regulatory framework for batteries, while securing sustainability principles and leading the global battery industry. The regulation strives to create common rules for battery production processes, waste products and recyclates, fostering an EU internal market for the battery sector and thus ensuring a level playing field. In addition, it aims to increase the sustainability of the battery sector by introducing requirements for circularity and for reducing environmental, social, and human rights impacts through all stages of the battery lifecycle.

At this time, it is considered the most advanced directive of its kind, covering the battery market of the entire EU, with consequences for the entire battery production ecosystem, given that the EU itself is a large market for electromobility and batteries in general (Degreif et al. 2022). The regulation proposes:

1. Mandatory recycling and recovery targets for critical metals from products as well as recycled content targets for new products that increase over time.
2. Mandatory social and environmental standards for critical metals in products to ensure the ethical sourcing of materials.
3. Mandatory maximum life-cycle carbon footprint thresholds for certain products based on a standardised calculation method.
4. Longer mandatory product lifetimes, green public procurement, and more information about a product, enabling more sustainable products (or their use).
5. Direct enforcement and no transposition into national law (avoiding legal requirements misinterpretation, followed by infringement proceedings).

1.4 Critical Raw Materials Act

The proposed Critical Raw Materials Act (CRMA) will foster access to critical and strategic raw materials (CRM) from domestic as well as international sources. With regard to RS, it will coordinate the build-up of strategic raw material stocks among EU Member States; develop strategic partnerships with CRM producing countries; and collaborate to strengthen their RS and sustainability performance along the supply chain. Against this background the CRMA facilitates the development of European standards for the exploration, extraction, refining, and recycling of CRMs, strengthening the EU value chain and EU resilience. These in turn will be relevant for any trade-related agreements with producer countries as well as any strategic mineral development projects the EU finances within or outside its borders.

The EU employs a series of other policy instruments, which do not directly address RS in mineral supply chains, covering aspects of trade, investment, finance, and reporting. For example, the Trade and Sustainable Development (TSD) chapters in EU trade agreements or the Generalised Scheme of Preferences Plus (GSP+) link unilateral trade preferences to the respect for core labour standards (EC [n.d.](#)). These actions directly influence RS practices in producer and manufacturing countries by facilitating the implementation of international conventions covering human and labour rights, environmental protection, and good governance. At its current stage, the CRMA's proposal for strategic partnership is heavily critiqued for its lack of specificity on irresponsible mining practices, inclusive and transparent development and monitoring processes, and mechanisms for providing financial support to producer countries (FERN et al. [2023](#)).

1.5 EU Taxonomy for Sustainable Activities

The EU regulation for sustainable activities, (henceforth referred to as "Taxonomy Regulation"), is the cornerstone of its sustainable finance framework and an important market transparency tool. It helps direct investments to the economic activities most needed for the twin green and digital transition. The [Taxonomy](#) is a classification system that defines criteria for economic activities that are aligned with a net zero trajectory by 2050 and other EU environmental goals. While the taxonomy primarily targets investments, it also contributes to greater transparency of corporate actions introducing specific disclosure requirements on financial

products, their manufacturers, and advisers, with the objective of reducing greenwashing practices (i.e. according to the revised Benchmark Regulation, benchmark administrators need to disclose whether their benchmarks take ESG into account and, if so, report on a set of indicators). Furthermore, by virtue of globally integrated capital markets and economic supply chains, the disclosure obligations on financial product issuers and corporations in the EU will create implications for international actors. This international influence of the Taxonomy will exist despite there being no intention to bind non-EU countries on their own sustainability or sustainable finance activities.

1.6 The Effectiveness of EU Policy

In conclusion, the EU has deployed several instruments which target the complex system of global supply chains and its actors, including Original Equipment Manufacturers (OEMs), lead firms and brands, suppliers, producers, implementing regulators, and impacted rights holders. They cover a wide range of instruments enforcing rules for market practices on investment, trade, minimum requirements for business practices impacting different dimensions, as well as corporate due diligence and chain of custody. Even though, the most impacting legal requirements (such as the Corporate Due Diligence reporting requirements) are still subject to change, the potential of changing business practices with regard to RS remains vague at best. In the following paragraphs, the authors provide insights on the current setup of legal requirements by looking into (1) Positive impact on the ground, (2) dimensionality, (3) convergence and (4) the potential to create a level playing field.

2 RESPONSIBLE SOURCING FOR CREATING POSITIVE IMPACT ON THE GROUND

The core idea of above listed EU policy instruments is to establish transparency in mineral supply chains by requiring a due diligence process to improve the situation on the ground. Specifically, regarding the first of its kind regulation—the EU Conflict Mineral regulation—the EU devised transparency in global supply chains as the best way to achieve its political and economic objectives: Supply chain resilience, access to resources, as well as mitigating its ESG impact beyond its borders (Vlaskamp 2019).

This signifies a policy trend towards increasing due diligence and management focused approaches and moving away from stricter command and control instruments. For example, sanction-based regimes often lack effectiveness due to limited governance or influence in the targeted regions. Consequently, transparency and due diligence systems are the dominant theory of change for EU policy (Härkönen 2018).

Considering the impacts on livelihoods of affected rights holders or the natural environment, the EU policy and institutional setting on RS is still in its infancy, and therefore difficult to assess, as changes to supply chain practices take time. This is reinforced since EU directives or acts (CRMA or EU Corporate Due Diligence Directive), compared to regulations, have EU Member States transposition timelines, which delay effective implementation by EU Member States by one to two years. However, given the possibility of learning from the shortcomings of the Dodd-Frank Act, such as disengagement from the Great Lakes region or the de facto embargo of conflict minerals, costly downstream chain-of-custody systems across the supply chains, and avoiding regional scope (global CAHRA) (Koch and Burlyuk 2020), the EU regulation has been designed accordingly.

Even though due diligence regulations have been partially successful with regard to conflict minerals, the effectiveness of these policies is perceived as highly contested for lacking comprehensiveness, enforcement, and stringency (Moser and Leipold 2021). As regards comprehensiveness, the current Conflict Minerals Regulation fails to impose legal requirements on downstream companies, refiners, or smelters that are either not required to comply with the Regulation or over whom European importers might not have sufficient leverage (Macchi 2021). Addressing its enforcement mechanisms, the current design lacks strong mechanisms, performance indicators, or processes for remedial actions and, therefore, runs into danger of giving rise to a box-ticking approach and failing to concretely incentivise RS (IPIS 2019; IPIS and PAX 2023). Against this background, the application of legal liability and access to remedy are necessary cornerstones for enforcing effective due diligence (Smit et al. 2020).

The existence of liability for corporate accountability and access to remedy are crucial for enforcing future EU legislation (Smit et al. 2020). Failing accountability by non-disclosure or reporting on due diligence would need to be penalised, fined, or should ultimately lead to the suspension of authorisation to place products on the Union's internal market (Schilling-Vacaflor and Lenschow 2023). Furthermore, access for victims

and rights holder to RS violations should be characterised by a decreased burden of proof for corporate misconduct. However, it is yet to be seen how recent or upcoming legislative proposals will interpret liability and corporate accountability and, on level of enforcement, how public administration will monitor company reporting, provide channels for remedy and support for victims, as well as an appropriate court system.

While due diligence legal requirements have the potential to address global supply chains in an integrative manner, they are characterised by ex-post remediation, governance challenges for implementation, or lack monitoring of impacts on the ground and company reporting. More directly targeting corporate behaviour or business conduct for RS in mineral supplier or manufacturing countries has the potential to improve the situation on the ground with regard to livelihoods, education, or environmental protection. Sustainable investment or facilitating an ESG friendly institutional setting in these countries directly via the EU trade policy (such as via the EU Taxonomy or trade and finance related aspects of the CRMA) has the potential to control impact more directly via RS practices.

2.1 Dimensionality: Addressing the Problem from Multiple Angles

The dimensionality of instruments goes beyond what has been traditionally considered the global supply chain (starting at mining operations and going all the way to retailers). This trend can be explicitly perceived in the underlying principles of the newly established instruments (i.e. EU Taxonomy) as well as in parts of others (e.g. trade and finance related aspects of the CRMA). With regard to capital markets and financial products, public and private investment is directed towards facilitating more sustainable business models via the EU Taxonomy. Similarly, the CRMA establishes rules for RS in mineral project feasibility: It assesses a project's feasibility and investment potential based on ESG criteria, potentially utilising the [United Nations Framework Classification for Resources \(UNFC\)](#).

From a political economy perspective, this trend signals that RS is better perceived and acted upon in a systemic and market economy-wide approach as compared to a corporate level management only. It signals that actors and institutions, for example investors and capital markets who are traditionally beyond the scope in mineral supply chains, are important cornerstones in enabling a system-wide change and bringing about a

paradigm shift for RS in the economic system. Against this background, recent research identified three key pathways enabling this paradigm shift in GSC for system-wide implementation of RS: (1) Governments policies; (2) Corporate strategies and their governance of mineral supply chains, and (3) Change in current business models towards more circularity (Farooki and Barriere 2023).

While the normative perspective of human rights and social and economic dimensions in RS has permeated the public policy discourse, environmental or others such as circular economy or secondary raw materials have only started to be considered. With the Battery Regulation introducing circularity and HREDD as important dimension, we also see the EU Taxonomy and trade related instruments (CRMA) covering a wider range of ESG dimensions. This trend towards a more comprehensive approach to RS in different sector specific or sector-agnostic horizontal policies will most likely materialise in upcoming decades in many other EU proposals.

2.2 *Convergence or Fragmentation?*

The development perspective of recently introduced (e.g. EU conflict Mineral Regulation) or upcoming EU policy instruments (e.g. Directive on Corporate Due Diligence) directly targeting RS as well as those indirectly targeting RS (e.g. investment and trade) is both a sign of a widespread effort to address the problem from different angles as well as potential fragmentation and incoherence. Given the spread of current EU policies facilitating RS across multiple policy domains (security of supply, responsible business conduct and RS), the EU follows a holistic framing as what is required by confronting problems that relate to many subsystems, fragmented knowledge, and multi-actor constellations (Endl 2017). While addressing RS from different dimensions or policy sectors (e.g. investment or trade) is potentially beneficial to holistically engaging with these issues, it might affect implementation of said policies (legitimacy, goal coherency, shared administrative resources, etc.) (Head and Alford 2015). While the battery regulation has the benefit of combining different policy objectives (i.e. circularity and mandatory social and environmental standards) for an emerging industry sector, it might fall short of integrating goals of other policy domains and future proposed instruments (Directive on Corporate Due Diligence).

Efforts of policy integration pursue the convergence of two (or more) policy domains in recent policy developments and are of utmost importance for effective implementation (Nilsson et al. 2012) such as reducing administrative burden of public administration and avoiding conflicting legal requirements. The private sector led RS initiatives are more diversified and mature, but still characterised by fragmentation of different industry standards, certification & auditing schemes, and responsible business conduct initiatives. However, we are seeing first ex-post efforts to harmonise and converge these initiatives (e.g. Joint Due Diligence Standard for Copper, Lead, Molybdenum, Nickel and Zinc). While EU policy still appears to be in its dynamic and diversified development stage, given its current early development path, its RS policy has the potential to avoid pitfalls of a fragmented policy area (Persson and Runhaar 2018) and avoid mistakes of other EU policy arena's.

The EU Battery Regulation provides an exemplary case for integrative policy design (Degreif et al. 2022): Funding and administrative resources for evidence-based policy expertise, collected via consultative and multi-stakeholder processes, and legal advisory processes are prerequisites for an integrative policy design and an effective policy.

While we see that RS is being streamlined into other EU policy domains (investment or trade in the CRMA or EU Taxonomy, it is yet to be seen whether the current efforts materialise in a synergistic or antagonistic way. Currently, the policy design processes for RS considers multi-stakeholder consultations to guarantee consideration of policy-domain, transcending aspects potentially conflicting with goals of RS (e.g. trade protectionism, business confidentiality, etc.). New or revised legal instruments have the possibility to implement delegated acts that serve to amend, or supplement, the non-essential elements of the legislation to adapt certain aspects. There are other ways for guaranteeing conformity and coherence of what is considered RS from a substantive perspective: This includes the application of a generally recognised framework (such as the OECD Due Diligence Guidance for Conflict Mineral Regulation and Battery Regulation) or the utilisation of recognized supply chain due diligence schemes to recognise legal compliance (i.e. CMR). In conclusion, even though the design of current RS policy is characterised by a fragmented and diverse landscape, for certain, the normative diffusion of RS has firmly taken a foothold in the European policy landscape and is now in its uptake stage.

2.3 *Addressing Fragmentation, Complexity and Complementarity: The Consultative Process for National Mining Policy in Chile*

In designing legislation and regulations to support RS practices, governments have several tools at their disposal. Based on the research and consultations in the RE-SOURCING Project, we highlight one good practice example for policy design to which important lessons can be applied from the EU policy discourse on RS (Farooki and Barriere 2023).

As noted in Chap. 3, the RS agenda of extractive companies and downstream operations is influenced by the national legislation of jurisdictions they operate in, as well as sustainability standards and client requirements. The fact that managing the sustainability of mineral supply is a complex problem (Everingham et al. 2013; Endl 2017), requiring the deliberative engagement of diverse interests and capacity to exert influence on under-represented actors, requires governments to utilise a consultative approach in public policymaking. In doing so, it provides governments with a unified vision for the country, such that all mandatory and voluntary RS mechanisms follow a harmonised approach as well as increased public legitimacy and expert advice (Andersson 2008).

Balancing these RS approaches and the needs of different stakeholders can be a challenge to governments. Furthermore, a government needs to ensure that all companies operating in its jurisdiction face the same requirements, rather than reflecting different practices based on their operating headquarters.

One way to support policymaking are participatory or multi-stakeholder processes, such as in the form of consultations, which have the aim to: (1) Collect knowledge to successfully address societal challenges and (2) Facilitate greater commitment for policy implementation. The RE-SOURCING project investigated the multi-stage consultation process, identifying appropriate stakeholders for consultation—technical and legal experts, communities, mining companies, environmental groups, and human rights advocates organised by the Ministry of Mines and Energy of Chile. Such a policy, based on consultations and consensus building, considers all viewpoints from the start and allows for a better-informed sustainable mining policy. This also limits the ‘frequency’ of changes that will be required to update the policy later, to incorporate issues that may have not been considered.

Given the plethora of standards, civil society initiatives, federal vs. provincial level legislative requirements and differing RS needs, a good practice for policy design can be based on an ex-ante national consultative process. Such a process consists of the following elements:

- Designing and implementing an inclusive and nationwide consultation process;
- Capitalising on the benefits of an inclusive and multi-phase consultation process for policy development; and
- Creating a consultation process that allows for discussion and insights into strategic choices, challenges and success factors of a national mining policy for addressing RS.

The first step is to clearly define the objective of the consultative process. Objectives can range from providing a platform for stakeholders to raise concerns, gather information, or to make transparent conflicting interests or build consensus among stakeholders. The objectives should then be provided with an adequate stakeholder exchange process and sufficient resources by public authorities. This would include the appropriate allocation of time, human resources, and financial resources needed to cover the consultation process. Consultations at the national level require sufficient time to leave adequate opportunities for concerns to be heard and made transparent.

There are diverse stakeholders in the mining sector with differing political and economic resources to exert influence. Consultations need to prepare against these considerations, and thus carefully plan how stakeholder involvement and engagement takes place. Engagement should take account of inclusiveness and transparency in the consultation process. This requires an active monitoring of participation from representatives of all stakeholder groups. Where required, additional efforts need to be made to increase participation from potential underrepresented stakeholders.

As discussed in the introductory chapter, the issues around RS are manifold and can vary according to geography, political institutional setting, and stakeholder interests. Given the number of issues and topics that can arise in consultations around RS and sustainability, a pyramid approach can be utilised, where the consultation starts with the identification of primary issues that are expanded in each set of consultations. This, ultimately, requires an experienced team of experts to track issues emerging during consultations.

2.4 *Creating a Level Playing Field*

Legal requirements for RS processes set and enforce standards for businesses, regulate markets, and, ultimately, foster a level playing field, that is, a state in which conditions in a competition or situation are fair for everyone. Policy instruments take the form of legal requirements or prescriptions to address the availability of choices and behaviour of its targeted actors across entire industry sectors. Setting mandatory requirements is crucial for protecting companies with high ESG standards from competing market actors with lower prices and lower standards. The Battery Regulations exemplifies such an approach by introducing higher ESG standards for EU manufacturers as well as imported products, and therefore creating a level playing field for EU based battery producers as well as for non-EU-based companies practicing RS for the European battery market.

While legislative requirements provide the necessary mandatory push for corporate actors to implement due diligence processes and facilitate the uptake of RS practices, further actions in the form of accompanying measures are required to support actors throughout global supply chains. As such, as mandatory due diligence processes come into play, all supply chain actors will need to upgrade and extend the systems to identify, prevent, mitigate, and remediate social and environmental risks. This requires, for example, supply chain transcending actions such as (1) Guidance for different actors such as investors (EU Taxonomy); (2) Multi-stakeholder initiatives such as RE-SOURCING, business associations or unions to pool resources, increasing trust and cooperation between supply chain actors across multiple jurisdictions; or (3) Addressing structural or systemic issues such as weak legal systems in partner countries via trade-related aspects found in the CRMA.

3 CONCLUSIONS

This chapter provides a general overview of the landscape and discourse of EU level RS policy. It identifies both specific RS policy (e.g. Battery Regulation) as well as related or horizontal policy instruments covering aspects of RS (e.g. CRMA, EU Taxonomy) for specific actors, for example, investors, or commodities (e.g. 3TG). The chapter continues its analysis of the political economy in European RS policy by investigating

different attributes such as a positive impact on the ground, dimensionality, convergence, or fragmentation as well as a potential to form a level playing field.

Over the last decade, the EU policy discourse on RS has garnered widespread attention by policy makers and, consequently, led to the development of different mandatory policy instruments aiming to change the corporate code of behaviour. Both, as a result of weak state and corporate governance, the EU has devised stricter rules for RS in mineral supply chains in the form of product-specific and sector-agnostic, or horizontal legal provisions as regulations and directives. With commodity specific legal requirements (EU Conflict Mineral Regulation) at the beginning, several policies followed suit covering a multitude of dimensions (e.g. Circularity or HREDD in the Battery Regulation), representing sector-wide integrated legal frameworks for due diligence (i.e. Battery Regulation), or market actor-targeted approaches (EU Taxonomy Regulation), such as investment. While EU policy deploys a plethora of instruments to cover the complexity of RS in supply chains, a policy landscape dynamically grown over the last decade potentially falls short of an integrated and coordinated policy approach pooling resources, avoiding fragmentation, and reducing complexity or legal uncertainty.

While legal requirements compel business into action, they do not necessarily reduce complexity, nor safeguard a level playing field at an international level without, for example, adequate leverage, partnerships, and trade agreements, as well as research and innovation. It requires a policy mix of mandatory requirements and enabling instruments to fully capture the complexity and scale of the problem at hand. Due to the complexity of global supply chains (e.g. crossing multiple jurisdictions), the involvement of multiple actors (suppliers, producers, rights holders), as well as the multitude of RS issues, a smart mix of instruments is required to accompany mandatory rules. Accompanying measures provide the guidance and support needed to incentivise and facilitate RS more holistically by reinforcing the effective uptake and implementation of the legislation. The combination of mandatory requirements, voluntary actions and accompanying measures can ensure that HREDD brings about the paradigm shift and a system wide transformation towards sustainable global supply chains that is necessary to improve working conditions, secure livelihoods and protect the environment.

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The Local, National and Global Visions

*Shahrzad Manoochehri, Emanuele Di Francesco,
and Mathias Schluep*

Abstract This chapter takes stock of the learnings from the three Global Advocacy Fora organized in Latin America, Africa and China by the RE-SOURCING project and aims to explore the concept of Responsible Sourcing from a regional and local perspective. It tracks the regional challenges and priorities for achieving responsible sourcing and highlights some good practice examples implemented by governments, businesses and civil society associations. The chapter acknowledges that the common goal for these resource-rich regions is to achieve economic development associated with environmental and social responsibility. Despite this common goal, these regions exhibit distinct challenges and priorities and follow specific pathways towards Responsible Sourcing based on their economic context, political framework and social structures. Given China's dominance in the critical minerals supply chain and its increasing investments domestically and abroad, the country's main challenge is to improve its environmental, social and governance (ESG) performance and to align

S. Manoochehri (✉) • E. Di Francesco • M. Schluep
World Resources Forum Association, St. Gallen, Switzerland
e-mail: shahrzad.manoochehri@wrforum.org;
emanuele.difrancesco@wrforum.org; mathias.schluep@wrforum.org

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its due diligence and responsible sourcing standards with the international initiatives and legislation. In contrast, Latin America and Africa prioritize enhancing mineral beneficiation and adding value beyond the mining stage in compliance with ESG standards and aim to utilize these benefits for their sustainable growth and socio-economic development.

Keywords International dialogue • Africa • China • Latin America

One of the key objectives of the RE-SOURCING project was to engage with international stakeholders to foster the application of the Responsible Sourcing (RS) concept in global agenda setting. Although the RS agenda is being addressed by a number of global initiatives and institutions, its concept and implementation remain imprecise. This stems from the fact that international actors focus on different aspects of RS; some focus on governance, and others on the environment, while still others on supply chain due diligence in general or on commodity-specific approaches. They operate at different levels of complexity, reporting and operationalization, and their engagement with varying stakeholders is inconsistent across initiatives.

In pursuit of an effective dialogue around challenges associated with the implementation of RS practices in Latin America, Sub-Saharan Africa and China, the RE-SOURCING project strategically built an open and balanced multi-stakeholder engagement process in each of these regions. Our understanding of stakeholders' priorities and challenges and how they approach RS is summarized in this chapter.

1 LATIN AMERICA

Latin America is an established producer of several Critical Raw Materials (CRMs) essential for a green transition involving the clean energy, mobility and electronics sector. It can build on its well-established mining sector, which currently accounts for 40% of global production of copper and 35% of the world's lithium (Bernal et al. 2023). It also has the potential to diversify into other minerals and avoid the global market shortfalls and bottlenecks that could threaten the pace of the green transition. However, to tap this potential, mining activities must adhere to high ESG standards and generate tangible benefits for local communities. Priorities and challenges in mineral supply chains to achieve a sustainable future include a multitude of elements as discussed below.

1.1 Challenges

Latin America has seen numerous emerging RS initiatives to achieve sustainable development in the mining sector. On the one hand this is a positive trend, indicating an increasing awareness and political will for RS policies. On the other hand, the Economic Commission for Latin America and the Caribbean (ECLAC) has raised concerns that the lack of coordination and divergent objectives of these initiatives could be confusing and burdensome to the stakeholders. These initiatives could become a hindrance in achieving RS goals (Hoheisel et al. 2022). In addition, the Andean region, where the majority of copper mines are located, lacks infrastructure and national institutions that can provide accreditation and certification services. Furthermore, company reporting on sustainability is still voluntary, leading to different reporting metrics that lead to an inability to compare data and ESG performance (Hoheisel et al. 2022).

European Commission for Latin America and the Caribbean (ECLAC 2021) has identified near-term challenges for the production of lithium that include regulatory delays for mine projects, inadequate infrastructure, and a lack of coordination in the lithium triangle (Argentina, Chile and Bolivia). Special challenges were identified in establishing downstream value chains, a process exposed to further obstacles. This includes limited local technological production capacities which need to be developed, and the lack of a large domestic market for batteries that is typically required for electric mobility and renewable energy.

1.2 Priorities

To tap the potential mining opportunities, future exploration projects would benefit from updated national geological surveys, as the current geological information does not always cover critical minerals related to the green transition (Bernal et al. 2023). Although countries like Chile, Brazil and Colombia have made advances, more information alone will not be sufficient to trigger the investment needed to fully exploit these resources. Governments need to establish frameworks to attract increased investments in mining and processing activities, setting clear regulations and creating incentives while ensuring compliance with ESG standards.

Addressing the challenges described above, a key priority is to improve the ESG performance in the sector, while maintaining existing production competitiveness. This will also aid in addressing the long-term challenges

involving more complex issues. For example, in the lithium triangle of Chile, Argentina and Bolivia, water scarcity is a particular challenge. Increased investments coupled with a long-term ESG strategy are needed to address it. ESG measures need to be translated into comprehensive policies, new innovative business and relationship models. Furthermore, supporting affected communities in their transformation and evolution is a fundamental requirement for the Latin America mining sector (Hoheisel et al. 2022).

In Latin America, mining projects can face particularly strong opposition from local communities. According to the Environmental Justice Atlas (EJAtlas 2023), 45% of reported conflicts are located in Latin America, where mining activities are often located near sensitive and biodiverse ecosystems, many of which are home to vulnerable communities. Therefore, the strengthening of social capital and civil society trust in the mining sector with focus on the local communities is another key priority for the region.

Related to sustainability standards, the government of Chile has acknowledged the need for driving forward digitalization and technological change to provide more robust and independent monitoring solutions, such as the use of mobile sensors or cameras that collect data and measure environmental impact (SONAMI 2021).

1.3 *Good Practice Examples*

An important development in Latin America aimed at fostering responsible and sustainable mineral supply chains is the Chilean National Lithium Strategy, announced in 2023. This initiative has a primary goal of enhancing lithium production while concurrently addressing its environmental impacts by fostering collaborations between the public and private sectors. More specifically, this strategy includes a comprehensive array of measures designed to integrate investment, advanced technology, sustainability practices and value addition into the productive sector, all while maintaining a harmonious relationship with local communities (see Fig. 5.1).

With the promotion of public-private partnerships across the entire industrial cycle of lithium, the government aims to have a key role and stake in projects that are strategic for the country and be able to facilitate social equity and achieve economic development through fair distribution of revenue generated from lithium mining among its citizens (National Lithium Strategy 2023). This strategy is in line with the Chilean National Mining Policy (NMP) 2050, which envisions to establish a mining

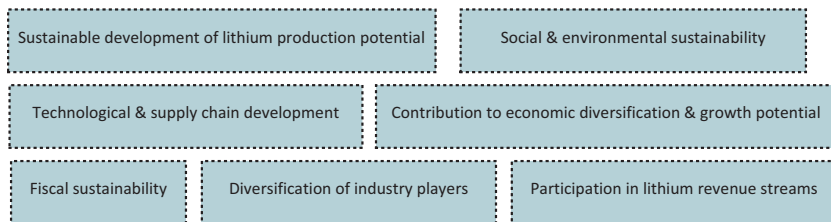


Fig. 5.1 The seven key objectives of the Chilean National Lithium Strategy. *Chile National Strategy, 2023*

industry as the leading force for sustainable development in the country (NMP 2022).

On an industrial scale, large mining companies active in Latin America are actively trying to comply with ESG best practices, particularly those standards with significant recognition in international markets, with investors as well as local communities. For example, some of the large mining companies operating in Chile and Peru are members of the International Council on Mining and Metals (ICMM), Initiative for Responsible Mining Assurance (IRMA) and comply with Extractive Industries Transparency Initiative (EITI) Company Standards and try to achieve the requirements of the London Metal Exchange (LME) Responsible Supply Chain initiative, The Copper Mark or Global Reporting Initiative (GRI) reporting requirements.

Several companies have tried to align their actions with global objectives and principles for sustainable and responsible management in the countries they operate in. These actions include establishing targets for incorporating renewable energy into their operations, effectively managing water consumption including wastewater and tailings, preserving biodiversity, engaging with local communities and enhancing traceability efforts (Hoheisel et al. 2022). For example, in 2019 Antofagasta Minerals, a Chilean mining company, teamed up with various global mining enterprises to engage in the Blockchain Initiative for Mining and Metallurgy. Their objective was to create a platform that streamlines supply chain operations, enables traceability and supports sustainable practices. Additionally, in 2018, Codelco reached a notable achievement as being the first copper mining company globally to manufacture traceable cathodes. Moreover, they established partnerships with automobile manufacturers to advocate for sustainably labelled copper in accordance with the ISEAL guidelines (Hoheisel et al. 2022).

Given the importance of the ASM sector in Latin America, several initiatives have focused on improving RS practices for this sector. Among others, the Fairmined standard and certification scheme, established in Colombia (2014), can be mentioned. The Fairmined label guarantees that the gold originates from ASM organizations that adhere to the Fairmined standard. This label ensures that the gold has been extracted in a manner that respects nature, upholds human dignity, promotes sustainable development and actively contributes to improving lives within these mining communities (FAIRMINED n.d.).

2 AFRICA

Mining is an important industry in many African countries, being a key contributor to their GDP (Awases et al. 2023). Africa produces more than 70% of the world's cobalt, 60% of manganese, 34% platinum (USGS 2023), 25% of bauxite, nearly 15% of copper and a significant portion of graphite (Coetzee et al. 2023). Africa's overall share in global mineral exports containing CRMs of strategic importance to the EU for a green transition is so far limited. Though, Africa clearly is at the cusp of a generational opportunity to capitalize on the growing demand for these materials. Just as these raw materials are essential for the development of the EU, they are equally essential for Africa's own development needs. The African Union (AU) formally adopted the Africa Mining Vision (AMV) in 2009 (African Union 2009). The AMV represents an African continental policy instrument made operational through national actors, policies and mechanisms. Through individual Country Mining Vision, individual countries align their mining laws and policies to the tenets of the AMV. To ensure that the continent can benefit from the opportunity, the sector is becoming fully aware of its priorities and challenges, as summarized below.

2.1 *Challenges*

Since 2009, when the AU formally adopted the AMV, there has been considerable progress in advancing its implementation on the continent. The weaknesses in the governance of Africa's mineral sector, however, have served to undermine the continent's aspirations for peaceful and inclusive societies based on the prudent and sustainable use of mineral resources (African Union 2017). New policy frameworks on national and local levels must provide the right framework conditions to operationalize ESG

initiatives effectively and sustainably. This requires a common understanding of the environmental and social impacts of mining operations and the economic impact of the sector on the continent. The common understanding also needs to address the increased demand from stakeholders for supply chain transparency and sustainability. One key obstacle has been how to get from (political) commitments to action. Trustful and transparent collaboration has proven to be challenging, but will be required with industry players, local governments, their supply chains and even across industry. “If the mining sector, communities, supply chain and governments work together, the outlook for the industry on the continent will be bright” (Coetzee et al. 2023).

2.2 *Priorities*

Since the adoption of the AMV in 2009, two important support tools have been published, meant to set and implement priorities for African countries, namely *A Country Vision Guidebook* (AMDC 2014) and the *African Minerals Governance Framework* (African Union 2017). While the guidebook provides clarity and direction for the design and implementation of Country Mining Visions (see Fig. 5.2), the framework has been designed to deepen the commitment in response to the specific challenges

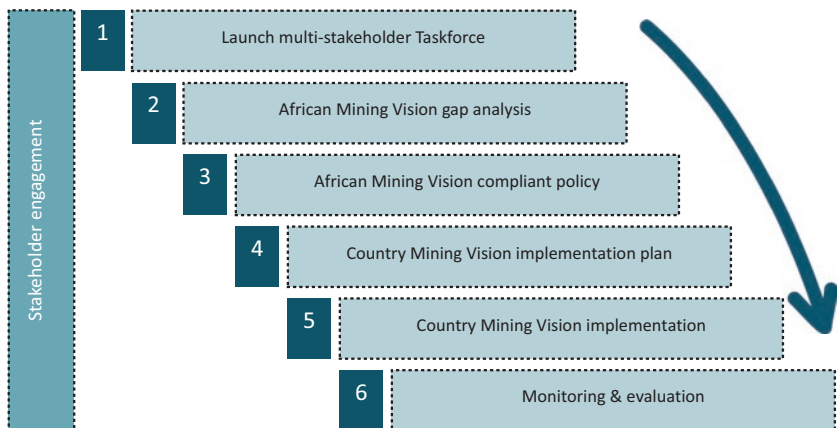


Fig. 5.2 The Country Mining Vision process according to the Country Mining Vision Guidebook. Africa Mineral Development Centre (2014)

facing Africa's mineral sector and serves as a monitoring and accountability tool to determine national progress with the transformative ambitions of the Vision. More specifically, these national policies aim to disrupt conventional silos and encourage connections between traditional institutions overseeing the extractive sector and those responsible for infrastructure, industrial development, agriculture, trade, education, research and development (Pedro 2016).

The framework is structured around the six thematic pillars, which can be read as the priority areas for the development and implementation of Country Mining Visions:

1. Develop legal and institutional frameworks for contracts and licensing with the aim for greater transparency in licensing and management of mineral rights.
2. Provide a geological and mineral information system to provide comprehensive knowledge of geological and mineral endowment, leading to broad-based development.
3. Implement fiscal regime and revenue management to optimize the share of revenue accruing from mineral resource extraction.
4. Allow for linkages, investment and diversification, to spur a knowledge-driven minerals sector that is a key component of a diversified, vibrant and globally competitive industrialized African economy.
5. Support artisanal and small-scale mining, with the objective of improving entrepreneurship in an environmentally and socially responsible manner, leading to sustainable livelihoods, growth and development.
6. Address environmental and social issues, towards improved and sustainable quality of life for mining-affected communities and the country as a whole.

2.3 *Good Practice Examples*

As a follow up to the AMV, several relevant initiatives were developed at the continental and national level. In 2013, the African Minerals Development Centre (AMCD) was formally launched to coordinate and oversee the implementation of the AMV and to translate its objectives into practical solutions. The AMCD supports the AU Member States in implementing the AMV, identifies gaps and areas of needs and provides

expertise, technical support and guidance to address such needs. This is done through the development of the Country Mining Vision and the supporting guidelines as mentioned above.

In line with the strategies being developed in other regions and countries, relevant African institutions¹ are developing an African Green Minerals Strategy. One of the key pillars of the strategy is to “promote mineral stewardship to responsibly guide the environmental, social and governance aspects of green minerals, together with increasing materials reuse and recycling” (ADB 2022). Alongside this strategy, several regional and national bodies are focusing on adopting mineral beneficiation-oriented policies as a method for achieving structural transformation (Mamina et al. 2020). As an example, under its Value Addition and Beneficiation Strategy, the Ministry of Mines and Mining Development of Zimbabwe banned the export of unprocessed lithium to other countries in 2022. It now requires foreign investors to dedicate part of their investments to establishing and improving mineral processing and beneficiation capacities in the country (ZELA 2023). The effectiveness of such strategies to achieve their goals needs to be established.

At the industry level, many multinational enterprises (MNEs) active in Africa have recognized the need for more accountability in their operations and have been trying to comply with ESG best practices by following international standards and initiatives such as those set under the standards from the ICMM, IRMA, EITI and International Labor Organization (ILO).

Considering the key role of the ASM sector in Africa, several RS initiatives have specifically targeted this sector focusing on the key challenges that the sector is facing. These issues are grouped into five main categories including lack of access to mineral rights, access to capital, access to market, technology and skills, and institutional support (Ledwaba 2017). Among other initiatives, the Artisanal Gold Council (Artisanal Gold Council n.d.), ITSCI scheme (ITSCI n.d.) and the Great Lakes Region’s Mineral Certification Framework (BGR n.d.) can be pointed out. The latter initiative is a government-led scheme against the illegal exploitation of natural resources and consists of related elements such as formalization of the ASM sector, a regional mineral certification mechanism, the EITI standard, a

¹The African Minerals Development Centre (AMDC), the African Legal Support Facility (ALSF), the UN Economic Commission for Africa (UNECA) and the UN Development Programme (UNDP).

database on conflict mineral flows and a whistleblowing mechanism, and the harmonization of relevant national legislation across the Great Lake region (BGR n.d.). Given the complexity and diversity of the sector, a coordinated and integrated approach including government departments and other relevant supporting institutions is required to promote and develop the sector (Ledwaba 2017). One important fact about these initiatives is that in the absence of sustained public funding and efficient community development programmes, the potential for scalability and sustainability of these initiatives could be uncertain (Mancini et al. 2021).

Regarding the financial sector, the African Tax Administration Forum (ATFA) launched The Future of Resource Taxation project in 2020. This project seeks to rethink the financial gains that developing countries can derive from their mineral resources. It aims to foster a specialized conversation among governments, civil society and industry, encouraging the exchange of ideas on enhancing the existing mining taxation system and discovering novel fiscal strategies. These approaches are designed to help resource-rich countries optimize their mineral wealth returns. South Africa's Carbon Tax Act (2019) is another good example of this and is based on the polluter-pays-principle, helping to ensure that firms and consumers take these costs into account in their future production, consumption and investment decisions. Furthermore, many companies in South Africa are reported to follow the IFRS (International Financial Reporting Standards) Accounting Standard and the IFRS Sustainability Disclosure Standards as well as the TCFD (Task Force on Climate Related Financial Disclosures) requirements. In response to increasing interest from the investors, the Johannesburg Stock Exchange (JSE) developed the Sustainability Disclosure Guidance and the Climate Change Disclosure Guidance² that provides guidance on topics that are essential for sustainable and responsible functioning of capital markets. Many large mining companies operating in the SADC (South African Development Community) region are reported to follow and subscribe to these initiatives.

3 CHINA

China is the dominant player in global mineral processing and currently controls most global critical minerals mining and refining. Crucially, it controls much of the world's EV battery manufacturing, as well as the

²This guidance document is specifically tailored to the South African context.

manufacturing of wind turbines, solar panels, energy storage and electric transmission, among other applications (Castillo and Purdy 2022). At the current stage, the world is highly dependent on sourcing from China to advance the energy transition and meet decarbonization goals. However, China still depends on securing raw materials from abroad. Chinese companies have increasingly invested in mining assets in developing countries as well as in more established mining jurisdictions such as Canada and Australia, hitting a record high in 2023.

China's investment in the sector includes copper, lithium and nickel projects, highlighting intensifying efforts by Chinese companies to secure access to key resources amid forecasts of booming long-term demand as the world fights climate change (Financial Times 2023).

3.1 *Challenges*

Due to the large domestic mining sector, one of the main challenges for China is to address severe environmental damages and impacts on the traditional social functioning of local communities (Zhou et al. 2021). Another major challenge is related to governing the large number of small to medium-scale mines. These lack the technical and financial capacity to improve their performance, often struggling with high production costs (Li et al. 2017). Little information is available for the ASM sector in China. Assessments in the early 2000s estimated near 4.3 million employees, representing almost 55% of the total workforce in mining (Shen and Gunson 2006).

Given China's dominance in the critical minerals supply chain and its increasing investments abroad, related challenges are also associated with China's mining activities abroad. In a recent report by the Business & Human Rights Resource Centre (BHRRC 2023), China has been associated with 102 violations over the past two years as the country focuses on transition minerals projects abroad to support its green-energy technology. The main countries affected, as listed in the report, are Indonesia together with Peru, the Democratic Republic of Congo (DRC), Myanmar and Zimbabwe. Most allegations involve human rights abuses against local communities, negative environmental impacts and violation of workers' rights. It has to be noted that allegations of human rights violations, environmental harms and labour abuses are as much present in mining operations linked to Canadian, US, UK, Australian and European companies and investors (Lakhani and Hawkins 2023). The findings just underline

growing concerns that the demand for minerals for the green transition is repeating unjust business practices that have long dominated fossil-fuel and mineral extractions.

3.2 *Priorities*

To mitigate environmental pollution and control resource consumption, especially in the phase of fast economic development, China pledged to a series of rigorous environmental regulatory actions and goals at an early stage, where mining has been addressed as central role. For example, in 2010, the Ministry of Land and Resources launched the “green mines” standard and related guidance documents. The guidance documents addressed both existing and new mines and aimed to facilitate and improve the development of green mines (Dolega and Schüler 2018). Unfortunately, only scarce information is available in the English language, and only a few scientific papers by Chinese authors summarize the current status of the initiative and its requirements (Dolega and Schüler 2018). Other measures were introduced in the format of a “Guidance to Facilitate Development of Green Mines” and the “Strategic Alliance for Development of Green Mining” in 2017.

Related to the challenges of Chinas’ foreign investment in mining activities and associated violations, it is important to understand that Chinese companies “do not inherently behave worse than their Western counterparts”. As such a more differentiated debate on the topic is needed. Dolega points out that “the image of the sector needs to improve as a whole, regardless of the company’s origins” (Dolega and Schüler 2018). Therefore, a key priority for China lies in a more collaborative approach relying on dialogue between all parties, sharing positive experiences and exchange of knowledge. China is also aware that compliance with in-country legislation only is no longer the norm and that investors, lenders and consumers’ requirements and expectations need to be met in a transparent way. As a result, most Chinese mining companies are working towards compliance with Good International Industry Practice (GIIP)—and this landscape keeps evolving, especially with the introduction of a range of lender safeguards, responsible mining and sourcing standards and improvements to international standards and guidelines (van Zyl and Jordaan 2023). Another priority is also seen to adapt to standards and frameworks relevant to the financial sector, such as the Equator Principles (Equator Principles Association 2020) and IFC Performance Standards (IFC 2012).

3.3 *Good Practice Examples*

The strong presence of China in other countries and more specifically in Africa's mineral supply chains and its role as an economic power in the region has led to many critiques related to socially and environmentally adverse practices (van den Brink et al. 2019; Buhmann 2017). In response, China has introduced several initiatives that could lead to improving its performance in RS of raw materials both at the international and national levels. Among others, two major initiatives developed by the China Chamber of Commerce of Metals, Minerals and Chemicals (CCCMC) can be highlighted: the Guidelines for Social Responsibility in Outbound Mining Investment (2014) and the Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains (2015) (see Fig. 5.3), which resulted from a close collaboration between CCCMC and the OECD. The objective of these guidelines is to align Chinese companies' due diligence with international standards and allow for mutual recognition with existing international initiatives and legislation.

The guidelines have a special focus on human rights (Buhmann 2017) and apply to all Chinese companies which are extracting and/or using mineral resources and their related products and are engaged at any point in the supply chain of minerals. Companies engaged in the supply chain of other natural resources are also encouraged to use the guidelines as a reference.



Fig. 5.3 The five-step risk-based approach of the Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains. Source: CCCMC (2015)

One important aspect of the CCCMC guidelines is that it recognizes the key role of investors in contributing to local development and encourages them to deploy proper due diligence to ensure that companies within their investment portfolio conduct impact assessments and identify and effectively manage any harmful impacts (Buhmann 2017). While some critics question the effectiveness of these guidelines, pointing to their voluntary nature and underlying motivations (Buhmann 2017), these efforts have nonetheless been acknowledged as a significant step towards responsibly sourcing raw materials that have the potential to kickstart the long-term integration of due diligence on an international scale (van den Brink et al. 2019; Dolega and Schüler 2018; Saegert and Grossman 2018).

Another important initiative developed by the CCCMC and supported by the OECD is the Responsible Cobalt Initiative (RCI), launched in 2016. The initiative aims at addressing environmental and social risks along the cobalt supply chain, increasing transparency and improving supply chain governance. Furthermore, the initiative envisages to promote cooperation with the Government of the DRC and other involved stakeholders and develop an effective communication strategy to communicate progress and results to impacted communities and harmonize working objectives with other stakeholders (RCI n.d.). Currently many MNEs, from both up- and downstream are implementing the Responsible Cobalt Initiative. Moreover, CCCMC has become a member of the Global Battery Alliance that addresses the environmental and social issues in the battery supply chains (Dolega and Schüler 2018).

Alongside these efforts, the Chinese financial industry has taken actions to enhance its global operations, emphasizing thorough management of environmental and social risks. Financial institutions are encouraged to actively consider the Equator Principles and other globally recognized best practices. Moreover, numerous major financial institutions have established their own corporate social responsibility (CSR) standards, aligning them with those of recognized international organizations such as the World Bank and International Development Bank (Dolega and Schüler 2018).

4 WHY THE GLOBAL PERSPECTIVE MATTERS

Mineral value chains are inherently global in nature, and RS can only be achieved with a certain degree of mutual understanding, collaboration and a level playing field across all the actors involved. This interdependence

underscores the importance of adopting a global perspective when addressing RS and sustainability issues. At a general level, there are three main dimensions on why the global perspective matters:

- **Global resource supply:** Due to finite resources, supply disruptions in one region can have cascading effects on global supply and production capacity. This has both economic and social implications and affects the speed at which clean energy technologies can be adopted around the world.
- **Environmental impact:** Environmental challenges associated with mineral extraction and processing, such as carbon emissions, water pollution and biodiversity loss, go beyond national and regional borders. Solutions to these challenges require cooperation at the global scale.
- **Global demand and economic impact:** The minerals industry is a significant contributor to national and global economies. Mineral supply chains play a pivotal role in the economic development and well-being of nations and whole continents. Countries reliant on mineral exports often face economic vulnerabilities when global demand fluctuates, impacting employment and livelihoods. This calls for a stabilization of markets to ensure economic sustainability, including diversification of economies reliant on mining activities.

4.1 Common Pathway, Goals and Objectives

Achieving sustainability in mineral supply chains hinges on the establishment of common goals, shared by local, national and global stakeholders. These common objectives should serve as guiding principles to foster collaboration and drive RS efforts. Summarized below are common pathways and goals that can be noticed across the Latin American region, the African region and China (see Fig. 5.4).

Considering the increasing demand for minerals, the first priority for resource-rich countries is to leverage their mineral resources endowment to serve the economic and social development of the country and region. This involves the creation of economic value for the country, distribution to different segments of the population (e.g. via jobs along the value chain) and to attract domestic and foreign investments. Furthermore, in

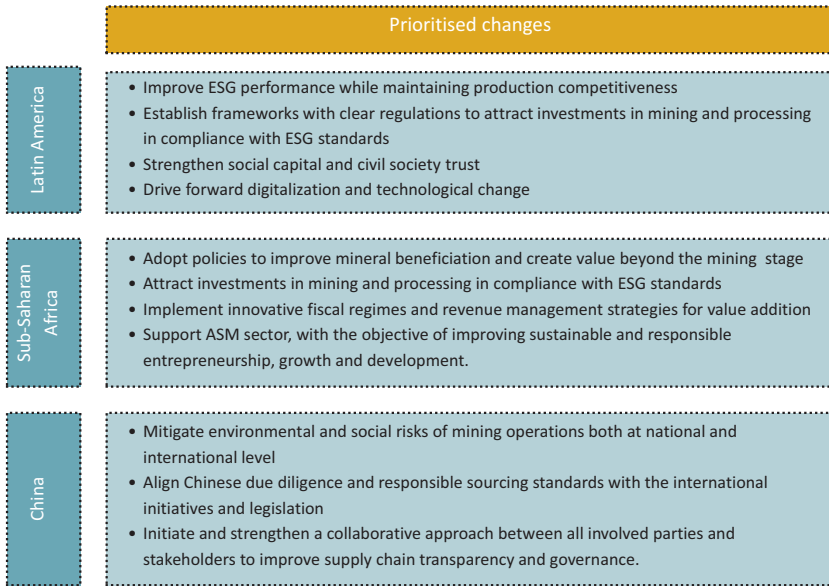


Fig. 5.4 Changes prioritized in each region

the case of resources required for key sectors such as energy, electronics and mobility, an additional objective is to ensure that the national/regional supply can be also used to satisfy the domestic needs for development of these sectors. This last point varies depending on the degree of economic development and industrialization already achieved.

An additional common objective which is becoming increasingly visible is the aspiration to contribute to mineral supply chains beyond the mining stage, going further downstream. While this is well developed in China, which is for instance a leading global manufacturer of clean energy technologies, the aspiration is far from being a reality in many African and Latin American countries. Despite different realities, all the regions and countries state the same objective: creating value beyond the mining stage. Further common goals include the attention towards job creation and infrastructure development in mining regions.

4.2 *Divergence in RS Approaches and Priorities*

Divergences in how RS is understood, valued and acted upon in Africa, Latin America and China depend on several dimensions; some of these are discussed below.

In summary, China, Latin America and Africa exhibit distinct approaches, priorities and challenges when it comes to RS of minerals. While all three regions share the overarching goal of balancing economic development with environmental and social responsibility, their specific economic contexts, political systems, market positions and institutional factors contribute to different approaches and pathways towards responsible sourcing.

China's dominant market position in mineral value chains, coupled with its rapid industrialisation and evolving trade agreements, makes it one-of-a-kind in the international landscape. Short-term economic gains may in some instances overcome social and environmental considerations, incentivising growth in mining activities domestically and abroad, without the urge to adhere to internationally agreed standards. Recent developments of well-established companies, however, show a moderate degree of increased engagement with international activities and standards. Lack of or fragmented information from mining operations in the country remains a challenge in a complete and transparent assessment of RS in China.

Both the Latin American and African regions show willingness to engage in international processes and contribute to the formulation and adoption of internationally agreed standards for responsible sourcing. This is often driven by the opportunities to attract foreign investments and access global markets for the export of mineral commodities. Furthermore, in both regions, different stakeholders, with civil society and local communities in the driving seat, have been advocating for RS practices and have contributed to the adoption of more stringent regulations and responsible practices.

Both in Latin America and Africa, however, implementation remains in many contexts a challenge, requiring a strengthening of governance institutions and mechanisms to avoid negative social, environmental and economic implications. This also applies to the governance of the artisanal and small-scale mining sector, which provides livelihoods for local populations, but which is in many cases still lacking adequate health and safety conditions, and institutional frameworks (Table 5.1).

Table 5.1 Comparative regional context

<i>Africa</i>	<i>China</i>	<i>Latin America</i>
Economic context		
Mining as significant contributor to many African economies	Major global player in mineral extraction and processing	Rich in mineral resources, mineral extraction plays a key economic role
Challenges such as resource dependency and efforts to diversify economies	Vast domestic mining industry and high investment capacity abroad Need for stable supply of raw materials to support rapid industrialization and economic growth	Heavy reliance on minerals export, with vulnerability to market fluctuations Priority is to enhance long-term sustainability of mining industry
Political and regulatory environment		
Diverse regulatory landscape, from strong regulatory frameworks to governance failures impacting RS efforts	Centralized decision-making and regulatory control, with the authority to enforce policies and standards related to responsible sourcing	Diverse regulatory landscape, some robust frameworks in place (e.g. Chile), while several countries struggle with enforcement due to political instability and corruption
Environmental and social considerations		
Focal point for discussions about RS due to concerns about environmental degradation, social impacts and conflicts related to minerals	Received widespread criticism for lax environmental and social standards. However, growing internal and global pressure to adhere to international RS standards	Pressure from civil society organizations to adopt RS practices that prioritize environmental protection, social responsibility and community engagement (e.g. local and indigenous communities)
International engagement		
Active engagement with international initiatives to promote RS and sustainable development in the mining sector	Role as a global mineral supplier has led to international scrutiny of its sourcing practices. Growing interest from established companies to engage and adhere to international standards	Engagement with international initiatives and organizations to demonstrate their commitment to RS and attract responsible investors

(continued)

Table 5.1 (continued)

<i>Africa</i>	<i>China</i>	<i>Latin America</i>
Cultural and social factors Focus on addressing social and environmental concerns, especially in regions with large local communities	Traditional values and the government’s emphasis on economic development may sometimes prioritize short-term economic gains over environmental and social concerns	Indigenous and local communities’ values, along with concerns about land rights and environmental impacts, can strongly influence RS practices in the region
International trade relationships Responsible sourcing efforts often linked to international trade agreements, showcasing compliance with global standards to attract responsible investors and enhance trade relationships	Bilateral and multi-lateral agreements and trade partnerships may influence its willingness to adhere to international standards	Alignment of RS efforts with international trade agreements to gain access to global markets and enhance export opportunities

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Designing RS Approaches: Major Principles

Masuma Farooki

Abstract Based on the research and consultation findings of the RE-SOURCING Project, this chapter looks towards the future, reasoning that the knowledge and experience from the past decades need to be now consolidated by agreeing to a framework on how responsible sourcing approaches are developed, improved, and especially implemented. The framework allows decision-makers to step back from the detailed aspects of individual approaches and consolidate what they aim to achieve and how. The chapter framework requires stakeholders to consider a process where duty-bearers ensure policies, processes, and compliance mechanisms exist to deliver the environmental, social, and economic rights, as prioritised by stakeholders who are impacted by the activities within a mineral supply chain. This requires meaningful and inclusive participation and equal access to decision-making; accountability and a level playing field and transparency and access to information. While different stakeholders may take different paths to achieve this, it is essential that they share a common vision for responsible sourcing practices.

M. Farooki (✉)
MineHutte, Tunbirdge Wells, UK
e-mail: info@minehutte.com

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Keywords Rights-based approach • Sustainability framework • Mineral supply chains • Level-playing field

The RE-SOURCING Project started with documenting the challenges faced in mineral supply chains and the efforts being made to address them. The State-of-Play reviews of the renewable energy (Kügerl and Tost 2021), e-mobility (Betz et al. 2021), and electronic equipment (González and Schipper 2021) sectors indicated responsible sourcing (RS) challenges across mineral supply chains—from extraction to processing, manufacturing, and recycling. The challenges ranged from negative impacts on the environment to the human rights violations. On the positive side, the level of awareness around these impacts and the advocacy to improve these conditions were also strong. The number of sustainability and RS approaches, whether led by civil society organisations, industry actors, or government legislation, were numerous and diverse. The challenges were being recognised and efforts are being made to address them (Farooki 2020).

In Chap. 2, we noted that the political, social, and economic drivers, by acknowledging the power imbalances within supply chains, are recognising that the weakest/disenfranchised stakeholders in supply chains have little influence on the decisions that impact their lives. Therefore, RS approaches attempt to address these imbalances. In doing this, by creating a similar set of RS standards for all players, they are also creating a level playing field. Awareness building and advocacy; prescribing standards; and assurance mechanisms are some of the pathways they use.

In Chap. 3, we drew lessons from how companies have developed their RS approaches, best practice cases showing how firms have taken ownership of their sustainability commitments; changed their business models; and are involving themselves in the governance and betterment of the disenfranchised actors within their supply chains.

In Chap. 4, we saw the RS trend in the voluntary domain is now being transferred to the mandatory and legislative domain. Governments are responding to the push for RS practices by setting rules for all actors and creating a level playing field. Chapter 5 outlined how the RS approach differs amongst regions, where China and countries in Sub-Saharan Africa and Latin America have their own set of challenges, priorities, and practices for developing and implementing RS approaches.

At this time, the issues and efforts being undertaken by RS approaches continue to evolve and expand. However, an unabated and unstructured increase in scope and number of RS approaches will make the situation challenging (Afolabi et al. 2022). There is already a growing call for alignment and equivalence for RS approaches, from both private and public sectors (Picard et al. 2022). Continued emergence of other RS approaches will create further hurdles with implementation, as companies continue to struggle against myriad reporting requirements (Novisto 2023).

In this chapter, we consider the future for RS approaches, arguing that the knowledge and experience from the past decades need to be now consolidated by agreeing to a framework on how RS approaches are developed, improved, and especially implemented. Such a framework allows us to take a step back from the detailed aspects of individual RS approaches and consider the larger picture and ask the following questions: What are RS approaches aiming to achieve, and is there a common vision? What key elements do RS approaches need to have to achieve this vision? Given the increase in our knowledge and understanding of the RS landscape, what insights can we gain to improve RS approaches? Answering these questions allows us to make observations on what needs to be addressed by current RS practices to become more successful.

We begin by considering a common vision for RS approaches, followed by setting the context under which an RS framework would operate before the introduction of framework on which to build/align RS approaches.

I SHARED VISION ACROSS RESPONSIBLE SOURCING APPROACHES

The first question asked by the RE-SOURCING Project was what challenges were being addressed by RS approaches. The most noted challenges, across all stages of the mineral supply chain, included:

- **Environmental impacts:** Negative impacts on biodiversity, habitats, land pollution, air pollution, and water pollution.
- **Social impacts:** Negative impact on access to clean water, air and health care for communities, gender bias and rights inequality, human rights violations, land rights violations, labour rights (employed and sub-contracted) violations, lack of safeguards for occupational health and safety and community health.

- **Economic impacts:** Lack of fair compensation for accessing mineral resources and land-use, lack of fair wages, ignoring national and local industry and services development, creation of mineral enclave economies, lack of support for industrial diversification, corruption and money laundering, and hazardous small-scale and artisanal mining activity.
- **Governance challenges:** Lack of harmonisation of sustainability requirements, governments unable/unwilling to monitor and reprimand the behaviour of their companies in other jurisdictions, and lack of transparency and data sharing by companies.

The second question asked in the RE-SOURCING Project was what do RS approaches want to achieve? We had identified the challenges, but what was the goal of addressing them? In working with stakeholders in the renewable energy, e-mobility, and electronic equipment sector, the RE-SOURCING Project drafted a vision, outlining an ‘ideal’ supply chain for each of the sectors. The vision(s) is based on two basic concepts: planetary boundaries and strong sustainability. The concept of planetary boundaries consists of nine thresholds within which humanity may act in a safe manner without causing catastrophic environmental change. The nine defined planetary boundaries are climate change, stratospheric ozone, biogeochemical nitrogen cycle, phosphorus cycle, global freshwater use, land system change, rate of biological diversity loss, chemical pollution, and atmospheric aerosol loading. For the last two boundaries, no suitable threshold has yet been identified (Rockström et al. 2009). The concept of strong sustainability focuses on the substitutability of natural capital, arguing that natural capital cannot be completely substituted by manufactured capital. It follows that certain human actions can entail irreversible consequences (Pelenc and Ballet 2015).

Figures 6.1, 6.2, 6.3, and 6.4 outline the shared vision amongst the three sectors—for sector specific visions and the roadmaps to achieve them, see Kügerl and Tost (2021), Betz et al. (2021), and González and Schipper (2021). The vision provides for specific targets under the environmental, social, and economic pillars and requires international cooperation, a harmonised reporting system, and clear global criteria for responsible and sustainable practices.

The targets presented in Figs. 6.1, 6.2, 6.3, and 6.4 are either directly stated as objectives by RS approaches or underline their guidelines, standards, and monitoring methodologies. The targets cover a variety of

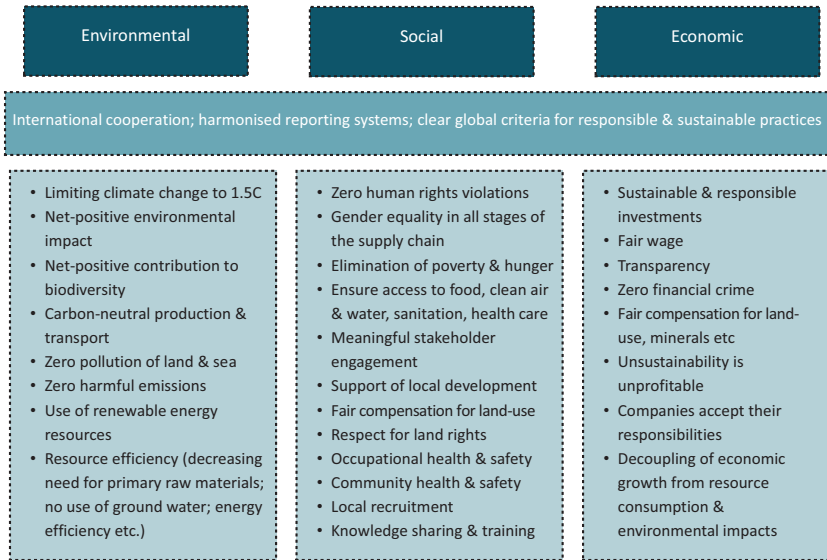


Fig. 6.1 RE-SOURCING Project: vision for responsible sourcing across supply chains. Source: Kügerl and Tost (2021); Betz et al. (2021); González and Schipper (2021)

topics and stages of the mineral supply chain. Cohesive RS approaches will be fundamental to achieving these targets. However, ‘more’ RS approaches is not the answer. Rather, attempts to amalgamate existing approaches under a guiding framework, such that the alignment and cohesion of these approaches improves, would provide better results.

Two issues are noted in the literature review of RS approaches: One, there is no clear structural scaffolding offered on which to build an RS approach. Two, there is no clearly agreed definition of what constitutes RS (van den Brink et al. 2019). The Brundtland Report definition for sustainability continues to be most widely referenced in most literature. In other cases, reference is made to the principles being the OECD Due Diligence guidance. The guidance is just that—a guidance and plays a complementary role to a number of other standards (OECD 2018).

There is also a legitimate question to be asked whether presenting an RS definition and structural framework will do more harm to RS implementation, as it can impinge on their ability to be flexible and address

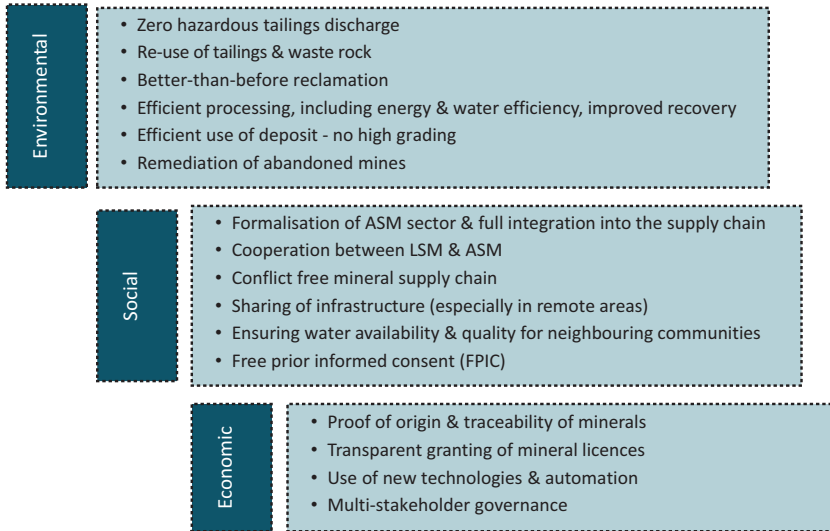


Fig. 6.2 RE-SOURCING Project: vision for responsible sourcing in mining and processing. Source: Kügerl and Tost (2021); Betz et al. (2021); González and Schipper (2021)

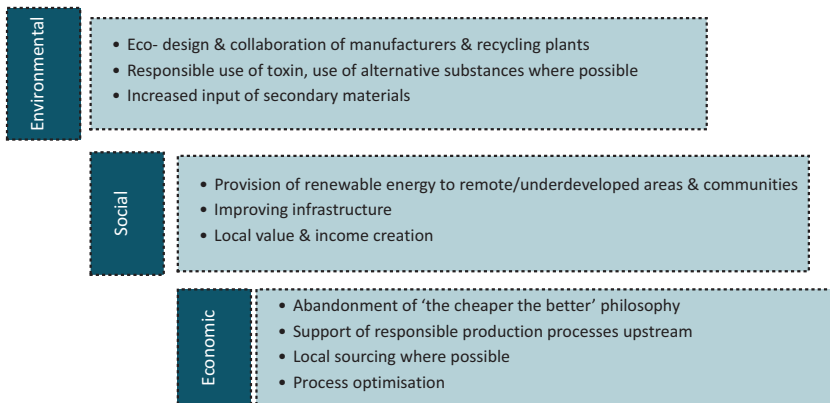


Fig. 6.3 RE-SOURCING Project: vision for responsible sourcing in manufacturing. Source: Kügerl and Tost (2021); Betz et al. (2021); González and Schipper (2021)



Fig. 6.4 RE-SOURCING Project: vision for responsible sourcing in recycling. Source: Kügerl and Tost (2021); Betz et al. (2021); González and Schipper (2021)

issues within their contexts. On the one hand, a definition may spur a ‘tick a box’ mentality, which would not be conducive to achieving the RS Vision. On the other hand, the emergence of a plethora of RS performance and requirements with their differing criteria, applicability, and approaches leave companies and stakeholders struggling to identify what is required of them (PwC 2017).

The RE-SOURCING Project, based on consultations and research, has offered the following definition for RS in mineral supply chains “... a process where duty-bearers ensure policies, processes and compliance mechanisms exist to deliver the environmental, social, and economic rights, as prioritised by stakeholders who are impacted by the activities within a mineral supply chain” (Farooki 2023). The advantages of using a rights-based definition are addressed in the next section.

Given that individual RS approaches find their origins in responding to different political, social, and economic drivers and they utilise a diverse set of pathways to achieve their aims, a single guiding framework is not easy to identify. The framework would be required to be deductive in its construction—based on incorporating elements from existing approaches, rather than an inductive framework—where overarching principles can lead to the development of approaches. A deductive framework would also

incorporate success factors from current RS approaches to be shared more widely, while limiting the use of RS pathways/approaches that failed to deliver on their objectives. Given these conditions, the RE-SOURCING Project has attempted to provide such a guiding framework to construct RS approaches.

2 A FRAMEWORK FOR CONSTRUCTING RESPONSIBLE SOURCING APPROACHES

2.1 *The Consolidation Challenge of Existing Approaches*

The RE-SOURCING Project in its consultations and review noted the wide range and scope of RS approaches on (1) the challenges they address, (2) the pathways they choose, (3) the actors they target, (4) the processes they use, and (5) the measurement of success they define.

Challenges: RS approaches identify challenges and negative impacts under environmental, social, economic, and governance categories. Some approaches are focused on environmental impacts alone, whilst others combine environmental and social elements. RS approaches with more ambitious scope attempt to address all four.

Pathways: The pathways that RS approaches use to encourage the implementation of RS practices vary—some focus on advocacy campaigns, others work through multi-stakeholder platforms to create guidelines or more stringent standards. Some focus on creating ESG-related performance metrics and benchmarking to improve company/industry performance. Within these pathways, the transition from voluntary standards to mandatory regulatory and legislative requirements is gaining strength. Therefore, a variety of pathways to RS exist.

Actors: The stakeholders identified for RS practices also vary; some approaches focus on downstream actors and lead firms to enact change across their supply chains; others focusing on individual nodes—such as extractive companies, or recycling companies. Some RS approaches consider the role of policymakers to be a priority, whilst others work with the most vulnerable upstream actors such as local communities and workers. In addition, some RS approaches are aimed at international actors whilst others can be very local and regional.

Process: The prescribed changes in behaviour by RS approaches differ—some require actors to change the process of how they operate: for

example, including a Social Licence to Operate as a standard process in mining operations. Others require firms to change their business models; adapting a Life Cycle Assessment approach rather than just focus on reducing greenhouse gas emissions. In general, RS approaches focus on some variation of reducing impact, creating net-zero impact or creating a net-positive impact process.

Measuring success: One of the least well-defined areas is measuring the successful implementation of RS practices. Given the breadth of players and processes involved, this is challenging. Where there is no transparency, achieving self-reporting by companies can be considered successful. Where this self-reporting is based on an ill-defined template and the information cannot be verified, this can lead to accusations of green washing and a failure to implement RS. Some RS approaches take an audit approach, whilst others argue for a continuous monitoring mechanism. Performance is being measured by ESG indices, which are not without controversy.

The term ‘herding cats’ comes to mind, when considering how RS approaches can be consolidated, given the above divergences. However, instead of approaching these individualities as challenges, they should be considered as opportunities—a guiding framework should accommodate rather than disregard the scope covered by RS approaches. Therefore, to establish a guiding framework, the first step would be to identify the context in which such a framework would be used.

2.2 *Setting Context for a Responsible Sourcing Framework*

The first step is to acknowledge the context in which an RS framework will operate in. The following context setting statements were noted in the RE-SOURCING Project, and we acknowledge that these are not exhaustive:

1. Global mineral supply chains are themselves transitioning—moving from traditional models of operations to a new sustainability-inclusive pattern of behaviour. This transition will take time and resources and will move at various speeds for different chains.
2. Minerals and metals are a resource for the current and future generations, as well as shared by generations across the Earth. These mineral resources are not limited to virgin raw materials but also include recycled and recovered minerals and metals.

3. The benefits from mineral supply chains must be for the benefit of all and not the few—this applies within a region, country, and between countries. This includes ensuring resilience in the benefits—at the first sign of political or economic global turmoil, the benefits should not be sacrificed.
4. While sustainability is best illustrated by the 17 UN SDGs, this concept will continue to evolve over time. Sustainability should not be understood as mitigating or annulling negative impacts only but also about creating positive impacts. Given the range of issues addressed under sustainability, the SDGs can have different priorities and meanings in different countries and for different stakeholders.
5. Prioritisation must work in hand with harmonisation. Global implementation of RS requires a common understanding of (1) grand societal challenges that can only be jointly addressed and (2) commonly agreed basic frameworks and processes of how to understand and address the different priorities. Without such harmonisation, the RS implementation will struggle with scaling up and left to be managed by individual actors within global value chains.
6. Any RS guidelines, standards, or regulations that govern global mineral supply chains need to be clear, reasonable, and practicable. As these chains are a global phenomenon, the reasonability and practicable criteria may differ by country. However, this should not dissuade from establishing a level playing field for all actors.

2.3 Amalgamating Existing Responsible Sourcing Approaches

The second step is to acknowledge the contributions made by the plethora of existing RS approaches, some of which are already moving towards alignment and equivalence. It is practical to use their success factors to establish an RS framework—inventing a new wheel is of little benefit. In reviewing the RS standards and performance expectations for operators in the mineral supply chains, two success factors were noted. The first is that they recognise and address the issue of power dynamics between the strongest and weakest actors in the chain. This power largely stems from economic disparities between companies and investors and those impacted by their activities as well as power imbalances within local stakeholder groups. It also stems from geo-political disparities, largely resulting from the fact that mineral supply chains tend to start in developing countries and end in advanced economies (Degreif 2020).

The second success factor is the approach defining *whose needs*. Given the global nature of mineral supply chains, the question of whose needs are reflected in RS practices is an essential one. Standards and performance metrics reflect the understanding and priorities of those who set them, even if these emerge from a multi-stakeholder process. The ability to enforce compliance with these principles is similarly linked to the capacities and jurisdiction of the standard setters. While there is general agreement for working towards a sustainable future, the pathways to this future are differently perceived across global stakeholder groups.

Given the context and principles of identification of power within chains, the next stage is identifying an existing framework principle that could be adapted for constructing RS frameworks.

2.4 *Adapting a Rights-Based Approach*

The sustainability discourse linking human actions with its impact on environment has been ongoing since the 1940s (ADB 2012). A major change in this policy discourse occurred in 1992 at the Earth Summit (UN n.d.), where the focus shifted from a ‘needs’ to a ‘rights-based’ approach (Redclift 2005). A Rights-Based Approach (RBA) considers “All human beings are born free and equal in dignity and rights, and should be free to live their chosen life, thrive socially and economically, and participate in public affairs” (European Commission n.d.). The United Nations Sustainable Development Goals reflect the realisation of these rights. Using a rights-based principle would allow future RS approaches being drafted for flexibility on issues, actors, and processes. It would not exclude or preclude existing sustainability concepts, such as planetary boundary.

Keeping the requirements and limitations discussed previously, using an RBA allows us to move from content-focused RS standards and addresses the power dynamics within the mineral supply chains. It highlights the duties of those who hold power to deliver the rights of those who do not. Given different states of empowerment and access to legal processes amongst rights-holders in different countries, the power dynamics between duty-bearers and rights-holders differ across the world. Therefore, the rights to be addressed by RS approaches should reflect the priorities and (empowerment) circumstances of the rights-holders. It remains for the duty-bearers and rights-holders to agree on pathways to delivering these rights.

2.5 *Processes Under Rights-Based Approach*

The aim of an RS framework is to provide a common threshold for pathways and processes that must be included by organisations and policymakers, when outlining RS standards, guidelines, best practices, and regulations. The RS framework proposes the following underlying principles as part of any RS approach:

1. Meaningful and inclusive participation and equal access to decision-making.
2. Accountability and the rule of law for all.
3. Transparency and access to information, supported by disaggregated data.

2.6 *Actors Under a Rights-Based Approach*

The RBA distinguishes three entities within its framework: duty-bearers, rights-holders, and facilitators.

Duty-bearers are identified as those actors in supply chains that carry the obligation to deliver rights. These include actors in position of power such as extraction companies, smelters and refineries, manufacturers, and recyclers. A secondary set of duty-bearers include financial investors and governments. The RE-SOURCING Project has identified these as the two most influential entities that determine RS practices in mineral supply chains. Their obligations include protecting, promoting, respecting, and redressing violations of the rights of those impacted by their actions.

The **rights-holders** within mineral supply chains are those impacted by the actions of the duty-bearers. These right-holders include impacted local communities and citizens, and those directly and through sub-contracts employed in mineral supply chains. We also include consumers within the rights-holder groups, as their consumption behaviour is impacted by the business and policy approaches undertaken by the duty-bearers. Depending on where they are located, the power available to rights-holders will differ. In regions of strong governance and legislation, they will have access to routes that allow them to influence decision-making. In regions of weak governance, the size of disenfranchised rights-holders will be larger.

The **facilitators** form a third category that acknowledges the crucial role civil society organisations (CSOs) and international development organisations (such as the OECD, World Bank, GIZ) play in RS approaches

and practice. These actors build capacity for both the rights-holders and duty-bearers. This includes their crucial contributions and role in research, monitoring, communicating, advocating, evaluating, reporting, certifying, and ensuring remedies are addressed by the duty-bearers.

3 A FRAMEWORK TO CONSTRUCT RESPONSIBLE SOURCING APPROACHES

Taking these components, Fig. 6.5 provides an overview of the RBA framework for mineral supply chains, indicating the interaction between duty-bearers and rights-holders and the use of RS practices to manage the impacts and benefits from mineral supply chains.

Companies, governments, and investors are identified as duty-bearers, whilst communities, consumers, and workers are designated as rights-holders. These categories are not exhaustive and additional actors can be added to both. Similarly, civil society and international development institutes are involved in the capacity development of both the duty-bearers

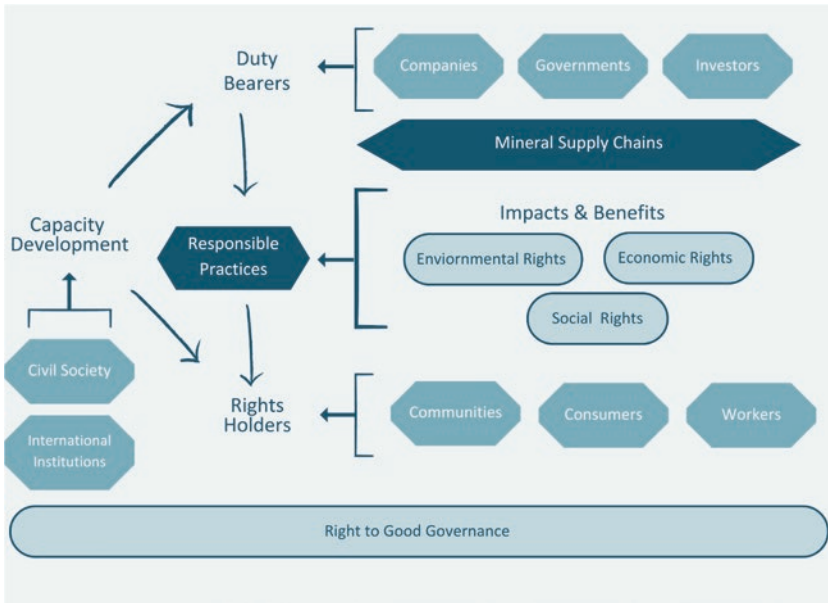


Fig. 6.5 Rights-based approach to responsible sourcing in mineral supply chains

and the rights-holders. Capacity development is used here as an all-encompassing term. It is meant to include awareness raising and advocacy, as well as monitoring and evaluation exercises. It encourages CSOs to educate and campaign for better practices from companies as well as support local communities to rally for their rights.

Together, all three groups impact responsible practices that safeguard and promote the environmental, social, and economic rights of the disenfranchised. All these relationships are nested within the right to good governance, as the latter informs and supports all the other actors and processes in the RS ecosystem.

Based on this framework, the RE-SOURCING Project defined RS in mineral supply chains as a process where duty-bearers ensure policies, processes, and compliance mechanisms exist to deliver the environmental, social, and economic rights, as prioritised by stakeholders who are impacted by the activities within a mineral supply chain.

The definition encapsulates two factors: First, it assigns responsibility for the delivery of responsible practices to actors, including commitment and compliance (good governance) elements. Second, it supports the interdependence between environmental, social, and economic rights by indicating compliance is required with all three rights, caveated by the requirement that these should reflect the priorities of the rights-holders and not the duty-bearers.

It would be advantageous for stakeholders to have a common definition of RS as well as an RS framework to draft RS approaches. This allows for the same set of principles and parameters to be followed, regardless of the stage of the supply chain or the geographical location of the operations. Alignment would be easier, where the underlying framework is comparable.

Those developing and refining their RS approaches can use the framework as guidance in outlining their objectives, processes, and achievements. It provides for a scaffolding on which to build the details of their approaches, considering the power dynamics between the duty-bearers and the rights-holders. This underlying framework would be reflected in:

- National legislation and policy documents
- Worldwide corporate policy and behaviour
- National and international investor approach
- Consumer behaviour
- Civil society behaviour

3.1 *Room for Diverse Pathways*

Given the different priorities and challenges faced by different regions, the RS framework allows for diverse pathways to be undertaken. RS approaches, under a rights-based framework, can reflect the lead stakeholder priorities. The evolution of RS standards has also been noted to be ‘Northern’ centric, with many standards evolving from groups based in OECD countries. This is not to suggest that developing countries have not been invited to the consultation table, but that often the priorities set in these standards reflect Northern geo-politics and socio-economic cultures. For example, where standards are informed by largely European actors, these standards will include a focus on the use of green/renewable energy, while Asian standards will see a stronger weight on reducing their direct emissions to the environment or prioritise the improvement of socio-economic standards. Differences in regional priorities should be accepted, with each region supported in pursuing its own RS agenda. However, a rights-based RS framework is adaptable to incorporate this agenda and still allow for alignment to take place.

A rights-based framework allows for the coordination (and perhaps consolidation) of various RS approaches, without losing their unique features. For example, some guidelines are general and refer to respecting human rights across the entire supply chain. Others can be very specific, such as those focused on community engagement protocols and requirements for meeting a social licence to operate. Instead of a hodgepodge of objectives and approaches, their intended impacts—the safeguarding or rights—can be used to align processes.

This also holds true where the subject matter of these standards varies in coverage and depth. By coverage, we refer to the aspects of environment, economics, social, and governance indicators they cover. By depth, we refer to applicability to primary actors, tier-1, tier-2, and so on. As each set of standards has a primary audience for its implementation, depending on the choice of the former, the coverage and depth of the standard varies. While this was essential when RS standards were beginning to evolve, there is now the need to systematise this coverage. Using a rights-based approach allows these standards to be amalgamated under a uniformed approach.

With the uptake of RS practices by different actors, at different paces, some companies and countries are more advanced than others. Existing and future RS approaches will need to be flexible to ensure late starters are

able to catch up with frontier actors. Having a similar underlying framework can provide a pathway, where the speed of travel is different, but the pathway and destination are the same.

4 WHERE DO WE GO FROM HERE?

The RE-SOURCING Project started with **documenting the sustainability challenges** within mineral supply chains, shedding light on the complexities and interdependence between environmental, social, and economic impacts and the role of governance. The project also noted increasing awareness and advocacy from civil society actors, governments, and industry alliances to address these challenges and push for net-positive impacts from the operations of mineral supply chains.

The **diverse RS approaches** encompass various pathways, ranging from collaborative alliances and partnerships to address the collective challenges, to efforts aimed at mitigating knowledge disparities and enhancing transparency through data sharing. These endeavours collectively strive to enhance RS practices in mineral supply chains. The project **identified a common narrative** within these approaches: addressing the power imbalance between actors in a supply chain and focusing/supporting disenfranchised groups to have influence and participate in the decision-making process for issues that impact them.

Pursuing international consensus in the form of collaboration and a common definition serves an important purpose; it helps creating a level playing field for RS compliant companies and countries that could otherwise be economically worse off compared to their non-compliant competitors. Furthermore, artisanal and small-scale mining, which is a high-risk category for RS firms, is threatened to be marginalised and excluded from supply chains. RS practices need not be limited to operationalisation by large firms alone. Medium-scale and small businesses also need to have the capacity to meet such standards.

An international consensus on RS can also unlock the creation of enabling frameworks for firms, sectors, and industries. While larger firms may have the management and financial resources to pursue RS practices, medium and smaller firms may require more support in the uptake of these strategies. Aiming for a level playing field for businesses ensures that meaningful progress is made towards the global sustainability agenda, without compromising the competitiveness of firms.

Given how standards are implemented across value chains, actors in different countries (particularly non-EU countries), may require support in understanding and meeting such RS standards. Thus, there is a need for a better understanding of the power relations, associated institutions, and value systems that facilitate or block RS in the sustainability agenda. Much progress has been made on this front, but more remains to be done.

While there are many interesting observations and recommendations from the four years of the RE-SOURCING Project, the four key findings are:

- The **necessity of a globally accepted framework** for RS approaches, to align standards, guidelines, and legislation. A common framework addresses the issues of fragmentation, whilst setting out clear guidance and target for companies and governments for RS practices.
- To **level the playing field** for responsible business practices, both incentives and mandatory requirements are important. The level playing field is **the result of many actions** (from waste and recycling regulations to labour rights standards) coming together. The overlap in actions in the environmental, social, and economic spheres is necessary to enable a level playing field.
- The importance of **information exchange and collaboration** among stakeholders to foster RS practices cannot be over emphasised. Peer learning and alliances remain a strong tool for scaling up of RS practices.
- The significance in **integrating RS discussions into international political** forums for global impact is high. While there are different pathways and different priorities for global regions, the sustainable development objective is common amongst all.

To achieve the visions set out by RS, policymakers, industry actors, and CSOs need to foster a **collaborative effort** among all stakeholders to drive RS forward, acknowledging that success depends on collective action. They need to **build upon actions that are already in progress**, demonstrating the commitment to advancing RS. This can include targeted actions and commitments towards supporting the creation of a circular economy and decreased resource consumption. Acknowledging the urgency and crucialness of meeting the Paris Agreement (2015) goals to ensure sustainable development remains a possibility for everyone. Companies need to acknowledge the impact of their actions and

understand their role in delivering social rights through responsible production, which includes their obligations for responsible procurement. International cooperation amongst governments, businesses, and CSOs is the only way to ensure a level playing field can be established in mineral supply chains.

The RS challenge is not simple to address. However, the RE-SOURCING Project findings emphasise that it is accomplishable through agreed common RS objectives and acknowledging there are different pathways to achieve them.

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