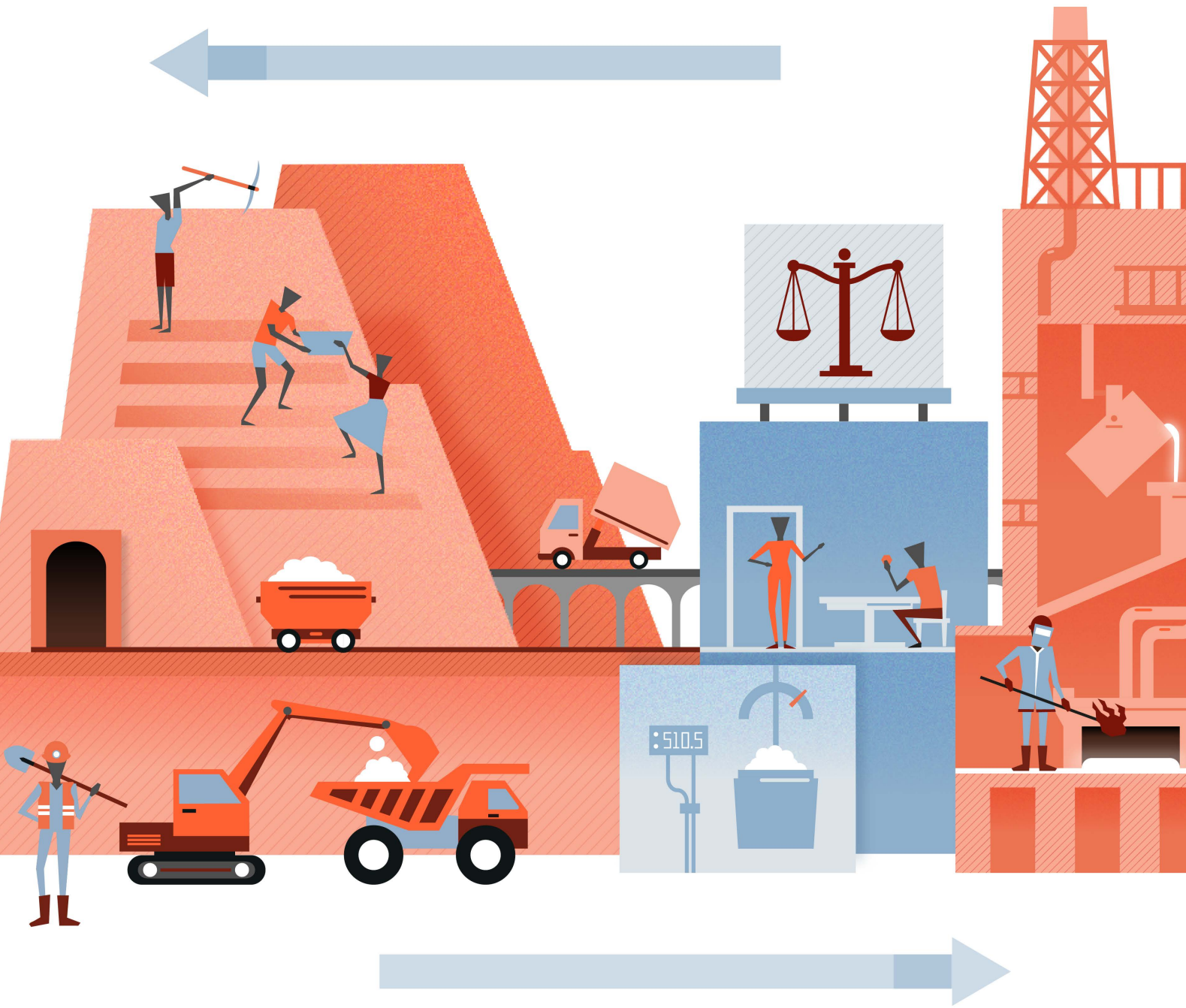




# Costs and Value of Due Diligence in Mineral Supply Chains

OECD POSITION PAPER



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## About this paper

On-going multi-stakeholder discussions have raised important questions on the perceived imbalance of how due diligence costs and benefits are distributed along the supply chain. This position paper was drafted in response to stakeholder calls that the OECD examine this topic with the objective of raising awareness, better informing discussions, identifying key research questions, and guiding stakeholders towards viable solutions.

A significant amount of information in this paper is derived from over three years of discussions with key stakeholders that form the Multi-stakeholder Steering Group of the OECD Responsible Minerals Implementation Programme, as well as discussions with participants at the annual OECD Responsible Minerals Forum and related meetings. These stakeholders include representatives from governments in OECD and non-OECD countries, international and local civil society organisations (CSOs), and the private sector along the entire mineral value chain (miners, traders, smelters/refiners, manufacturers, and exchanges).

The paper is provided for informational purposes and is not to be construed as an endorsement of particular initiatives or schemes.

## Acknowledgements

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# Executive summary

Stakeholders have called on the OECD to examine the perceived imbalance of due diligence costs and benefits among different actors in the supply chain. At the heart of this debate are claims from upstream supply chain actors – often comparatively smaller entities – that the costs of due diligence are too high and that the prices paid for minerals do not reflect the value of due diligence transmitted further downstream. Though all businesses likely feel that due diligence costs are burdensome, anecdotal evidence from interviews with stakeholders suggests that such smaller upstream actors face particular difficulties getting their products to the market responsibly and current market dynamics only exacerbate these challenges.

This paper acknowledges that while downstream supply chain actors certainly face significant due diligence costs themselves, smaller upstream supply chain actors in conflict-affected and high-risk areas (CAHRAs) appear to face sizeable commercial constraints, often associated with limited liquidity, small margins and higher costs of doing business. Added to that is the apparent difficulty to reflect the value and benefits of carrying out due diligence activities in the prices paid between parties to a transaction. As minerals are refined and smelted, and eventually enter downstream supply chains as small parts of larger components, their relative value becomes an increasingly smaller share of the overall value-added activity in downstream segments of the supply chain; hence some due diligence benefits enjoyed by downstream actors, while important in aggregate, are less directly attributable to specific upstream activities.

While due diligence generates value for all supply chain actors, it manifests in different (and sometimes uneven) ways. In consultations for this paper, many upstream stakeholders stated that the only perceived benefit of due diligence for upstream actors is market access; meaning that for many upstream actors, due diligence efforts do not appear increase the value of their material, though not doing due diligence may reduce value.

This paper observes that current market dynamics exacerbate existing challenges for upstream actors trying to do business responsibly. Factors include:

- The reliance on industry schemes by the supply chain is resulting in audit or inspection costs
- Difficulties for upstream actors to pass due diligence costs down the supply chain
- Smaller upstream actors, particularly artisanal and small scale miners (ASM) in CAHRAs, have higher burdens to demonstrate more extensive due diligence measures
- That many market actors are reportedly either avoiding ASM and CAHRA-linked minerals or paying premiums for minerals from low-risk regions
- That many market actors are reportedly accepting “due diligence-free” minerals at an equal or lower price (or in the case of gold, at a higher price due to its use as a vehicle for illicit monetary transfer)

The OECD Due Diligence Guidance for Responsible Mineral Supply Chains from Conflict-Affected and High-Risk Areas (the Guidance) makes clear that due diligence is the individual responsibility of companies and should be considered a cost of doing business. So why then is this an issue?

The overarching objectives of the Guidance are twofold (1) stop the contribution of business in mineral supply chains to adverse impacts in CAHRAs and (2) enable economic and social development in CAHRAs through

market access of responsibly sourced material. However, there seems to be a disconnect between these objectives and the reality of the market; sourcing responsibly from CAHRAs may require high investments in due diligence efforts for a lot of smaller supply chain actors. All that being said, the costs of doing business responsibly are simply the costs of doing business. Responsible business conduct should be the norm, rather than the exception.

This paper describes cost sharing models as examples of how due diligence can be supported through cooperative efforts. The models identified and discussed are:

- **Model 1:** Upstream contributions for upstream due diligence via levies and membership fees (International Tin Supply Chain Initiative, ITSCI)
- **Model 2:** Facilitating market access to incentivise due diligence (Just Gold)
- **Model 3:** Downstream contributions for smelter/refiner due diligence via membership fees and voluntary contributions (Responsible Mineral Initiative, RMI)
- **Model 4:** Downstream contributions for upstream due diligence via premium price paid for the mineral (Fairmined Premium)
- **Model 5:** Bilateral cost sharing arrangements

## Recommendations

Over 50 governments (OECD and non-OECD) have committed to promoting implementation of the Guidance by companies in and from their jurisdictions. This commitment reinforces the individual responsibility of businesses to behave responsibly. However, due diligence measures are often necessary because of the lack of effective governance in CAHRAs and lack of enforcement or regulation on mineral flows in the rest of the world.

Currently, efforts to support broader economic development and due diligence-specific programmes exist such as the European Partnership for Responsible Minerals and the Public-Private Alliance for Responsible Minerals Trade for example. However, governments, development agencies, donors, and downstream companies need to do more to support both on-the-ground due diligence efforts and regulation of minerals supply chains. This type of support can help bridge the aforementioned disconnect between the objectives of the Guidance (to enable sustainable development) and the market realities (barrier to entry for small actors in CAHRAs).

Supporting capacity building and technical assistance for governments in mineral producing regions, particularly with regards to customs and law enforcement, can have positive long term benefits for markets. Enforcement institutions play a critical role in combatting illicit activities such as smuggling, tax evasion, fraud, and conflict or terrorist finance. Developing their capacity can help reduce the cost of mitigating and preventing risks in CAHRAs (e.g. through reduced mine-site and transportation security costs, less unfair competition from illicit actors, greater trust from buyers, and easier stakeholder engagement) and conversely increase the cost of illicit activities, thereby increasing market access for responsibly sourced goods.

Although the specifics of the challenges vary across minerals and geographies, interviews with stakeholders suggest potential ways forward that could alleviate some of the stresses on smaller upstream actors in the short/medium/long-term. These include:

- Financial and logistical support for on-the-ground due diligence capacity building and monitoring activities.
- Investments in security, finance, and infrastructure in mineral producing countries to reduce the burden of ASM attempting to sell in the formal market (e.g. roads, electricity, tax administration, financial services).

- Support for government and industry self-regulatory enforcement efforts to combat the trade in illicit material or material without due diligence.
- Greater implementation of due diligence requirements mineral trading and consuming countries through the adoption of due diligence rules and government-backed support measures.



# 1 Introduction

The overall objective of the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict Affected and High Risk Areas* (the Guidance) is to promote stability and stimulate growth in conflict-affected and high-risk areas (CAHRAs) through responsible investment and trade in minerals. Supply chain due diligence and responsible engagement are tools for overcoming market access hurdles for minerals from CAHRAs. However, some supply chain actors have raised concerns around the perceived relatively high costs of doing business responsibly in CAHRAs, and the impact this might have on their competitiveness compared to minerals from lower risk regions, or minerals sourced from CAHRAs without appropriate due diligence. The latter being an increasingly prohibited option in legislation – but perhaps not in practice.

Supply chain actors based in CAHRAs – often comparatively smaller entities – will already face higher relative operating costs associated with the business environment, including availability and quality of infrastructure, banking, government licensing and approval processes, and regulatory and political uncertainty. Due diligence efforts in the supply chain should be risk-based, meaning efforts to identify and address risks of conflict, serious abuses of human rights or financial crime should be commensurate with the risk. Naturally, on-the-ground due diligence in CAHRAs involves greater investments of time and resources than in low risk countries. This can create commercial pressures particularly for smaller, less formal upstream actors that often have a larger gap to close to meet internationally expected due diligence thresholds.

It is here that there seems to be a disconnect with the objectives of the Guidance (to promote greater market access of responsibly sourced material from CAHRAs) and the reality of the market (accessing the market responsibly from CAHRAs may require high investments in due diligence efforts). **All that being said, the costs of doing business responsibly are simply the costs of doing business. Responsible business conduct should be the norm, rather than the exception.**

On-going discussions in multi-stakeholder forums have raised important questions on the perceived imbalance of how due diligence costs and benefits are distributed along the supply chain. Governments, private sector representatives, and civil society organisations participating in the OECD Responsible Minerals Implementation Programme have been involved in these discussions between 2018 and 2021, with a view to encourage stakeholders to devise innovative solutions to address this perceived imbalance and disconnect.<sup>1</sup>

When considering the issue of cost and value of implementing due diligence in global mineral supply chains, there are certain strategic considerations for companies to keep in mind. An underlying explanation of the existing high costs associated to supply chain due diligence might be associated with the lack of economies of scale. Currently, the existing on-the-ground due diligence programmes are most focused on the production of tin, tantalum, and tungsten (3Ts) in the Great Lakes Region (GLR) of Africa. Development continues in the production of gold, but programmes are facing difficulties scaling up. As such, for an allegedly large number of (mostly downstream) companies, developing appropriate company management systems and accompanying mechanisms to enable due diligence in a broad range of CAHRAs might not make economic sense. This might change however once on-the-ground due diligence projects are progressively expanded to other regions in the world, in view of

1. the increasingly global scope of government regulations and industry association requirements related to supply chain due diligence; and

2. as supply chains due diligence requirements also expand to additional mineral supply chains, for example based on the London Metal Exchange (LME) responsible sourcing initiative (LME, 2019).

Additionally, the issue of responsible sourcing is increasingly becoming a factor of strategic security of supply. The EU Regulation 2017/821 (hereafter EU Responsible Minerals Regulation) expects implementation of supply chain due diligence for at least two EU listed critical minerals: tantalum and tungsten (European Commission, 2020). This implies that consuming companies will need to factor in the imperative of establishing responsible sources of supply if they aim to sustainably secure their sources of supply. The same applies to an increasing number of base metals covered by mandatory industry requirements (see LME, 2019). In theory, this in turn may lead to renewed interest from downstream companies for on-the-ground programs to ensure compliance with OECD based industry requirements, progressively driving cost down.

The purpose of this paper is to inform discussion on this topic by giving stakeholders a better understanding of how the costs of due diligence are currently distributed, how they can potentially be differently distributed across the supply chain, appropriately recognising the value and benefits of due diligence, and where stakeholders can direct support to help achieve the objectives of the Guidance. Another important objective of this paper is to identify research questions to close gaps in information and advance the discussion with a view to finding avenues for a resolution.

## Structure of the paper

The paper first seeks to understand the concept of the value of supply chain due diligence and how this concept relates to the price paid. The paper then provides an overview of the types of costs and benefits supply chain actors can incur and how this varies based on their position and circumstances within the supply chain. The paper also takes a critical look at case studies demonstrating how due diligence costs are currently being shared and how value is being transmitted, with a view to using these examples as models that can potentially be scaled or adapted to help overcome some of the barriers and drive increased supply chain due diligence. Finally, the paper provides recommendations for government, civil society, and private sector stakeholders relating to economic empowerment of vulnerable supply chain actors, acknowledging the costs and value of implementing due diligence, and addressing structural governance issues in CAHRAs that may constitute barriers for responsible sourcing.

## Notes

<sup>1</sup> Following multi-stakeholder discussions, the OECD Secretariat prepared the statement linked below, taking into account input from members of the OECD Multi-stakeholder Steering Group (MSG). It was discussed, revised and endorsed by session participants during the session “Value of Implementing Due Diligence – Case Studies in 3Ts & Gold”, held during the 12th Forum on Responsible Mineral Supply Chains, on 17 April 2018 from 16:15 - 18:00. <https://mneguidelines.oecd.org/Stakeholder-statement-Value-of-implementing-due-diligence-Case-studies-in-3Ts-Gold.pdf>.

## 2 Understanding key concepts

Before getting into the practical elements of how costs can be shared, it is important to first establish a conceptual foundation on which this discussion will be built. Key here are the concepts of ‘value’, ‘price’, ‘cost’, and ‘benefit’. For the purposes of this paper, these terms can be understood as follows:

**Value of minerals:** The difference between the price of a product and the price of the buyer’s best alternative, plus any monetary significance the buyer assigns to seller-specific differentiating factors. Depending on the mineral traded, globally established price benchmarks and market mechanisms that enable price discovery often are good indicators of value for “best alternative”. Additional specific factors influencing value include the identity of the parties, bargaining power, market dynamics, geographical location, delivery terms, the nature of the transaction (short-term or long-term supply agreement), and also risks linked to production and trade, and whether the party selling the minerals can demonstrate risk mitigation efforts through supply chain due diligence.

**Price:** Refers to the monetary amount agreed between parties to pay for the mineral, usually calculated as the value minus certain deductions. Deductions, often cover items such as taxes, shipping, treatment for refining charges, mineral impurity, and logistics. The degrees to which these deductions are applied in a transaction will often be affected by relative market size of the counterparts, supply and demand market dynamics and global macro-economic trends, among other things.

**Costs of due diligence:** These are the expenses incurred by companies to meet due diligence expectations according to the Guidance. These costs vary depending on the size, circumstances, and risk exposure of the company. The section below sets out these costs, and how they may differ between supply chain actors, in more detail. These may include immediate, short-term costs such as setting up professional record keeping, preparing for and undertaking on-site risk assessments, especially in remote mining areas, seeking legal advice to develop new supplier agreements, and training staff. Since due diligence is a proactive and reactive process, there are also on-going and long-term costs (e.g. to acquire up-to-date knowledge of supply chain circumstances, monitoring and taking corrective action on reported risks, participating in stakeholder engagement and preparing and communicating annual due diligence reports, etc.).

**Benefits of due diligence:** The benefits of increased knowledge of supply chains and risk mitigation efforts can be both commercial and non-commercial. Commercial benefits include market acceptance of products, meeting customer contractual requirements, improved ability to detect problems and risks early, reduced exposure to potentially large remediation costs if risks were not addressed, improved internal and external perception of companies, decreased cost of capital (mainly due to reduced risk and increased transparency), and increased productivity and efficiency of supply chains.

Non-commercial benefits are described here as benefits to governance and people such as combating human rights abuse and financial crime, supporting tax revenue collection, and supporting social and economic development in CAHRAs. The extent to which these benefits can be linked to due diligence is the subject of on-going research and debate and not covered in this paper. This paper covers the benefits of due diligence and their (dis)proportional distribution across the supply chain in Section 5 below.

## How are these concepts related?

Due diligence appears to affect value either as a stabilising factor, protecting the value of minerals from other negative factors, or as a positive factor, increasing the value of certain minerals to certain customers. For example, because commodities traded on exchanges are meant to be fungible, the lack of due diligence in some supply chains of commodities may negatively affect what risk averse customers are willing to pay for that commodity and also create a black market for buyers specifically trying to take advantage of the lack of demand by offering lower prices for minerals from ASM or some CAHRA supply chains. This has been discussed anecdotally in the case of cobalt prices, which many have at least partially attributed to trading at a discount due to concerns of child labour risks linked to certain cobalt suppliers (Sanderson, 2018). The Fairmined gold premium presents an interesting case study on the positive effect due diligence has on value, but it may be difficult to apply these lessons outside of certain precious metals and stones.

According to interviews with upstream 3TG stakeholders, including companies operating in CAHRAs and representatives of ASM communities, in general, the value of due diligence is not reflected in the prices they receive for minerals. Interviewees, particularly in the gold sector, point to their experiences that “due diligence-free” minerals are selling for the same price as minerals coming from mines and traders conducting due diligence. There is also anecdotal evidence that gold is sometimes bought at higher than market prices by informal gold traders on “grey/black markets” which puts responsibly sourced gold that is sold at market prices under further disadvantage. As discussed later in the paper, this is likely because of gold’s unique properties as a vehicle for illicit monetary transfer.

With regards to 3Ts, these claims have been somewhat challenged by recent research on ASM mines in the DRC, which found that mines that have undergone either an ITSCI (an industry-led responsible sourcing initiative) mine site evaluation or have been certified by the ICGLR Regional Certification Mechanism sell their minerals at a higher price than other mines without due diligence checks (De Brier, et al., 2020). It should be noted that although a correlation exists, this higher price could be due to a multitude of factors including, for example, the location of the mine sites relative to trading hubs. The report was inconclusive as to whether miners themselves “would be better off if they sold their minerals following the legal supply chain.” The report found that it is crucial that the price offered to miners participating in due diligence programmes should be competitive, so as to encourage stronger participation.

The OECD Centre for Tax Policy, alongside the IMF, World Bank, and UN, developed a toolkit on minerals pricing to assist tax administrations of developing countries (2017). The report provided detailed explanations on how pricing works for various mineral supply chains. Excerpts included in the Annex to this paper provide an overview of how gold and copper are produced, partially refined, and sold in intermediate forms.

For the purposes of this paper, it is interesting to note that pricing appears to highlight several important dimensions of the ways companies apply due diligence to their sourcing decisions:

- Discounts and sourcing suspensions for minerals from CAHRAs are often applied categorically, i.e. by production type or region as part of de-risking strategies, instead of based on risk assessments of specific suppliers and supply chains;
- The market is generally not rewarding upstream due diligence practices through pricing, though is doing so in some instances through such practices being a precondition for market access in certain circumstances (i.e. high demand for a particular metal or legislation in certain jurisdictions).

### Box 2.1. Innovative pricing strategies to capture value

The two most widely used pricing strategies, particularly in commodity supply chains, are cost-plus pricing and competitor-based pricing.

- **Cost-plus pricing:** The selling price is set by evaluating all variable costs a company incurs and adding a mark-up percentage. Cost-based pricing generally results in competitive prices. Companies that use this strategy may attract consumers who are looking for inexpensive products and services. Usually products sold in mass adopt this pricing strategy. Fluctuations in costs could lead to significant cuts in profit margins.
- **Competitor-based pricing:** Setting the price based on competitor prices as a benchmark, rather than setting a price based on company costs. This is may be more prevalent in less formal upstream operations where actors lack significant bargaining power.

An emerging practice currently being explored in other sectors is the concept of value-based pricing. This involves setting price based on perceived customer value of the unique aspects of the product and/or seller. Although the concept of value-based pricing has been around for decades and is regarded as possibly the most beneficial pricing strategy for company profitability, researchers suggest it is only used by fewer than one quarter of firms globally (Hinterhuber, 2008).

Commonly cited limitations to value-based pricing include company size (too small), sector (does not work in commodities) or market dynamics (competitors price lower). However, empirical data does not support any of these rationales and value-based pricing has commonly been found to increase performance regardless of size, industry or geography (Liozu, et al. 2013). Further research is necessary into how this strategy would practically work in the ASM sector.

While more data is necessary to better measure the effect of due diligence on value of the mineral, and the share of it that is generated by upstream companies, it is clear that downstream companies' ability to conduct business responsibly—and realise associated benefits—rests in large part on the due diligence and risk mitigation measures adopted by their upstream suppliers. However, due diligence efforts seem to be mismatched with their effect on value. Lack of due diligence could negatively affect mineral value (e.g. interviews with stakeholders in cobalt supply chains reported blacklisting suppliers alleged to be linked to child labour). However, the existence of due diligence does not (yet) appear to positively affect value, or if so, in limited circumstances. As such, stakeholders are exploring ways of to address this value mismatch through cost-sharing efforts, explored in Sections 4 and 5 below.

By agreeing to trade at the market price, as reported by the London Metal Exchange (LME), London Bullion Market Association (LBMA), or by a relevant price reporting agency (PRA), companies can benefit from a greater level of transparency that these price-discovery organisations and mechanisms offer. As a result, companies can better focus their efforts on negotiating the value of premiums or discounts between the underlying metal and their specific product.

### What are the types of costs and benefits of implementing due diligence?

The Guidance was developed to provide clear, practical recommendations for companies to help them ensure they do not contribute to conflict financing, financial crime, and serious abuses of human rights through their mineral and metal procurement practices. It is a practical tool, designed for business, and entails recommendations that are tailored to the position of any given company in the supply chain, with each segment in the supply chain playing a specific role.

The Guidance recommends a “whole of supply chain” approach to due diligence. Downstream companies should reinforce upstream due diligence by identifying smelters and refiners in their supply chain, and applying leverage on them to demonstrate that they have the management systems in place to identify and address risks associated with the production and trade of minerals prior to refining. The whole of supply chain approach divides most metal supply chains into two parts with general responsibilities as follows:

#### **Upstream (mine to smelter/refiner):**

- Gather information on direct suppliers and countries of mineral origin, and where feasible other chain of custody or traceability information
- Identify red flags (e.g. minerals originated in or suspected to have been transported through CAHRA)
- For red flagged supply chains, establish traceability or chain of custody to mine of origin and undertake on-the-ground assessments of mines, producers, and traders for conflict, serious abuses, bribery, tax evasion, fraud, and money laundering
- Engage with stakeholders including local government, civil society organisations (CSOs), and local business to prevent and mitigate impacts and monitor improvement. This can potentially be done through participation in upstream industry initiatives.
- Smelters/refiners should undergo an independent third party audit of due diligence practices
- Report publicly on due diligence efforts

#### **Downstream (refined product to manufacturer and retailer):**

- Identify ‘choke points’ in supply chain (e.g. metal smelters or refiners)
- Collect information on smelter/refiner’s upstream due diligence (e.g. both through individual efforts, industry auditing, and further upstream assurance mechanisms)
- Use collective industry leverage to encourage improvement of upstream due diligence
- Support smelter/refiner due diligence efforts through training, capacity building, and industry-led responsible sourcing initiatives
- Report publicly on due diligence efforts

Every actor in the supply chain is faced with costs of setting up and maintaining the internal management systems necessary to effectively implement supply chain due diligence according to the Guidance. These costs exist regardless of position and circumstances of the actor in the supply chain. In addition to costs directly associated with supply chain due diligence, some companies are held to high standards on a number of adjacent issues that may overlap with supply chain due diligence, but are outside the scope of the Guidance. Compliance with legal requirements in relation to worker health and safety and environmental degradation, for example, may require the similar risk management frameworks. These issues and costs are outside the scope of this paper and studies referenced. However, it should be noted that expectations on company compliance with these requirements is increasing and having a growing impact on the due diligence cost burden. See Table 2.1 and Table 2.2 below for a summary of costs specifically related to the Guidance.

It is important to emphasise that the Guidance allows for flexibility and expects varying degrees of due diligence commensurate with the size and circumstances of the supply chain actor. The nature and extent of due diligence can be affected by factors such as the size of the business, the context of its operations, its business model, its position in the supply chain, and the nature of its products or services. Large supply chain actors with expansive operations and many products or services may need (and likely already have) more professionalised and extensive systems than smaller companies with a limited range of products or services to effectively identify and manage risks. At the same time, smaller actors operating in high-risk areas, or with a larger portion of red flagged supply chains, may be expected to undertake more robust, in-depth due diligence, due to their risk exposure.



Table 2.1. Costs of implementing supply chain due diligence

<i>OECD 5-step Due Diligence Framework</i>	<b>Step 1: Establish strong management systems</b>	<b>Step 2: Identify, assess, and prioritise risks</b>	<b>Step 3: Manage risks</b>	<b>Step 4: Audit control points</b>	<b>Step 5: Communicate and report on due diligence</b>
<i>Types of costs associated with each step of the Guidance</i>	Dedicated human resources, management time and, where necessary, external advisory support in order to design and oversee the required internal due diligence procedures, including setting up professional record keeping, developing new contracts and procurement systems, and communicating due diligence policies with business relationships. Some companies report having to hire professional consulting services, setting up new IT infrastructures, and seeking legal advice in order to make necessary changes.	Dedicated human resources and investment in information gathering systems to acquire knowledge of operations and supply chain For certain red-flagged supply chains, this could involve more thorough information gathering such as setting up or supporting an on-the-ground assessment team, participation in incident reporting mechanism, and actively managing a whistleblower system.	Monitoring and taking corrective action on reported risks which may include travel costs, training staff, amending contracts, suspending or terminating supplier relationships (as necessary), establishing new supplier relationships, and seeking legal advice  Participation in multi-stakeholder engagement and/or industry schemes  Follow up on risk mitigation efforts	Preparing for or supporting audits which may include dedicated human resources, payment of auditors, and potential follow up action.	Dedicated human resources and potential investment in communications systems and sometimes external advisors to draft and communicate Step 5 report (e.g. through websites or communications to business relationships and the public).

Source: Author's own work

Table 2.2. Additional costs unique to specific supply chain actors

	Step 1	Step 2	Step 3	Step 4	Step 5
				Although the Guidance only recommends audits at the smelter/refiner level, government and industry initiatives have developed further upstream, including audits certifications, and mine site validations at the exporter, trader, and mine level. Likewise, industry-led due diligence programmes exist for downstream companies (e.g. Responsible Jewellery Council and Responsible Minerals Initiative). Questions remain as to whether participation in these programmes reinforce or duplicate due diligence expectations. Thus, certain stakeholders have questioned including the costs here.	
<b>ASM / Local Traders</b>	Taking steps to formalise or legalise operations Creating and maintaining stakeholder grievance mechanism; Creating or supporting chain of custody or traceability to mine of origin for red-flagged supply chains	For red-flagged supply chains, costs and time associated with setting up, contributing to, and accommodating on-site risk evaluation. For ASM in particular, this can be a continual and longer process involving significant logistical barriers	ASM and local trading operations are reported to have significant corrective action steps in order to meet the minimum standards to participate in the responsible market	Costs of preparing for and facilitating mine site inspections or due diligence audits where they occur.  Anecdotal evidence that exporters are passing costs of levies down to their suppliers, but this generally does not appear in formal paperwork, where formal record keeping exists	
<b>Large Scale Mining (LSM)</b>	Creating and maintaining stakeholder grievance mechanism; Creating or supporting chain of custody or traceability to mine of origin for red-flagged supply chains	For red-flagged supply chains, costs and time associated with setting up, contributing to, and accommodating on-site risk evaluation	Costs of corrective steps	Costs of preparing for and facilitating mine site inspections or due diligence audits where they occur.  Exporters are reported to list the cost of levies as a line item deduction	
<b>Mineral Exporter / International Traders</b>	Creating and maintaining stakeholder grievance mechanism; Creating or supporting chain of custody or traceability to mine of origin for red-flagged supply chains	For red-flagged supply chains, costs and time associated with setting up, contributing to, and accommodating on-site risk evaluation	Costs of corrective steps Costs of shifting supply chain / changing suppliers when non-conformant	Costs of preparing for and facilitating audits and inspections (although sometimes reported to be passed up the supply chain)	



	Step 1	Step 2	Step 3	Step 4	Step 5
<b>Smelter/Refiner</b>	Maintaining detailed records on suppliers and developing an understanding of their supply chains	For red-flagged supply chains, costs and time associated with setting up, contributing to, and accommodating risk evaluation	Costs of corrective steps in order to achieve certification under an industry scheme  Costs of shifting supply chain / changing suppliers when non-conformant	Membership fees to industry scheme Costs of preparing for and facilitating audits and inspections	
<b>Downstream</b>	Managing and maintaining records on the identity of smelters & refiners, or any other suppliers at points of transformation where the mineral is processed to reach commercial market quality	Human resources allocated to answering supplier questionnaires, and compiling and validating surveys  SMEs <sup>2</sup> report difficulties due to lack of awareness on responsible sourcing requirements and confusing and sometimes conflicting questionnaires from downstream customers  Large downstream companies may have to manage and maintain relationships with a large and dynamic amount of suppliers	Costs of shifting supply chain / changing suppliers when non-conformant	Membership fees to industry scheme to support audits and smelter/refiner due diligence.	

Source: Author's own work

## **Downstream**

For large downstream companies (more than 250 employees), having a high number of suppliers increases supplier identification and monitoring costs and hampers a company's ability to understand its supply chain. Globalisation has made this process especially difficult as sub-supplier relationships have become more dynamic and are likely to change, sometimes even without buyers of component parts knowing. The sophistication of downstream company operations and their ability to conduct due diligence is far from uniform; where one downstream company might have a ten person sustainability team, another company may relegate this responsibility to part of one person's portfolio.

In a contested study of European based downstream companies (Blome et al, 2016), larger companies reported paying an average of approximately 270,000 EUR as an initial investment cost towards due diligence in the first year, followed by recurring annual cost expenditures of 535,000 EUR. European SMEs (defined as having less than 250 employees) estimated less than 32,000 EUR for an initial investment and approximately 57,000 EUR as annual expenditure thereafter. The Secretariat notes that while the accuracy of these figures are called into question by some stakeholders, the figures can still be considered roughly indicative of downstream company costs. One key criticism from stakeholders regarding this study is what the study defines as 'audit costs,' which may be misleading as it is unclear in the report whether this is referring to downstream membership dues to joint industry initiatives or downstream companies paying the costs for external auditors to evaluate their smelters/refiners.

For members of the Responsible Minerals Initiative (a joint industry initiative of mostly downstream companies), recurring audit costs are paid directly by the smelter or refiner and average roughly at 6,000-7,000 USD, but varies according to location, size, sourcing complexity and other factors. Further, membership fees cost roughly 7,000 to 15,000 USD. For jewellery and watch retailer members of the Responsible Jewellery Council (RJC), membership fees are calculated as .004% of total sales derived from the sale of diamond, coloured gemstones (rubies, sapphires and emeralds), gold, silver and/or platinum group metals, with a minimum fee of 790 USD and maximum fee of 102,000 USD. Further, RJC commercial members commit to achieving RJC Code of Practices Certification within the first two years of joining, requiring companies to undergo an additional third party audit of its due diligence practices.

Of course, downstream companies have additional staff time costs, IT and vendor expenses, supplier management, and sometimes voluntary contributions to upstream due diligence initiatives programs, all of which may have been muddled together and incorrectly factored into the figures from this study. To date, the Secretariat is not aware if there are many other studies on minerals due diligence implementation costs as specific as this one, but acknowledges that more research on this can be done.

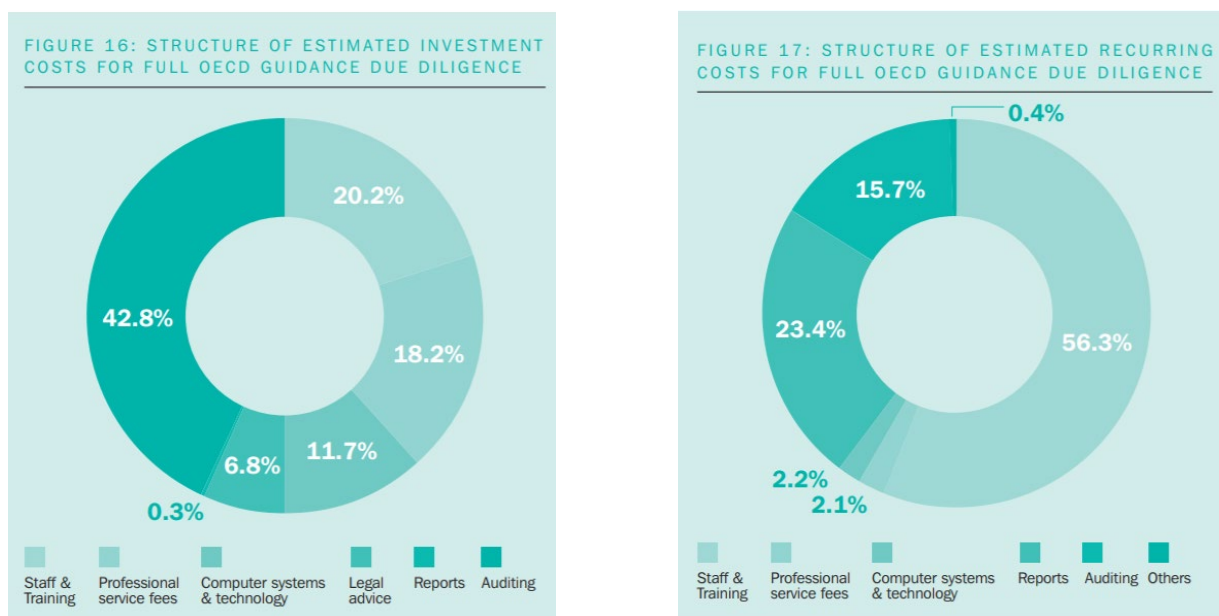
Table 2.3. Cost estimates for implementation of the OECD guidance in euro

COSTS		All firms		Firm size		Supply chain position			Industry					Implementation level	
		All firms	SME	Large firms	Focal firms	Component manufacturers	Metal traders, refiners, smelters	Aerospace & defence	Automotive	Electronics	General manufacturing	Jewellery	Mature	Immature	
Staff & Training	Initial invest	55k	8k	81k	85k	88k	4k	208k	18k	21k	53k	11k	92k	33k	
	Annual expenditure	302k	18k	306k	373k	67k	51k	112k	264k	188k	61k	33k	340k	59k	
Professional service fees	Initial invest	49k	0	49k	82k	3k	0k	42k	0k	10k	20k	0k	81k	1k	
	Annual expenditure	12k	1k	16k	18k	0k	9k	0k	17k	0k	0k	23k	23k	5k	
Computer systems & technology	Initial invest	32k	1k	22k	37k	0k	1k	3k	0k	41k	0k	0k	16k	18k	
	Annual expenditure	11k	0k	24k	28k	4k	8k	44k	2k	10k	1k	25k	29k	9k	
Legal advice	Initial invest	18k	10k	15k	25k	9k	0k	11k	0k	12k	0k	0k	24k	5k	
	Annual expenditure	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	
Reports	Initial invest	1k	0k	1k	2k	0k	0k	0k	0k	3k	0k	0k	0k	2k	
	Annual expenditure	126k	16k	139k	225k	11k	14k	16k	3k	405k	24k	22k	225k	17k	
Others	Initial invest	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	0k	
	Annual expenditure	2k	2k	1k	0k	1k	2k	0k	2k	0k	3k	0k	1k	0k	
Sums (without auditing costs)	Initial invest	155k	18k	168k	231k	99k	5k	265k	18k	87k	73k	11k	213k	59k	
	Annual expenditure	452k	37k	485k	644k	83k	84k	172k	288k	603k	88k	103k	619k	90k	
Auditing	Initial invest	116k	13k	102k	167k	15k	3k	334k	6k	12k	3k	1k	58k	91k	
	Annual expenditure	84k	20k	80k	131k	13k	10k	250k	19k	12k	3k	18k	53k	70k	
Sum (with auditing costs)	Initial invest	270k	32k	270k	397k	114k	8k	599k	24k	99k	77k	12k	271k	150k	
	Annual expenditure	536k	57k	565k	775k	97k	94k	423k	307k	615k	92k	121k	672k	160k	

Source: Blome et al (2016), Stopping conflict minerals with the OECD guidance for responsible mineral supply chains: status quo in Europe. University of Sussex, Brighton, <http://sro.sussex.ac.uk/id/eprint/65452/>.

While the study did not examine the costs for upstream companies, the study found that costs for implementation diminish towards the middle of the supply chain. Original Equipment Manufacturers (OEMs) reported to the researchers that they are confronted with relatively higher levels of costs (~400,000 EUR invest and ~775,000 EUR recurring costs). By comparison, and discussed further in the next section, refiners and smelters report lowest costs (~8,000 EUR and ~94,000 EUR respectively). However, it is important to note that smelter and refiner costs may increase significantly depending on whether they source from what the Guidance refers to as a “red-flagged” supply chain. In such cases, smelters and refiners require more thorough information gathering and mitigation efforts.

Figure 2.1.



Source: Blome et al (2016), Stopping conflict minerals with the OECD guidance for responsible mineral supply chains: status quo in Europe. University of Sussex, Brighton, <http://sro.sussex.ac.uk/id/eprint/65452/>.

## Upstream

Upstream companies face similar challenges and costs with regards to managing complex supply chains. For example, one container of minerals from an exporter could contain minerals from dozens of remote mine sites. Some of the most significant due diligence costs unique to upstream actors in CAHRAs are in relation to establishing chain of custody or traceability to mines of origin, undertaking (individually or collaboratively) on the ground assessments and stakeholder engagement, and participating or accommodating the various overlapping audit/inspection requirements. Due diligence costs may be greater, and in some cases a much higher proportion of a company's expenditure, for upstream operators in CAHRAs, particularly those sourcing from multiple mine sites, facing serious risks requiring mitigation, or operating in areas with under-resourced state and law enforcement functions. In addition, smaller upstream actors are often most vulnerable to Annex II risks, including extortion from non-state armed groups (and public and private security forces) in mine sites or along trading routes, as well as serious abuses of human rights present at the mine site.

As is explained in more detail in the section below, upstream actors also face significant pressure arising from audit, inspection, or spot check requirements that often require detailed documentary evidence and on-site visits, sometimes from multiple certification or assurance bodies. In order to prepare for these inspections, many upstream actors may require a heavy initial investment to set up professional record keeping systems. For example, designing a reliable system to assign a unique internal reference number to each mineral input and output. For some on-site visits, upstream actors may also be required to contribute to transportation and accommodation expenses in addition to other fees. It is key to note here that the Guidance only requires third party audits on identified points in the supply chain – for most metals, this is the smelter or refiner. The 3TG supplements of the Guidance do not recommend audits on other upstream supply chain actors (e.g. miners or exporters, though for certain minerals, this may be the case), although it does foresee that smelter and refiner use and/or engage with upstream due diligence teams and initiatives. In addition, some government and industry-led schemes may require third party audits in producing

countries. For some metals, certain phases of transformation may also take place in the country in which they are mined. Many cobalt ‘crude refiners’ are located in the DRC, for example, while ‘fine refiners’ are located in other countries. In this configuration, industry initiatives have recommended independent third party audits at crude refiners as well.

In an example from Rwanda, studies from 2014 (BGR, 2014) and 2018 (BGR, 2018) estimate that total due diligence costs represent approximately 2-4% of mineral export value. ITSCI estimates this cost to be closer to 2.2%. This number does not include the internal costs to set up due diligence management systems. These costs are directly attributable to meeting expectations of customers, downstream industry, and regulators (where applicable) for due diligence and traceability/transparency. In 2019, the Rwanda Mining Association stated that the cost paid to government mine site inspectors range from “\$130 USD per tonne to \$180 USD per tonne,” depending on the mineral, “plus an additional fee that goes towards ITSCI” (Vella, 2019). It should be noted these values are indicative, but still very specific to tin in Rwanda.

In addition to the costs of doing due diligence, smaller upstream actors face an additional cost challenge of getting their products to the market in the first place. Many downstream companies’ sourcing and management systems are not set up to conduct transactions with small producers, or support such producers in their efforts to gain international market access. Typically the largest consumer facing downstream companies are also not transacting with smelters/refiners directly. Transport, insurance and inventory financing, are blockages to getting responsible minerals to market. Likewise, it can be far more expensive to operate in current or former conflict zones due to a significant lack of infrastructure and high logistical costs. Unless quantities of responsibly sourced materials are sufficiently large, it is difficult to secure the provision of logistical services for small producers. An alternative to responsibly getting products to market is to quickly sell to illicit supply chain actors, particularly for miners and traders of precious metals, who in some cases are offered a higher price for metals that can be used for money laundering or as a form of currency (e.g. gold) (OECD, 2018b). These challenges may therefore discourage needed investments in due diligence for some upstream actors.

Another potential cost of due diligence is on transparency and disclosure requirements. It should be recognised that effective due diligence requires a level of transparency from all supply chain actors. Upstream supply chain actors, in particular, must be able to trust that transparency will be used fairly. For instance, producers who embrace transparency should not feel that they will be disadvantaged by being open about their supply chain risks, while peers may not.

### ***Benefits of due diligence***

**Companies throughout the supply chain** acknowledge that implementing due diligence involves an initial investment, which varies significantly depending on the size of the company, its position in the supply chain, and its risk exposure. Evidence also suggests there are significant long-term commercial benefits and even improved financial performance, but which are experienced differently by companies depending on many of the same factors (size, position in the supply chain, risk exposure).

Identifying a cost is by nature a more straightforward process than identifying a benefit. The OECD and the Columbia School of International and Public Affairs undertook a thorough analysis of reported benefits of responsible business conduct in general, which includes but is not limited to supply chain due diligence (OECD, 2016).

In general, companies that made efforts to conduct business responsibly reported non-commercial benefits such as an improved perception of the firm internally as well as externally, which in turn leads to decreased cost of capital (mainly due to reduced risk and increased transparency), increased ability to retain and attract talent, increased productivity, increased shareholder returns, reduced stock price volatility, and improved investor satisfaction. Many companies also reported increased revenues through access to markets, and increase in sales volume and price premium due to consumer awareness of social responsibility, although

this is inconsistent across companies, metals, and regions. Some stakeholders pointed out that that without due diligence and compliance departments, banks and big trading firms would begin to restrict their traders' ability to trade metals at all. That said, there are of course many variables in verifying the exact the causal relationship between due diligence measures and benefits.

The primary difficulty in this discussion is to link the value addition of downstream due diligence with that of upstream due diligence. As minerals are refined and smelted, and eventually enter downstream supply chains as small parts of larger components, their relative value becomes an increasingly smaller share of the overall value-added activity in downstream segments of the supply chain; hence some due diligence benefits enjoyed by downstream actors, while important in aggregate, are less directly attributable to specific upstream activities.

On an operational level, information collection and risk assessments stemming from due diligence can lead to an increased ability to detect problems and risks early. Risk prevention and/or mitigation reduces a company's exposure to potentially large remediation costs (e.g. litigation and compliance costs) it might incur if the risk were not addressed and protects the company from long-term damage. Due diligence can also reduce business contracting costs over the long term as companies establish stronger, healthier supplier relationships. Of course, upstream actors may see many of these same benefits when implementing due diligence. Most importantly, upstream actors can see a direct commercial benefit to their due diligence efforts in the form of greater and potentially more direct market access. OECD countries committed to promoting responsible mineral supply chains make up 75% of the global share of GDP (OECD, 2020). In the EU and United States, supply chain due diligence on 3TG is mandatory for some supply chain actors,<sup>3</sup> and related due diligence legislation (e.g. Modern Slavery Act in the UK and Australia, and Duty of Vigilance Law in France) further incentivises upstream actors to demonstrate responsibility in order to maintain access to these customers.

Responsible upstream actors have also reported stronger relationships with their customers, better security of supply, and strengthened rule of law in regions with generally weak governance. Implementation of due diligence by upstream companies can also help them gain access to new sources of finance. In consultations with upstream industry stakeholders, it became clear that many seem to consider that market access is the only concrete benefit. This perhaps demonstrates both the more narrow view on-the-ground of 'benefits', but also fact that the other benefits (e.g. stock price, reduced cost of capital, increased productivity) do not appear significant or concrete enough for them.

### Box 2.2. Investor and lender expectations of due diligence implementation

In recent years, investors and financial institutions have become a major driving force for uptake in due diligence expectations among downstream and upstream multinational enterprises (MNEs) and recognising the value of implementing due diligence in companies they lend to. The volume of "responsible" or "sustainable" financial products and strategies has grown exponentially in the past 10 years, driven largely by increased demand from beneficiaries and policy signals that the financial sector should be a driver in achieving global sustainability agendas.

Leading sustainability reporting frameworks and regulations are converging around OECD due diligence standards. For example, GRI, the world's leading sustainability reporting framework used by over 5,000 companies and the majority of S&P 500 companies, recently modified its universal reporting standards to integrate and align with recommendations of the OECD Due Diligence Guidance for Responsible Business Conduct (GRI, n.d.). In April 2019, the European Parliament overwhelmingly approved an EU Regulation for Sustainability-Related Disclosures in the Financial Services Sector, calling on financial institutions to disclose sustainability risks and impacts (OECD, 2019). It also notes

that when reporting on due diligence, practitioners “should consider the Due Diligence Guidance for Responsible Business Conduct developed by the OECD.”

These recent developments reinforce past studies by the OECD on the importance of demonstrated due diligence to investors as reflected in higher stock price, better price resilience, higher reported investor satisfaction, and better access to financing (OECD, 2016). Stakeholders have also reported significant cost saving from those cheaper loans which can offset and pay for due diligence implementation. A leading commodities trader active in the minerals and metals sector, for example, stated to the OECD that a lender is willing to shave off as many as three basis points from a multi-year loan worth several billion USD if the trader meets responsible sourcing KPIs related to human rights and carbon emissions.

**Governments in producing regions** also see benefits. Studies have shown that responsible upstream actors directly or indirectly use their mining-derived income in ways that benefit the national economy (BGR, 2014; 2018). Direct economic benefits are commonly created for local communities, especially due to the fact that, through the due diligence process, mining companies undertake more efforts to obtain their “social license to operate”. As governance of the sector improves, more mineral export revenues tend to stay within the country, jobs are generated, and vulnerable groups are empowered.

Important questions remain as to whether upstream supply chain actors see the same proportional benefit, particularly in situations where they might have relatively higher due diligence costs. As mentioned previously, the size of the company, risk exposure, and position in the supply chain would have to be taken into account to better understand a cost/benefit analysis.

Commercial benefits of due diligence can also be felt at a **commodities exchange** level. The fundamental service of the LME, for example, is to price metals – and, by the nature of its market, the LME price will generally be the price of the least valuable brand in the brand lists. An exchange that uses physical delivery in its derivatives contracts should ensure that its price reflects the value of responsibly sourced material, and is not artificially depressed by material which is not sourced in such a manner. If the LME’s price reflected “irresponsibly sourced metal” its price may be at risk of losing significance.

## Notes

<sup>2</sup> The OECD defines SMEs as having fewer than 250 employees.

<sup>3</sup> Under Section 1502 of the 2010 United States Dodd-Frank Wall Street Reform & Consumer Protection Act, publicly listed companies are required to disclose due diligence efforts on 3TG in their products. The US Department of State endorses the Guidance and encourages companies to draw upon it as they establish their due diligence practices; In May 2017, the European Union adopted Regulation (EU) 2017/821, requiring Union importers to conduct due diligence on 3TG originating from conflict-affected and high-risk areas in accordance with the 5 steps of the Guidance. The EU Regulation entered into force on January 2021.

# 3 Typology of cost sharing models and case studies

This section takes a critical look at current models that demonstrate how costs of due diligence are shared by different supply chain actors, including through financial support. These models are summarised in the Table 3.1 below.

It is important to note that the below case studies reflect only a small sample of the various due diligence schemes currently operational. The models identified and discussed are:

- **Model 1:** Upstream contributions for upstream due diligence via levies and membership fees (International Tin Supply Chain Initiative, ITSCI)
- **Model 2:** Facilitating market access to incentivise due diligence (Just Gold Project)
- **Model 3:** Downstream contributions for smelter/refiner due diligence via membership fees and voluntary contributions (Responsible Mineral Initiative, RMI)
- **Model 4:** Downstream contributions for upstream due diligence via premium price paid for the mineral (Fairmined Premium)
- **Model 5:** Bilateral cost sharing arrangements



Table 3.1. Summary table of cost-sharing models

Structure	Objective	Segment of the supply chain	Due diligence steps covered	Funding model	Criticism and limitations
<i>Model 1: Upstream contributions for upstream due diligence via levies and membership fees (ITSCI)</i>	To collect and process upstream due diligence information (mine to smelter) that can be utilised by companies further downstream, including by smelters and refiners in their audits by downstream industry schemes.	Miner to smelter	Steps 1-5	97% of funding comes from upstream supply chain actors (miner to exporter) that pay into the programme via levies (representing 80% of funding and typically collected from international traders based on metal content and tonnage exported) and joining and annual membership fees.	<p>Criticism of ITSCI has centred on the perception among some that the funding model's reliance on the levy system financially strains upstream actors. Critics also point out the lack of predictability or clear rationale on how levy rates are set. When mineral prices and trade volumes have fallen below certain levels, this financing system has been insufficient to support programme costs.</p> <p>Since it is the largest scale due diligence initiative on the ground, there appears to be an overreliance by the supply chain on the assumption that ITSCI membership is evidence that risks are being addressed, when in fact both upstream and downstream companies retain individual responsibility for due diligence.</p>
<i>Model 2: Facilitating market access to incentivise due diligence (Just Gold Project)</i>	To connect responsibly produced ASM gold with the downstream market through capacity building of upstream actors and facilitated agreement of fair market value of gold and due diligence	Miner to refiner	Step 1-3	Due diligence capacity building activities are donor funded and mining activities are pre-financed. Value of due diligence is invoiced separately.	<p>Like other on-the-ground due diligence programmes, Just Gold requires a certain volume of material to be exported before it is economically viable. The more logistically difficult the location of the mine is, the higher the volume needed. However, according to Just Gold, the taxes and fees applicable to artisanal gold in DRC makes legal production and trade not commercially at the moment, though a more promising project is underway in Ivory Coast.</p>

					Likewise, there is significant difficulty in finding buyers for the material due to stigmas related to sourcing ASM in general, and from the DRC in particular. Just Gold appears to have had difficulty overcoming these challenges to date in order to scale up.
<i>Model 3: Downstream contributions for smelter/refiner due diligence via membership fees and voluntary contributions (RMI)</i>	To provide companies with tools and resources to make sourcing decisions that improve regulatory compliance and support responsible sourcing from CAHRAs, specifically this includes information on which smelters and refiners of gold, 3Ts, and cobalt are verified through third party audits as having OECD-aligned management systems and sourcing practices.	Smelter/refiner to retailer	Step 4	Supports smelter/refiner due diligence through a number of funds made up of voluntary individual company contributions. Depending on the size and capacity of the recipient, funds may cover initial audit costs, re-assessment costs, and certain due diligence costs like mine-level assessments in CAHRAs and other upstream due diligence activities.	Much of the downstream support to upstream actors beyond refiners or smelters is in the form of individual voluntary contributions rather than through a built-in mechanism such as membership fees, levies, or premiums.
<i>Model 4: Downstream contributions for upstream due diligence via price premium (Fairmined Premium)</i>	To connect responsibly produced ASM gold with the downstream market and provide funds to improve mine site sustainability and community livelihoods.	Miner	Steps 1-3	LBMA price paid for gold (if more competitive than what the conventional market is offering) plus an additional \$4,000 USD per kilogram of gold.	Success and scalability of this cost-sharing model relies heavily on two factors, the availability of qualified mine sites and a market willing to pay a premium.
<i>Model 5: Bilateral cost sharing arrangements</i>	One actor or a small group of downstream supply chain actors invest in due diligence capacity building at the mine level in exchange for an off-take agreement.	Not specific	Not specific	Due diligence costs are subsidised as part of the agreement or potentially reflected in prices paid	Not enough evidence that this is taking place (or can take place) at a large scale.

Source: Author's own work

## **Model 1 – Upstream contributions for upstream due diligence via levies and membership fees – International Tin Supply Chain Initiative (ITSCI)**

### *Objectives*

ITSCI is an industry-led due diligence programme with the objective of implementing responsible sourcing standards for 3Ts (tin, tantalum and tungsten). It is currently operating in the Democratic Republic of the Congo (DRC), Rwanda, Uganda, and Burundi, but does not limit its geographic mandate. ITSCI was established by ITA (the International Tin Association) and TIC (the Tantalum-Niobium International Study Centre). The ITSCI programme is designed to collect and process due diligence information that can be utilised by companies further downstream, including by smelters and refiners. ITSCI has reached around 2,250 mine sites, supporting an estimated 80,000 miners. Programme features include:

**Traceability data collection:** The ITSCI traceability system includes bar-coded tags that are added to each bag of minerals at the first two steps of the supply chain, extraction and early-stage processing and trading. The data is collected through specifically designed logbooks for each actor of the supply chain: mine; *négociant* (upstream trader) and *comptoir* (the buying houses that further process the ore and prepare it for export). ITSCI partners with government authorities to deliver the mineral traceability system, i.e. the tagging of minerals with associated data records at each key point along the supply chain prior to export is done by state agents. The information collected is stored and analysed for discrepancies on the secured ITSCI database and allows for complete analysis and minerals traceability from mine to smelter.

**Supply chain governance assessments:** Independent consultants conduct assessments of mining areas, transportation routes, and supply chain actors to evaluate Annex II and other risks related to mineral production and trade and the implementation of the ITSCI programme.

**Mine site baseline assessments:** Local ITSCI staff undertake assessments to determine the anticipated plausible production from a mine (the vast majority are ASM sites) to provide a control against minerals from non-approved mines entering the supply chain through fraudulent origin reporting. Baseline assessments also record other key details, such as GPS location, mine license information, details of the government agents assigned to the site, number of miners working on site and whether there is evidence of Annex II risk factors, such as child labour or the presence of armed groups at or near a mine site.

**On-going incident monitoring and reporting:** ITSCI logs and reports on-the-ground developments affecting mineral production and trade. Monitoring includes the involvement of local communities in risk identification and mitigation measures, for example in response to incidents, through committees at the community and provincial levels, as well as through bilateral negotiations with stakeholders. These are multi-stakeholder groups that were set up for the purposes of risk identification and mitigation. ITSCI also manages the provision of a whistleblowing mechanism that is increasingly used by local stakeholders. ITSCI systems estimate reporting and monitoring around 1,500 Annex II risks each year.

### *Funding model*

According to the ITSCI website (see link in bibliography), 97% of funding comes from upstream supply chain actors (miner to exporter) that pay into the programme via levies (representing 90% of funding, reportedly usually collected at the level of international traders, and joining and annual membership fees. ITSCI also provides access to timely supply chain information (including incident information and alerts) to downstream companies that pay 'associate fees', but this amount only represents less than 1% of the total funding. When ITSCI first started, it also occasionally received funding from donors for scaling up and other specific projects beyond due diligence implementation, but has not received donor funding since 2017.

While ITSCI received no donor funding after 2017, projects that leveraged ITSCI's operational footprint in order to address issues outside ITSCI's immediate scope but nevertheless relevant to Annexes II and III

of the OECD Guidance, for example related to child labour remediation and occupational health and safety, did receive donor funding, which was administered by ITSCI's implementation partner, Pact.

ITSCI breaks down its costs as follows: Approximately 80% of costs are related to providing on-the-ground services such as the traceability system, risk identification and management, whistleblowing hotlines, technical expertise, and transport and communication in mining areas. 10% of costs go towards implementing its traceability (non-field costs for data systems/licenses, and staff), and the final 10% are for administrative costs and auditing and assessment activities.

### *Criticism and limitations*

Some upstream supply chain actors, government authorities in the Great Lakes region, and researchers have argued that the funding model puts a heavy strain on upstream actors – a concern that ITSCI somewhat shares. ITSCI argues that a wider funding base and wider range of metals would make their system more resilient. As noted above, the average cost for members of the ITSCI system is 2-4% of the mineral export value, or \$130USD to \$180USD per tonne, however this may also comprise government taxes and fees. ITSCI estimates this to be 2.2%. While levy rates are calculated based on tonnage, metal content and type of mineral, critics take issue with the fact that levy rates do not account for fluctuations of international metal prices. ITSCI notes that successful formalisation in itself leads to new costs for companies, for example, improved governance with additional government agents (for whom the government may charge a fee), increased taxation (on previously unrecorded production) and these can sometimes be confused with due diligence costs.

This specific issue is a sizeable challenge for everyone, including ITSCI, because the costs of mineral production as well as due diligence support depend on the volume produced, no matter the international price of the mineral at a particular time. It has been reported in the past that ITSCI levies and membership fees have steadily increased over time, which could present a risk to the sustainability of the project as prices of minerals may dip (BGR, 2014). There are a range of sometimes countervailing factors that could conceivably increase or decrease the costs of running the system, both in aggregate and per member. The overall cost increases with more members and larger volumes of minerals. Economies of scale may serve to decrease such costs per member and on a volume basis. However, the remoteness of many mine sites and difficult operating conditions may dilute such economies of scale. Moreover, as more supply chain actors join the programme and the expectations of downstream customers and other stakeholders for more extensive reporting grow, more audits and more complex traceability tools are deemed necessary by ITSCI to keep up with greater demands for up-to-date information.

This means that as prices drop, profit margins become prohibitively narrow for upstream operators, potentially pushing more supply chain actors into illicit trade and smuggling and assuming a strong enough market exists for minerals traded without adequate due diligence information. Greater downstream contribution into minimising upstream due diligence costs could potentially reduce this effect. This also highlights the importance of robust smelter audits and stronger mine site monitoring, which could reduce the risk that irresponsibly sourced minerals reach the international market as a result of fraudulent bagging and tagging or lack of due diligence from buyers.<sup>4</sup>

Despite the levy being based on volume, ITSCI is also impacted by price fluctuations as production increases and decreases. Initially, 3T prices have fell significantly with the Covid-19 crisis, so did mineral production and trade, impacting the scheme's sustainability and calls for donor support. At the time of writing this paper, prices have recovered and increased, putting the programme, as well as miners, in a stronger financial position.

Critics have also raised concerns with the overreliance by companies on their ITSCI membership as evidence that risks are being addressed. This concern was also identified in the OECD Alignment Assessment of ITSCI which pointed out that companies solely rely on ITSCI for due diligence and risk mitigation, as opposed to using ITSCI information to support their own due diligence and risk mitigation

(OECD, 2018a). The Alignment Assessment also identified that this was an area in which ITSCI could do more to build the capacity of companies to undertake meaningful due diligence using ITSCI's tools, but ITSCI states that this would come with added costs.

## ***Model 2 – Facilitating market access to incentivise due diligence (Just Gold Project)***

### *Objectives*

The objective of the Just Gold Project is to support responsible ASM gold production and trade by creating incentives for miners, traders, and exporters to sell through legal channels. The project facilitates international market access as one of the incentives offered, connecting responsible miners and exporters with interested downstream buyers who negotiate and agree on a competitive pricing model. The Just Gold Project was developed by the international NGO, IMPACT, and has been implemented in the DRC and is currently being implemented in Ivory Coast. The foundation of the Just Gold Project model is to provide miners with a number of incentives to participate in the legal market and continue to implement supply chain due diligence. Incentives include technical assistance to increase their gold yields, a transparent purchase price posted publicly and calculated based on the daily LBMA-listed price, as well as the use of digital scales to further increase transparency. This is accomplished through the following steps:

- Selecting a number of ASM gold mines to participate in the Project and providing technical assistance and capacity building to the miners and other upstream actors to implement the Just Gold Traceability and Due Diligence System, which is based on the Minerals Guidance
- Connecting with interested gold refiners (or other downstream companies) that agree to pay the Just Gold price
- Collecting and analysing community and development data.

The Just Gold price received by the miners is calculated as the LBMA spot price, minus any deductions from the exporter and cooperative (e.g. logistics, taxes, impurities, etc.). The final price is then negotiated between supply chain actors in recognition of the fact that the commodity is accompanied by due diligence data and possibly development data. The price paid for the gold and the data are invoiced separately. Key to this calculation, the buyer assumes the LBMA rate as the basis of the purchase price paid at the mine site.

Under this pricing model, in order to be economically viable, volumes need to be at a certain level to overcome the deductions. For example, in the DRC, the export volume required for economic viability is 7kg per month (due to the high costs applicable to legal artisanal gold production and trade, including various taxes, fees and logistics). However, in Ivory Coast, where these costs are substantially lower, the export volume required for economic viability is only 1kg per month. In the Ivory Coast example, the price agreed to was a negotiated rate for the gold as a percentage of the LBMA price, that includes a negotiated percentage for data (3% or approx. \$1744 USD per kilogram at the time of writing this paper).

### *Funding model*

IMPACT's activities, including the technical assistance, capacity building, due diligence support, and community development, are funded through government and private-sector donations, with the objective being that the costs for these activities are covered by the price paid for the gold once the project is scaled up. These costs may also be lessened over time as partners assume more and more direct responsibility for activities including traceability and due diligence. As more data is collected and analysed over time, IMPACT and/or other designated actors can take on more of a spot checking role. The cost of the Ivory Coast pilot is 1.5 million EUR (provided through a grant from the European Union) and took approximately 24 months to set up. The DRC pilot required a higher upfront development investment and longer engagement to overcome the more significant development and logistical obstacles.

The refiner or downstream actor's price offering is the basis for determining how much value there is to distribute amongst the upstream supply chain actors, given that the calculation works backwards from that. At the moment, IMPACT is coordinating the efforts and negotiations to work with all supply chain actors to determine that fair prices are paid for the gold and the data. Eventually, the supply chain actors will need to negotiate amongst themselves to determine what is paid for data, what the terms are, etc. However, upstream supply chain actors now have a better negotiating position given the added value of data and the pricing transparency that has been introduced. Participation in the Just Gold project guarantees the miners be paid a transparent price based on the LBMA daily price and adjusted for purity at the mine site, calculated based on a method which minimises the impact of local price fluctuations in times of crisis.

### *Criticism and limitations*

This model presents two important limitations that are difficult to overcome and that are shared with many other small scale responsible mining operations in CAHRAs. First, the harder it is to export due to logistical, legal, and governance obstacles, the greater volume that needs to be exported in order for the arrangement to be economically viable. As more support is given to the project, through voluntary contributions by governments or private sector initiatives, efforts to expand the project to more mine sites may help reduce the burden on meeting the volume threshold, though the project will also need more support from upstream industry and greater engagement from downstream buyers to become sustainable. Second is competition from illegal gold networks, which offer high and even, at times, above-market rates for gold. As was explained by the UN Group of Experts on the Democratic Republic of the Congo, "the project could not compete with gold prices offered through the smuggled trade (see annex 24)" (UN Security Council, 2020). This is due to a combination of illegal gold networks evading formal taxation and fees, increasing their margins, as well as some traders using gold as a financial instrument and thus are less concerned about the margins they make when buying and selling gold. Finally, IMPACT has also reported difficulties in marketing ASM material to refiners due to the stigma attached to the sources (DRC ASM, in particular). Inability to overcome these challenges to date has unfortunately meant the Just Gold project has not reached significant scale in DRC, with IMPACT itself noting in 2020 that 98% of artisanal gold in the DRC continues to be smuggled out of the country (IMPACT, 2020). IMPACT believes that the model in Cote d'Ivoire is more promising given that barriers to legal trade and stigma are less.

### ***Model 3 – Downstream contributions for smelter/refiner due diligence via membership fees – Responsible Minerals Initiative (RMI)***

#### *Objectives*

The Responsible Minerals Initiative (RMI) is a global responsible sourcing programme made up of mostly downstream companies in the automotive, electronics, and aerospace manufacturing supply chain. The RMI mission is to provide companies with tools and resources to make sourcing decisions that improve regulatory compliance and support responsible sourcing from conflict-affected and high-risk areas. The RMI focuses on standard setting, tools and resource development, to support compliance and implementation of best practices, supplier engagement and capacity building. Supply chain assurance is one of RMI's pillars – it offers companies information on which smelters and refiners of gold, 3Ts, and cobalt can be verified as having OECD-aligned management systems and sourcing practices. This is done through an independent, third-party assessment of the management systems of smelters and refiners as part of RMI's Responsible Minerals Assurance Process (RMAP), an assessment that is designed to address the Step 4 audits of the Due Diligence Guidance. The RMAP standards are largely aligned with the Guidance and conformant smelters and refiners are publically listed on RMI's website. RMI also offers a number of free research tools, audit preparation assistance, trainings, and seminars to help raise awareness and technical capacity for its members to conduct supply chain due diligence. RMI also offers

a Downstream Audit Program for other downstream companies (beyond smelters and refiners) whereby members can have their due diligence systems audited by RMAP against the OECD Guidance.

### *Funding model*

RMI's work is funded through annual membership fees as well as contributions from companies to support specific programmes. Membership fees are \$7,500 USD per year if annual revenue is under \$9 Billion USD, \$15,000 USD per year if annual revenue is over \$9 Billion USD, \$5,000 USD per year for upstream companies, and \$10,000 USD per year for industry associations. Current membership includes approximately 380 companies from a range of industries including but not limited to electronics, automotive, and aerospace companies, and also includes mining/smeltering companies, industry associations, and service providers. RMI Member dues goes to support the development and operation of the RMAP, supply chain databases, risk management and due diligence tools, smelter research/validation, smelter technical assistance, training, and industry partnerships. Much of RMI's tools and resources are publicly available.

RMI supports upstream due diligence through a number of funds made up of voluntary individual company contributions. The Initial Audit Fund offers smelters and refiners an incentive for participating in the RMAP by fully paying for the costs of their initial audit. The average audit cost for recurring audits is \$6-7K USD but depends on location, sourcing profile, complexity/volume of transactions, and preparedness for the assessment. The RMI also supports the cost of re-assessment for some lower capacity smelters or refiners that are already participating in the RMAP for which the cost of re-assessment may be burdensome. For those that meet the criteria RMI will cover 75% of the cost of the re-assessment. Most smelters continue to pay the costs of recurring audits themselves, however.

Additionally, the RMI has created a fund for smelters and refiners to offset the costs of mine-level assessments in CAHRAs and other upstream due diligence activities that are not already covered by an upstream programme (e.g. ITSCI or the Better Sourcing Programme). Each smelter or refiner may apply once per year, and receive up to \$10,000 USD. The fund supports the following activities:

- Smelters and refiners independently conducting due diligence on their upstream supply chains either themselves or with a consultant
- Local suppliers of smelters and refiners to conduct assessments themselves
- Local communities from which smelter and refiners source to build capacity to conduct the assessments and ongoing mine site monitoring
- Financial assistance to industry associations, educational organizations, or other not-for-profits that are looking to develop or expand upstream assurance mechanisms into CAHRAs more broadly

Over the last few years, the RMI has worked to further enhance its upstream engagement efforts, and in addition to launching the upstream due diligence fund, has provided additional funding and technical support for upstream 3TG mechanisms (e.g., ITSCI, BSP Risk Management project), support to a partnership to expand the Better Mining Program to additional copper and cobalt ASM sites in the DRC, , and support for development programming in six communities in Kolwezi that provide vocational skills for at risk youth with the aim of giving them an alternative to mining.. Starting in 2018, RMI rolled out a new upstream membership category with reduced annual fee to encourage more inclusive upstream participation and two new working groups (Mining Engagement Team and ASM Team) to increase upstream voices and perspectives.

The RMI membership fees also go towards supporting the European Partnership for Responsible Minerals (EPRM) and the Public Private Alliance for Responsible Minerals Trade (PPA). These two initiatives are multi-sector and multi-stakeholder, and are aimed at supporting minerals supply chain due diligence. The two initiatives, one based in Europe and the other based in the US, function as hubs for funding, collaboration and sharing information on sourcing responsible minerals. They fund pilot projects that focus

on 3TG supply chain management systems, with the ultimate goal of producing scalable, self-sustaining systems. Examples of funded projects from these initiatives include:

- Providing a grant to a DRC-based NGO to set up a whistleblower hotline for 3TG mines in 5 mining provinces in the DRC in order to help aid in the detection of Annex II risks.
- Supporting artisanal mine sites run by women in Zimbabwe by providing legal training, expert training on responsible sourcing, setting up a grievance mechanism, development of a due diligence and traceability system, construction of a storeroom, and hiring of security guards.
- Funding an international NGO to provide training and capacity building to local stakeholders on mine site monitoring to over 100 mines in eastern DRC, and then collecting, analysing, and distributing the data further downstream.

The RMI, the LBMA, and the Responsible Jewellery Council (RJC) share mutual cross-recognition of independent, third party gold refiner audits, to further reduce multiple similar audits and the costs of audits (Responsible Minerals Initiative, 2019).

### *Criticism and limitations*

Critics believe that RMI efforts to support due diligence further upstream than the smelter/refiner falls short considering the proportional benefit downstream receives from upstream due diligence activities, although it should be repeated that the Guidance only requires downstream due diligence (which includes providing due diligence support to business relationships) up to the refiner and smelter. Much of the downstream support to upstream actors beyond refiners or smelters is in the form of individual voluntary contributions and specific project support. While this support can be substantial, stakeholders suggested that this should extend to a broader built-in mechanism such as membership fees, levies, premiums, or regular/fixed support for upstream due diligence programmes.

Some stakeholders have raised concerns that responsible sourcing programmes focus too heavily on central Africa and not enough on other CAHRAs where audited companies are also sourcing material from, such as Myanmar. RMI, however, states that under the RMAP, lack of due diligence when sourcing from CAHRAs globally, including for example from the Shan State of Myanmar, is noted as a non-conformance. Likewise, RMI's Global Risk Map shows risks are being considered beyond central Africa and other parts of the world designated as high-risk.

### ***Model 4 – Downstream contributions for upstream due diligence via price premium – Fairmined Initiative***

#### *Objectives*

The objective of the Fairmined Initiative is to connect responsibly produced ASM gold with the downstream market and encourage miners to achieve high standards of mineral production relating to a number of factors, including addressing Annex II risks but also extending beyond, such as environmental sustainability and worker health and safety standards. Under this initiative, the Alliance for Responsible Mining (ARM) – a global NGO dedicated to supporting ASM – selects mine sites that could potentially qualify for Fairmined certification. ARM works to support miners towards certification, either working directly with them on the ground or with local partner organisations, and by designing, implementing, and monitoring improvement plans towards the Fairmined Standard. An independent third party certification body performs an audit against the Fairmined Standard, which includes criteria of the Guidance but also goes beyond, for example on environmental issues. Preparation for the audit takes approximately 18 to 24 months. If compliant, the mining community is granted Fairmined Certification. With this certification comes better marketability of their material and access to buyers interested in responsibly sourced gold (who themselves apply and pay for a Fairmined Licence in order to sell gold using the Fairmined label).



### *Funding model*

Having the Fairmined Certification ensures miners receive a “guaranteed fair price for the gold” plus a premium as a market incentive to cover the costs of the certification and to invest in mining operations, social development and environmental protection. According to the standard, the fair price is set based on the London Bullion Market Association (LBMA) fixing for gold and will only be offered to miners if it is more competitive than what the conventional market is offering. The Fairmined Premium costs an additional \$4,000 USD per kilogram of gold. At the time of writing this, the LBMA price per kilogram of gold is \$50,552.23 USD, meaning that the Premium represents an additional 7.9%.

Under the directives of the standard, profits from the Premium are expected to be reinvested into maintaining and improving compliance with sustainability standards and is reinvested back into the community. Miners consider these premiums fundamental to their success and growth. ARM reports on its website that 5.64 million USD of Fairmined Premium has been paid to certified mining organizations to invest in their development and community projects to date since 2014. Premium funds allow miners to recover costs of investing in formalisation and overcome structural barriers to market entry associated with their informality, risk and relatively smaller production amounts.

### *Criticism and limitations*

The success and scalability of this cost-sharing model relies heavily on two factors, the availability of qualified mine sites and a market willing to pay a premium. Because Fairmined focuses on the highest quality ASM and goes beyond the expectations of the OECD Guidance and its Annex II risks, many miners may struggle to meet such a high bar from the outset.<sup>5</sup>

Another limitation to Fairmined is that in some industries with especially complex supply chains, it is challenging, and in some cases perceived not to be feasible, for companies further downstream to drive demand for responsibly sourced materials further up their supply chains to the smelter. This can be due to multiple tiers between smelters and downstream OEMs, the confidentiality that may be involved in specific business relationships, limitations to the ability to exercise leverage, and other market dynamics. As such, it can be difficult for these industries to pay any extra premiums. In other industries (e.g. jewellery), these barriers may be less of an issue, and from a commercial perspective, there may be some willingness by buyers or consumers to pay extra, if companies “can tell a story”.

The average consumer, however, likely has limited knowledge of the details of the different responsible sourcing initiatives and may not be willing to pay more for one certification over another. This could force responsible miners to increase marketability by having to join multiple certification schemes and undergoing duplicative and expensive audits. One way around this obstacle would be cross-recognition of different certification schemes.

### **Model 5 – Bilateral cost sharing arrangements**

Bilateral arrangements exist wherein one actor or a small group of downstream supply chain actors (traders, manufacturers, retailers) invest in due diligence capacity building at the mine level in exchange for an off-take agreement. The cobalt supply chain could soon present interesting case studies for this type of arrangement due to a number of large downstream companies scrambling to secure cobalt supply, while simultaneously facing increased scrutiny for risks of worst forms of child labour and corruption in the cobalt supply chain. It is conceivable that factors such as scale, proximity to transport infrastructure and geographic distribution of mine sites as well as market structure may influence the viability of such closed pipe supply chains, and the implementation of due diligence along them. Therefore, they may be conducive to on-the-ground due diligence programming for some mineral supply chains and less so in others.

## Notes

<sup>4</sup> It is important to note that that due diligence management system audits do not verify all minerals passing through the audited smelter/refiner. These audits look at whether or not the smelter/refiner has a due diligence management system in place and if it is working effectively, based on a sample.

<sup>5</sup> For this reason ARM developed the Code of Risk mitigation for ASM engaging in Formal Trade (CRAFT code) which provides an entry point by focussing on the implementation of the Guidance, while laying out a progressive path toward the improvement of industry practices and ultimately the Fairmined Standard. Implementation of the CRAFT code is financed by voluntary contributions and technical assistance from the European Partnership for Responsible Minerals, ARM and RESOLVE. However, the CRAFT code does not feature a built in cost sharing mechanism such as the Fairmined premium.

# 4 What are the practical implications of due diligence costs for upstream actors in CAHRAs?

## Cost burdens of audits and certification programmes pushed upstream, not downstream

It is the individual responsibility of each business to assess the due diligence practices of their suppliers and cascade due diligence responsibility up the supply chain in order to drive progressive change. In practice, in order to save on time and costs, downstream actors, smelters, and refiners rely on industry audits and certification schemes to govern the extent of due diligence they conduct on certain suppliers and supply chains. These industry schemes are funded by a common pool of funds, either from membership fees or levies or both, and manage the third party audits or inspections of suppliers (e.g. mine sites, exporters, smelters, or refiners), as well as broader due diligence support and capacity building (e.g. training, awareness-raising, and stakeholder engagement).

For example, an electronics component manufacturer may seek to only source tin from smelters that have passed an OECD-aligned industry audit rather than to individually verify the due diligence practices of all the smelters already in their supply chain. Although some downstream companies conduct spot checks of their own supply chains in addition to relying on industry schemes. By extension, in order to ease their own audit burden, smelters may choose to limit their sourcing only to exporters and miners that have undergone a similar third party audit or assessment, and/or participate in an upstream monitoring system.

This approach is generally consistent with the recommendations of the Guidance. Certainly, it would not be practical to have a situation where joint-industry schemes did not exist and each supply chain actor was conducting their own evaluations of each of their suppliers. Such a scenario would likely be extremely cumbersome, inconsistent, and costly for all involved, and also likely lead to lack of implementation of the Guidance. The Guidance is designed to be a practical tool and recognises that many actors may have difficulty mapping their supply chains and evaluating supplier due diligence practices either due to a lack of understanding themselves or lack of capacity to carry out the necessary checks. Also to avoid a duplication of checks, the Guidance recommends that while individual company efforts are ongoing, they may identify, through industry schemes or collaborative initiatives, the suppliers that meet the requirements of the Guidance. This approach, while efficient for companies further downstream, can be problematic for actors upstream as the costs are cascaded up towards them.

An important caveat here is that the Secretariat, in its review of industry programmes' alignment of the Guidance, recognised common shortfalls among even OECD-aligned industry programmes, specifically a lack of training and awareness of the Guidance by the third party auditors approved by some of the industry schemes (OECD, 2018a). This lack of understanding among auditors may lead to confusing or inadequate assessments of the smelter or refiner's due diligence programme. The Secretariat notes that when relying

on findings from industry schemes or collaborative initiatives, individual companies should review those findings to ensure they are credible, up-to-date, and cover risks specific to their supply chain.

The risk is that the cascading of due diligence responsibility described above essentially becomes a chain of cascading costs, including of audits, onto upstream suppliers, specifically miners (both LSM and ASM) and exporters. As an example, it has been reported that exporters, in Rwanda generally list the cost of levies as a line item deduction in purchasing agreements with LSM suppliers (BGR, 2014). For ASM, these costs are not clearly documented in the mineral purchasing prices offered, but may nonetheless still exist. Upstream actors such as exporters, mine operators and independent small-scale miners, in particular, then effectively face duplicative costs during the audit process; first, the costs of risk assessments of sites they operate in or source from and second, the costs of exporter levies and audits they either pay directly or that are passed onto them.

Another reason that costs of due diligence are difficult to push downstream is due to the fact that the value of the minerals become more diffuse further along the supply chain, as the minerals make up a smaller share of the final manufactured product, although this is not the case in the jewellery sector. Tied to this, because of the way supply chains are structured, the benefits of due diligence are collective for downstream actors, but not directly attributable to specific mines. Since minerals from multiple supply chains are mixed, melted down, and alloyed, it becomes impossible for downstream actors to understand to what extent they have directly benefited from specific due diligence actions furthest upstream. This presents additional challenges for the further downstream actors to embed the value of diligence in their pricing discussions, but this might be possible at the smelter/refiner level.

Recent research from the DRC suggests that the market may reflect due diligence costs in prices to a certain extent, finding that ASM 3T mine sites participating in the ITSCI programme and validated by the ICGLR Regional Certification Mechanism (RCM) sold minerals at marginally higher prices than non-ITSCI and non-RCM mines (De Brier, et al., 2020). However, the study could not establish whether the miners themselves earn more revenue as a result. This disconnect, and claims by upstream actors that prices received are still not competitive, may also be linked to the way supply chains are structured as well as the administrative costs of maintaining industry schemes that they participate in. Related to that, some stakeholders observed that due diligence costs are encouraging smuggling and ‘blending’ of minerals into monitored sites. In effect, this could lead to some monitored sites off-setting due diligence costs by buying from unregistered small miners at discounted prices. Thus, the concern by these stakeholders is that current systems could in fact be encouraging localized informalisation.

## Uneven global implementation of the Guidance and ‘de-risking’

According to interviews with upstream stakeholders, including those operating in the gold and 3T supply chains, the upstream market is generally highly competitive. In the formal sector, margins are small, in particular for concentrate traders and smelters, and there is significant over-capacity in refining and smelting. Stakeholders noted that it is a buyers’ market for downstream companies who have more freedom in which suppliers they choose to source from. Availability of scrap on the market likewise can make sourcing minerals from CAHRAs less commercially attractive and put additional pressure on price premiums, in supply chains where those exist.

Also, risk mitigation efforts when dealing with smaller upstream actors usually require more regular due diligence checks, leading to further costs on a per unit basis. Unsurprisingly, smaller upstream actors in CAHRAs claim that they also struggle to compete as they are not able to implement the same operational standards as major industrial mining operators, leading to the phenomena of ‘de-risking’, i.e. embargoes of ASM and/or CAHRA material altogether. It should be noted, however, that some downstream companies have presented their decision to only source from LSM producers due to the perception that LSM is somehow less risky by nature..

Uneven global implementation of responsible sourcing expectations and the abundance of alternative sources of minerals are also factors that affect competitiveness of minerals responsibly sourced from CAHRAs. While it is an increasing expectation of governments, consumers, civil society and industry that minerals should be sourced responsibly, many of the stakeholders interviewed for this study claim that implementation of the Guidance remains limited. Although robust smelter/refiner audit requirements and legislation relevant to downstream buyers exist, the upstream industry generally state that smelters that do not participate in smelter/refiner audits can still sell their materials, as many of their direct customers will continue to do business with them. It is unclear through interviews with stakeholders whether they are selling their material at the same price. A major reason for this is likely that those customers are often located in jurisdictions where responsible business conduct principles are not yet widely disseminated, understood, encouraged or enforced.

At same time, when a smelter/refiner is removed from a conformant list (e.g. RMAP or LGD), it reportedly has near immediate consequences on sales – the smelter is not able to meet customer requirements – and thus there is an effort to quickly resolve the issue to “re-enter” the program. Smelters/refiners that were never conformant to any OECD-aligned programme clearly have customers that are not asking for due diligence, thus they have little incentive to undergo the assessments.

## Market acceptance of non-responsibly sourced minerals

In discussions with some upstream 3T representatives, the Secretariat was informed that minerals with evidence of responsible sourcing are often sold at the same price as minerals without such evidence, and that minerals sourced from low-risk regions sell at a higher price. Even if customers ask for responsibly sourced material, they are reported to be still willing to accept minerals without evidence of responsible sourcing at the same price. However, the recent study in the DRC mentioned above (De Brier, et al., 2020) found that minerals associated with a due diligence checks sold at marginally higher prices than non-ITSCI and non-RCM mines. Either way, the acceptance of non-responsibly sourced minerals can foster an uneven playing field between informal operations and ASM making efforts to formalise (which in many cases is being excluded from supply chains due to de-risking strategies and no-ASM policies), and also erode the sustainability of programmes that rely on a pricing premium.

Refiners and smelters interviewed for this study reported they lack the necessary leverage over their customers to pass on costs of due diligence downstream. In interviews, representatives of gold refineries stated that the global gold refining industry faces the challenge of excess capacity, resulting in high levels of competition and low profit margins in the industry. An added challenge is that it is practically impossible for many supply chain actors in the legal supply chain to outbid illicit traders seeking to use gold for money laundering. In order to meet their capacity and lower costs, many refineries may turn to sources of minerals not covered by due diligence programmes.

An interesting observation from stakeholders communicated to the Secretariat was that of excess capacity challenges of a number of gold refineries, in India for example. Those refineries were very interested in sourcing ASM and LSM gold from CAHRAs but did not know how to find and identify those sources. While part of the challenge may be the apparent lack of willing downstream partners to source this gold, interactions with these gold refineries indicate an additional challenge of making the connections between ASM in CAHRAs and refineries interested in sourcing from there. That said, upstream gold industry representatives interviewed acknowledged that market makers (e.g. LBMA) and banks have made responsible sourcing a fundamental market access issue. For example, de-listing a refiner from the London Good Delivery (LGD) list will ultimately have significant commercial consequences because they would not be able to deliver gold into Loco London, COMEX and other exchanges that require LGD. That said, there is still a significant presence of “secondary” markets for gold that reportedly fall short of OECD responsible sourcing standards. Stakeholders also pointed out that international banks are not always

similarly clear in their expectations when they are lending to national or regional banks, who in turn buy gold from or lend money to local refiners often without comprehensive verification of mineral sourcing due diligence.

A strong market for minerals sourced without due diligence evidence might also have to do with lack of global awareness and understanding of the Guidance. The Guidance was adopted by the OECD in 2011. Section 1502 of the Dodd-Frank Wall Street Reform & Consumer Protection Act (DFA) was signed into law in the US in 2010. Although the two instruments share the same high-level objectives of combatting conflict financing through supply chain due diligence, the DFA focuses exclusively on 3TG from the Democratic Republic of Congo (DRC) and adjoining countries, whereas the Guidance is global in scope and covers all mineral supply chains. While the DFA has had a clear positive effect in advancing the due diligence agenda generally, it has arguably led to an over-stigmatisation of minerals from Central Africa relative to other parts of the world where Annex II risks are also prevalent. On top of this, media and civil society organisations largely focused their advocacy campaigns on minerals from the GLR. In a separate study conducted by the OECD on the level of reporting by media and civil society on mineral supply chain risks globally, the OECD found that an overwhelming majority of reports from 2017-2019 mention the DRC (OECD, 2021). In effect, this perversely creates a market for Central Africa-free minerals rather than “conflict-free”, or minerals that are responsibly sourced through due diligence with reference to all Annex II risks.

## What does the Guidance say?

The Guidance seeks to address some of these issues by recognising that due diligence poses practical challenges for businesses and that companies can explore “cost-sharing within industry for specific due diligence tasks” in order to meet these challenges (OECD, 2011: 15). The Guidance specifically recommends “Providing financial support to i) multi-stakeholder commissions to assess mine sites, transportation routes and points where gold is traded; and ii) chain of custody and/or traceability schemes. Financial support may take on a variety of forms, including direct support to initiatives, or royalties and premiums on gold from assessed mines and transportation routes with chain of custody and/or traceability systems in place” (OECD, 2011: 117).

Although this specific recommendation from the Guidance is directed at ASM gold, it may be relevant as good practice across mineral supply chains. Such financial support seems to be an increasing necessity, particularly when mineral prices are low, as market dynamics typically allow for due diligence costs to be pushed upstream even though the value of due diligence flows downstream. Investment in mine site formalisation and validation contributes to risk identification and mitigation in the long-term. Mine site formalisation enables miner and trader participation in the formal economy, while providing them with the tools to implement due diligence.

Governments can see clear financial benefits through mitigated risks of adverse impacts such as conflict finance, tax evasion, sanction violations, and corruption. Just as well, OECD and non-OECD governments committed to ensure the widest possible dissemination and active use of the Guidance by companies (OECD, 2011: 9). Read broadly, this implies that governments should take steps towards creating an enabling environment for responsible sourcing, so that responsible business behaviour can be the norm, rather than the exception. This is expected to increase opportunities for responsibly sourced minerals to access markets and global supply chains, and conversely, make it more difficult or costly for minerals that are not sourced responsibly to access markets. Specific ways of doing this are discussed in more detail in Section 6.

Beyond the Guidance for minerals, the OECD has also developed other Responsible Business Conduct (RBC) instruments that companies are expected to follow. Among these is the Due Diligence Guidance for RBC, which provides a broader, non-sector specific approach to due diligence, pulling from lessons

learned in the minerals, agriculture, and garment sectors. According to the Due Diligence Guidance for RBC, companies are also expected to ensure that their purchasing decisions, including the costs of products, do not invariably undermine their RBC policy commitments (OECD, 2018c; See also the OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector, p.73). Companies are expected to assess how well their purchasing reflects the costs of compliance, or is exacerbating conditions. In simple supply chains, where these things can be handled between direct commercial counterparts, this is easier to imagine. In complex supply chains, where costs of compliance are several tiers away, this is a more complicated process. Nonetheless, it is relevant and should be part of a downstream company's risk assessment (e.g. considering how their companies actions could limit the potential of responsible sourcing in their supply chain).

# 5 Conclusions and recommendations

As discussed throughout this paper, the factors that are likely behind the due diligence implementation difficulties faced by smaller upstream actors can be summarised into four broad categories:

1. Cost burdens of due diligence inspections, audits and certification programmes pushed upstream
2. Uneven global implementation of the Guidance and 'de-risking' of CAHRA supply chains
3. Market acceptance of non-responsibly sourced minerals
4. Structural governance issues in CAHRAs that create logistical barriers to responsible sourcing while failing to sufficiently control against illicit minerals production and trade

During multi-stakeholder discussions on the topic that were carried out throughout the course of drafting this paper, a broad consensus emerged on the below points:

- Due diligence generates value for all supply chain actors, but in different (and sometimes uneven) ways
- Stakeholders should work to collectively drive due diligence costs down
- Not all supply chains are the same and the issue varies by mineral/geography
- Financial and logistical support needed for due diligence capacity building and monitoring activities in CAHRAs
- Investments in security, finance, and infrastructure needed in CAHRAs
- Support needed for enforcement efforts to combat the trade in illicit material or material without proper due diligence, including from government and industry bodies

## Recommendations for private sector:

While the below recommendations are broadly applicable to all companies in mineral supply chains, the specifics will certainly vary by mineral type, supply chain geography, company size and position in the supply chain, etc. Thus, efforts should be made to support dialogs and concrete solutions specific to each of the variables.

- Private sector stakeholders and public-private alliances are encouraged to support development of concrete cost-sharing through, for example, levies, premiums, or raising membership dues to finance upstream due diligence, according to whatever mechanism is most appropriate to the conditions of the specific mineral supply chain.
- ASM miners should be paid a fair price for responsibly produced minerals. A fair price should factor in the value of certain due diligence information.
- Targeted support for certain supply chain actors can come in the form of waived membership fees, covered audit/inspection costs, and capacity building based on need; similar to the RMI approach to smelters/refiners, but extended to other actors further upstream.



## Recommendations for governments:

Governments have a broad toolkit of both soft and hard measures to help create a responsible sourcing environment. At the minimum, governments can remind companies of their responsibilities through existing channels of communications: investment promotion agencies, National Contact Points, engagement with national or sectoral business associations, and local embassies.

Governments in favour of the softer approach can consider:

- Communicating this report's findings broadly;
- Ensuring a coherent approach to this issue internally, including by mainstreaming responsible sourcing support in official development assistance;
- Allocating budgets to build capacity in mineral producing countries to both regulate business behaviour and better enforce their own customs, environmental, labour, tax, money-laundering, and anti-corruption laws; Designating agencies to monitor implementation of international standards by companies operating from their jurisdiction;
- Pursue tax harmonisation for minerals exports, to decrease smuggling incentives;
- Requiring those agencies to compile public registries of company due diligence reports; and
- Setting rules for public procurement and government-backed funding that require implementation of RBC standards, including the Guidance.

Germany, Sweden, the United States and other countries are already introducing many of these measures.<sup>6</sup>

Governments can further clarify existing laws to nudge business in the right direction. For example, they can resolve potential legal and policy conflicts:

- By addressing those aspects of competition law that discourage companies from collaborating with peers on common supply chain challenges;
- By defining fiduciary duties to make sure investors and senior management of companies are able to consider environmental, social, human rights and governance issues without fearing litigation; and
- By exploring how companies that disclose human rights, environmental or bribery risks in good faith and in line with international standards can benefit from better legal defences against spurious civil or consumer suits.

Governments may also find opportunities to develop fiscal or tax incentives for companies implementing due diligence, in line with the Guidance, or to clarify longstanding questions on parent liability for harms caused or contributed by their subsidiaries, or to provide further guidance to judges on how to use international standards of responsible business conduct in evaluating existing duties of care, e.g. for certain forms of civil liability.

In terms of the harder approach, specific government authorities, particularly law enforcement, customs, and tax authorities, and inter-governmental organisations should pursue stronger enforcement of minerals related crime, including but not limited to, conflict finance, money laundering, bribery, tax evasion, fraudulently misrepresenting the origin of minerals, and smuggling. To this end, the OECD, together with partners from the World Customs Organisation (WCO) and the UN Office on Drugs and Crime (UNODC), have developed a growing informal network of law enforcement officials that meets regularly to raise awareness of minerals related crime and enforcement techniques.

## Notes

<sup>6</sup> Examples include EU, German and US support for the ICGLR Regional Certification Mechanism through direct contributions to the ICGLR or development agencies, GIZ and USAID; In Sweden, National Agency for Public Procurement launched a tender for mobile phones with award criteria referring to conducting supply chain due diligence to avoid contributing to conflict minerals; In the US, federal government procurement requirements for all computers and monitors now include key due diligence provisions relating to 3TG in their supply chains.

# 6 Issues that merit further research

Several issues were identified in this paper that merit further research. Among them:

- Further quantifying the cost and value of upstream due diligence activities for downstream. This would merit the development of a methodology and broader input of data by industry initiatives and a large number of companies from both the upstream and downstream segment.
- Evaluating the validity in the current market environment of previous studies and results referenced in this document to confirm that such data continues to be appropriate for use in developing solutions.
- Further research into whether certain cost sharing models work for specific metals better; e.g. premiums for gold.
- Research into the ability to influence value based on demonstrated risk mitigation efforts relies on transparency/visibility along the supply chain. Worth exploring how traceability mechanisms or new technology (e.g. blockchain) add value or could potentially add value towards this effort.
- Research into and recognition of data ownership, including case studies where technology (e.g. cryptocurrency) was used to monetise upstream due diligence information so that upstream actors who uploaded the information were directly compensated for their risk identification, prevention, and mitigation efforts.
- Research into the market for minerals not associated with any due diligence.
- Understanding the role of charging premiums. In multiple places throughout the document, potential premiums cited as contributors for added value along supply chain; however, there is currently no way to guarantee redistribution of these premiums upstream.

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## Annex A. How does mineral pricing generally work?

Note, all supply chains differ according to the location of the mine sites, types of actors involved, regulatory frameworks, the way the material is mined and traded, etc. However, to provide greater context to the above discussion, it is important to establish illustrative examples of how different minerals are generally traded. The excerpts below from the Mineral Pricing Toolkit (2017) provide an overview of how gold and copper are produced, partially refined, and sold in intermediate forms. The descriptions are limited to medium and large scale mine production of copper and gold. An additional case study was added covering 3Ts from the African Great Lakes Region based on interviews with a regional trader and representatives of tin and tantalum supply chain actors.

### Pricing practices: Gold

Many large and medium-scale gold mines operate by recovering tiny gold particles from ore using leaching or other techniques. Following initial leaching, in which gold is dissolved in a solution; it is recovered and eventually smelted to produce unrefined gold bars (doré). These bars are then taken from the mine and refined, with the refined gold sold onto world pure-gold markets.

The doré bars are partially refined gold ores poured into moulds. The bars are typically around 80-92 percent gold, with the balance made up of silver, copper, other base and platinum group metals, and impurities. Doré bars and concentrates are the key intermediate gold products that are traded at arm's length.

Many mines do not have the capacity to refine the doré themselves, and involving external refiners simplifies gold sales. For developing countries, the gold is usually exported as doré and refined abroad. Mines send their doré bars to a refinery to separate the gold, silver and other metals and remove remaining impurities.

At arm's length, the main transaction for miners is to pay for the service of refining the doré to 99.5 percent gold (known as 'toll refining'). The gold to be refined is deposited into the customer's account with the refinery, and following refining, the customer would then choose to sell the gold to the refinery with reference to the prevailing spot price or to transfer the gold to the customer's gold account internationally.

The refinery will first analyse (assay) the contents of the bar by melting it to ensure there are no pockets of inconsistent purity. Based on that analysis, the refinery will indicate the quantities of gold and silver present, quote a cost of refining, and indicate the price the refinery would be willing to pay for the metals. Pricing and payments made for doré will depend on the physical properties of the bar and the circumstances of the buyer and seller. The negotiated payment to the mining company is based firstly on the value of the gold and silver ("payable metals") present, reduced by "retention fees", refining charges and in some instances, other fees and taxes such as environmental charges.

The reference price is most often based on London Bullion Market Association (LBMA)'s twice daily electronic auctions. The results of these auctions (AM and PM) are published as an official LBMA Gold Price", quoted per fine troy ounce (31.1 grams) in USD, EUR and UK Pound Sterling. Market information

services such as Bloomberg and Reuters then republish that information as well as real-time price developments based on information from key refined gold traders.

Refineries may use the LBMA reference price directly for the day the bar was received, or alternatively may slightly adjust this spot price to provide the refinery a commission (that is, the refinery would take a spread on the price they pay for unrefined gold and the price they receive for selling refined gold). This means the mine might receive close to, but not necessarily the full LBMA spot price. At the margin, the negotiating skills of the parties may affect the final agreed price, meaning small to medium sized mines with relatively lower bargaining power may achieve prices below those of large miners.

Refining charges are applied for removing impurities and separating the precious metals. Refineries may also include fees for environmental costs and for assay services, but these are small relative to the value of the metal. Refining charges are set per gross ounce of precious metal, but are often negotiated for each individual gold supplier. Negotiated RCs are based on factors such as:

- the amount of gold to be processed and size of the customer (higher quantities attracting a lower charge);
- the expected frequency of refining (i.e. whether a “one off” transaction or part of a longer-term arrangement – the latter usually receiving a lower charge); and
- the purity of the product to be refined (doré with higher percentages of gold will usually have a lower charge per ounce relative to one with more silver, since the separation of the metals may be easier).

The individual refining charges imposed are not however publicly disclosed – they are closely guarded commercial terms. That said, they are estimated to be in the order of \$1-3 USD per gross ounce. It would also be reasonable to presume larger mining companies, particularly operating on longer-term arrangements with the refinery, would have lower refining charges.

## Pricing practices: Industrially mined base metal (copper)

Industrially mined copper ore is separated from the surrounding rock through drilling and blasting processes. The broken ore is then conveyed to a stockpile for further processing. At this point, the copper content is typically 1-2 per cent by mass or less. Other valuable metals may also be present, such as gold, silver, nickel and cobalt – many mines are multi-mineral. Crushing and screening are the first steps of transformation. For sulphide-based ores, the ore will be ground down further in preparation for concentration processes, eventually resulting in either copper concentrate or cathodes. For oxide ores, the rocks will be heaped in preparation for leaching processes, eventually resulting in copper cathodes.

The copper products most commonly traded at arm’s length are copper concentrates and refined copper cathodes. Trade in copper ore is uneconomic because much of the ore material is commercially worthless. Many developing countries such as Peru, Zambia and Kazakhstan export copper as a concentrate, which is a powder typically containing around 30 percent copper following initial beneficiation. Some countries such as Zambia also export copper anodes and others, as Democratic Republic of Congo, export refined copper cathodes.

The agreed price for concentrates is typically based on a formula, which is the sum of value of the contained metals (“payable metals”) less the sum of deductions and penalties imposed. A typical contract would contain provisions to:

- calculate the value of payable metals;
- calculate deductions and penalties (typically, treatment and refining charges, and penalties for impurities and/or penalties for excessive moisture where needed);
- outline other concessions that may be extracted by the purchaser, such as “price participation”;



- allocate related costs such as insurance, sea freight, taxes and duties; and outline payment terms.

Assay of the concentrate is essential to pricing calculations, because the physical characteristics of the concentrate directly affect its price. The further away from standard specifications, the more adjustments that could be expected to attain the final agreed price.

The agreed payment will be based on the percentage of copper present in the concentrate, which is valued by referencing the price of refined copper on one of the major commodity exchanges: the London Metal Exchange (LME); Shanghai Futures Exchange (SHFE) or the Commodity Exchange Division of the New York Mercantile Exchange (COMEX). Taking the LME as an example, contracts would typically specify the “LME Grade A Settlement Quotation price” as the reference price for payable copper, averaged over some time period (the “quotation period”).

Factors influencing prices include:

- Customer identity: Smelters/refiners are significant customers of concentrates, but transactions may also involve trading companies, either as stand-alone intermediaries or within corporate groups.
- The nature of the transaction: particularly whether it is short-term or part of a longer-term supply agreement. Longer-term arrangements may be preferred by small to medium-sized mines without extensive marketing and trading functions. In addition, mines may pay smelters to process the concentrate on their behalf (“tolling”) without transferring ownership.
- Market dynamics: concentrate prices are affected by demand-supply conditions in the concentrates market directly, but also upstream market conditions (including copper mine production, the availability of raw materials) and downstream conditions (including the availability of refined copper and scrap).
- Customer needs: smelters seek concentrates best suited for the smelter. For example, smelters often seek a combination of clean and dirty concentrates based on the tolerance of the facility to impurities (the smelter may be able to blend in dirtier concentrates without suffering a loss in performance). In addition, smelters aim to operate at peak capacity, so will consider the reliability of supply, and may prefer to purchase from mines with a reputation for consistency and reliability.

For products early in the value chain such as concentrates, contracts usually refer mechanically to the exchange price. For example, the quotation period may be the average price during the third month after the month of scheduled shipment, reflecting expected delivery time to the smelter. For copper products later in the value chain, however, the specific details of the reference price – in particular the physical location of the metal - take greater importance.

Additional terms may also be negotiated depending on market conditions. For example, until around 2007, smelters were able to negotiate additional payments from concentrate sellers known as “price participation” clauses, to share in higher metals prices. Another key factor affecting final price will be the costs of insuring and transporting the concentrate to the buyer. Concentrates are sold using several different incoterms depending on the bargaining power of each side.

### Pricing practices: 3T (tin, tantalum, and tungsten)

Note, the below description is based off the experiences of 3T traders sourcing from DRC, Burundi, and Rwanda. In this region, the pricing mechanisms used for pricing the three minerals (tin, tantalum, and tungsten) can widely be divided into three different types:

- Purchase at Mine Site by Négociant/Cooperative
- Purchase at Exporter level by Exporter

### ***Purchase of Shipment by Trader/Smelter***

The pricing mechanisms used at each stage vary between the mineral type and also between the three countries (DRC, Rwanda and Burundi), described below. Only tin pricing can be considered in the context of LSM, as tantalite and wolframite exports are artisanal/semi-mechanised and thus within the ASM scope only. For LSM tin, the pricing process is slightly different and described below.

3Ts are mostly traded as concentrates, from 0mm-50mm (uncrushed) in size, and the product of artisanal mining with relative low mechanical processing at mine level. Tin from LSM can either be alluvial or hard-rock, and where it is hard-rock, it is then also crushed and processed to arrive at a concentrate form.

### ***Purchase at Mine Site by Négociant/Cooperative***

A mine site may be an artisanal zone (ZEA) or then allocated exclusively to a certain proprietor, or cooperative. In all instances, miners will be artisanally mining the 3Ts and then bringing them to the 'centre de négoce' where they will be sold to the miners' linked négociant at an 'open market' or close to open market price, attributable mostly to the easy availability of the referenced LME tin price.

It is often seen that a particular négociant may have his own team of miners in a certain artisanal/validated area, and thus exert control over that particular pit or mine section's production. Other areas are much more open in their nature, and the material is sold to a number of négociants new and old (who must be members of a particular cooperative if that site is allocated to that cooperative), and who are paying the miners with cash in that country's local currency (not USD).

The aforementioned easy availability and transparency of the LME tin price, which is wholly referenced in all tin transactions in the three countries, has meant there are no 'dark pools' for pricing, with the miners receiving a linked and varying price dependent on the underlying reference price.

This is less apparent with tantalum and tungsten, as they are not openly traded, with prices being decided through negotiation between the miner and négociant, based on recent paid prices and the demand for their mineral. Some price data may be found in the metals press or in publications. Examples of such press include Asian Metal, Argus, Platts and CRU Prices Service, which regularly publish subscription-based information on market prices. Tantalum prices can also be influenced by the levels of thorium and uranium, commonly found in tantalum raw material in low levels.

Pricing mechanisms have seen a significant drop in various incidents of commercial conflict that have previously arisen where a négociant or cooperative has tried to engage in a closed pipe supply chain within the ASM sector, thus limiting the price paid to miners, and maximising the profit of the négociant and exporter.

Négociants do not have spectrometers or other methods of accurately verifying the quality of material they are purchasing, and thus go by their own experience or by using rudimentary techniques to establish the quality of the material. Certain mine sites/pits are known for producing a certain grade of material, and thus production from that site has its premium or discount to another site.

For LSM tin, the mineral will be mined and extracted either in alluvial form or hard rock and placed in that site's processing plant – with miners doing this on a fixed salary, using machinery at their disposal. There are therefore no negotiations or transactions taking place at this level for LSM.

### ***Purchase at Export Level by Exporter***

The négociant or cooperative may choose to treat and process the material themselves using basic and manual methods of processing prior to offering it for sale to an exporter (entité de traitement/comptoir). Certain négociants will be linked to exporters who will have pre-financed them or with whom they have a

working relationship, while others will choose the exporter to whom they bring their minerals on an ad-hoc and varying basis.

Once the quality of the material, and any impurities that may affect the price are established, the price of the material would be negotiated between the buying exporter and the supplying négociant or cooperative head. For tin, the reference LME tin price would be used as a base of the negotiations, with the final price then being decided either in a spoken negotiation (typical for DRC and Burundi) or then on the basis of a simple formula (widely used in Rwanda): *((LME Tin Price per metric ton x Sn % contained) – all inclusive charge per metric ton)*. The ‘all inclusive charge per metric ton’ here would include a calculation of the exporter’s costs, including export taxes (higher and significantly larger in total number of taxes in the DRC compared to the other two countries), other Government taxes, overheads, iTSCi or other traceability costs per shipment, bank withdrawal costs, etc.

For tantalum and tungsten, given the lack of a transparent world pricing mechanism, the sale would typically be negotiated based on the quality of the material per kilogram, and the prevailing market price offered by other exporters – applicable to all 3 countries.

For LSM tin, there would be no transaction at this point either, with the material having been processed and analysed (assayed), to ensure it meets the purchasing trader or smelter’s specifications on tin or associated impurity content.

### ***Purchase of Shipment by Trader/Smelter***

The two processes for ASM and LSM pricing would converge here, as the sellable product would now be the same – a shipment (in big bags or welded drums) of concentrates, typically sold ‘per container’ of 20 to 25 metric tons. For tin, the sale of the material would be conducted to the trader/smelter on the basis of: *((LME Tin Price per metric ton x Sn % contained) – a number of other charges, combined or separate)*.

These charges would include a treatment charge for refining the concentrates, impurity penalties/charges, transport or other charges depending on the point of sale, iTSCi levy or traceability costs, smelting losses and customs and other taxes. Cassiterite contracts are typically more long-term, based on a fixed set of charges for the duration of the contract, allowing the supplying exporter a set time to ‘fix’ the LME Tin price, as the risk of the price rise/fall would be taken by the selling party.

For tantalite and wolframite, sales are much more oriented to the ‘spot’ market, and would be concluded on the basis of USD per metric ton unit (mtu) of Tungsten trioxide (WO<sub>3</sub>) contained for wolframite, and USD per lb of Tantalum pentoxide (Ta<sub>2</sub>O<sub>5</sub>) contained, with some credit or penalty for any Niobium pentoxide (Nb<sub>2</sub>O<sub>5</sub>) contained, dependent on the purchasing trader/smelter.

### ***Other Dynamics Influencing Pricing up to the Exporter Level***

It is worth noting that there are several other dynamics aside from the reference LME Tin price or prevailing market price that would influence the pricing of minerals sold. These would include:

- *Reputation/integrity of the exporter* – non-tangible, but widely explains the reason why one exporter may be able to procure more minerals in the market even when offering the same price as another. Honest assay/analysis results and the confidence in the supplying négociant/cooperative to store material at the exporter’s premise whilst negotiations on sales are ongoing, without fear of any manipulation in its weight or quality – more prevalent in the DRC and Burundi due to the weaker legal infrastructure.
- *Ability to make payments rapidly* – mineral pricing for the ASM sector is highly influenced by the exporter’s ability to make prompt payments, which in turn depends on their cash flow, the ability to pay in cash (documented) or ensure, if cheque payments are made, that the supplying

négociant/cooperative are able to withdraw the cash from the bank and return the funds to the mine sites to purchase further minerals.

- *Transport and other logistics* – a négociant/cooperative from a certain supplying mine, closer to the town centre (e.g. Bukavu, Goma, Lubumbashi, Kigali, Bujumbura) may be more focussed on a rapid turnaround of his minerals, and thus would prefer to spend less time negotiating the price with the miner (with more upstream benefit) or exporter.

### ***Traceability and Due Diligence Costs within Pricing (Applicable for ASM only)***

As described above, and regardless of who is actually paying the transactional fee for traceability (i.e. iTSCi or other levies, due diligence operational reporting costs, audit costs), the cost is passed upstream indirectly. The charges proposed by the smelter to the trader would depend on which party is bearing the cost of due diligence and traceability, with lower charges by the trader/smelter should the exporting counterparty be bearing the tangible traceability and due diligence costs, and vice-versa, protecting the trader or smelter's margin. In most instances at a local level, for the 3Ts in Central Africa, the due diligence costs cannot be passed up directly to the négociant or the cooperative, and thus would have to be incorporated in the purchase price offered.

# Costs and Value of Due Diligence in Mineral Supply Chains

## OECD POSITION PAPER

On-going multi-stakeholder discussions have raised important questions on the perceived imbalance of how due diligence costs and benefits are distributed along the supply chain. This position paper was drafted in response to stakeholder calls that the OECD examine this topic with the objective of raising awareness, better informing discussions, identifying key research questions, and guiding stakeholders towards viable solutions.

A significant amount of information in this paper is derived from over three years of discussions with key stakeholders that form the Multi-stakeholder Steering Group of the OECD Responsible Minerals Implementation Programme, as well as discussions with participants at the annual OECD Responsible Minerals Forum and related meetings. These stakeholders include representatives from governments in OECD and non-OECD countries, international and local civil society organisations (CSOs), and the private sector along the entire mineral value chain (miners, traders, smelters/refiners, manufacturers, and exchanges).

The paper is provided for informational purposes and is not to be construed as an endorsement of particular initiatives or schemes.