

Cobalt from Congo: how to source it better

Comparative analysis of existing supply chain certification schemes and artisanal practices

April 2019

Summary

As the transition to electric vehicles is gaining speed in Europe and globally, demand for cobalt has jumped over past years and will significantly increase in the future. This trend is expected to mostly impact the mining landscape in the Democratic Republic of the Congo (DRC), as the country accounts for around $\frac{2}{3}$ of global cobalt production. The growing demand for cobalt has put into spotlight how the resource is mined; this provides a new impetus (and opportunity) for governments, companies, and civil society organisations to ensure sustainable mining conditions in Congolese mines.

There's no denying that the clean mobility and energy transition will only be truly sustainable if cobalt - and other precious metals - is sourced in socially and environmentally responsible ways. In the DRC case, this implies closer monitoring for both artisanal small-scale mining (ASM) and large-scale professional mining (LSM). Both face issues: while ASM (20 to 25% of the DRC's cobalt production) is mostly exposed to human rights abuses and unsafe working conditions, the LSM sector regularly faces corruption issues as well as environmental mismanagement.

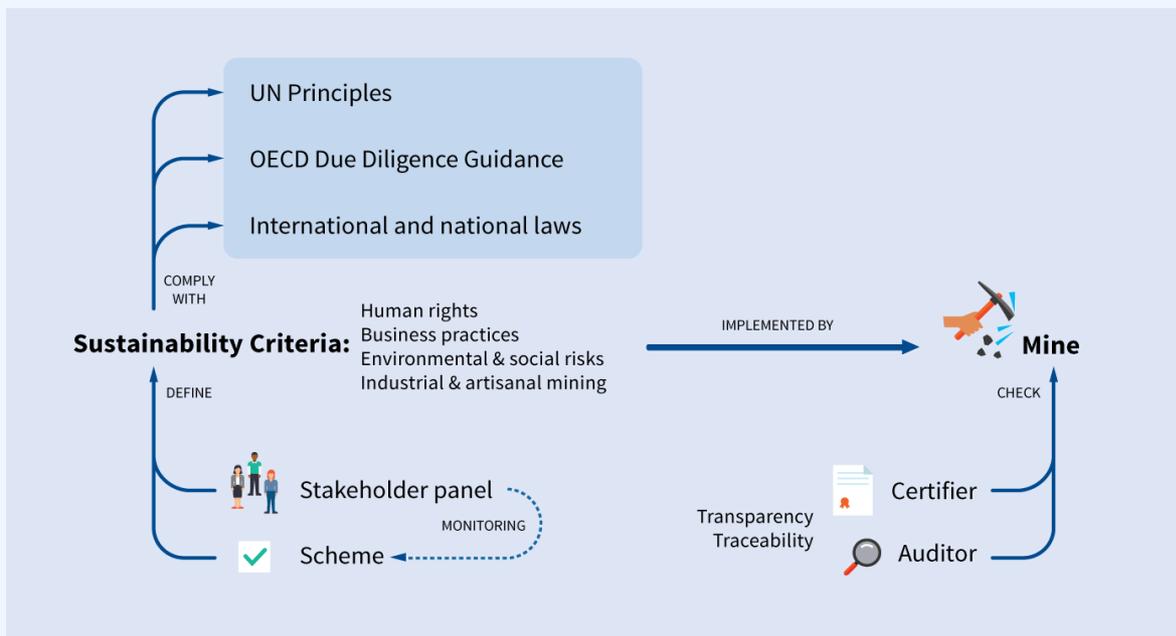
T&E has compared 6 existing international supply chain certification schemes applicable to the industrial cobalt production in the DRC. This analysis shows that while most schemes are comprehensive in their design and sustainability criteria, they lack proper and independent enforcement. Crucially, traceability on where cobalt is extracted and transparent information on mining site conditions on the ground remain the weakest spots of most schemes. This means that today it is impossible for companies to guarantee and NGOs to verify that the cobalt they are using is sourced responsibly.

Going forward, T&E identifies the following best practices that should be incorporated into any future supply chain standard to ensure sustainability:

- A balanced panel of industry, government and NGO representatives should be involved during all phases of any certification scheme, from initial design to compliance monitoring and enforcement.
- Multi-tier certification systems, allowing different levels of engagement and set of rules to member companies, are a practical solution to attract new industry players and improve performance of more experienced companies. Such systems provide necessary flexibility to both large and smaller mining scales.
- As a minimum, certification criteria should draw upon the United Nations' guiding principles on business and human rights, the Organisation for Economic Co-operation and Development's Due Diligence Guidance, and ensure compliance with international and national laws, e.g. the International Labour Organisation (ILO) labour and human rights conventions.

- Traceability of the extracted metal is a prerequisite to sustainability certification and compliance. Beyond traditional paper-based labelling methods to prove minerals' origin, several pilot projects are exploring the use of digital technologies, such as blockchain or QR codes, in certification as ways to demonstrate origin and trace materials' steps from mining to downstream uses.¹
- The focus of any robust scheme should be on enforcement and compliance, (of which the traceability tool is the basis). This is best done by regular independent certification and audits procedures, including by independent third parties.
- Public disclosure of non-business sensitive information should be ensured, as this is essential to a schemes' reputation and will reduce corruption risks.

At mining site level, certification should follow these basic principles, illustrated in the graph below:



Due to its informal nature, it is more difficult to guarantee consistent application of the above recommendations to the artisanal mining sector. But banning such cobalt supply is not an answer since thousands of people depend on this revenue, while the child labour problem will simply shift elsewhere. Instead, strengthening ASM via fair remuneration, labour cooperatives as well as better health and safety conditions – often referred to as formalisation of ASM – is the only sustainable way forward. This is essential to better streamline and help more than 200,000 artisanal miners that are currently digging cobalt in the DRC. Ongoing initiatives such as by trading company Trafigura or the German Corporation for International Cooperation (GIZ) show this is feasible and can bring tangible positive results to the communities, but scalability is needed to make an impact. Ultimately, as growing demand for cobalt will come from big industry players such as car and battery manufacturers – capable of influencing their supply chains effectively – it will be possible to create a large-scale framework to strengthen artisanal mining. Thus, the downstream sector will and should use its leverage to influence how the materials used in its products are mined and sourced.

¹ <https://www.icmm.com/blockchain-in-minerals-and-metals-supply-chains>

List of abbreviations

ASM	Artisanal Small-scale Mining
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe (Institute for Geosciences and Natural Resources)
CTC	Certified Trading Chains
DDG	Due Diligence Guidance
DRC	Democratic Republic of the Congo
EU	Democratic Republic of the Congo
EV	Electric Vehicle
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
GRI	Global Reporting Initiative
ICMM SDF	International Council on Mining and Minerals Sustainable Development Framework
IEA	International Energy Agency
IFC	International Finance Corporation
ILO	International Labour Organisation
IRMA	Initiative for Responsible Mining Assurance
LSM	Large-Scale Mining
MAC	Mining Association of Canada
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
RTS	Radio Télévision Suisse
T&E	Transport & Environment
TSM	Towards Sustainable Mining
UN	United Nations
US	United States

Introduction

Sales of electric vehicles globally and in Europe are forecast to grow strongly in the next decade. The European Commission's proposal for post-2020 CO2 standards incentivises carmakers to sell 15% of zero and low emission vehicles by 2025, and 35% by 2030. The International Energy Agency (IEA) estimates that by 2030 about 25% of global car sales will be electric.

The transition to electric mobility will require sufficient supply of critical metals, and likely mean a significant production hike in minerals such as lithium, graphite, or cobalt. In fact, demand for cobalt in 2017 rose above 100,000 metric tons for the first time, and consulting company McKinsey expects global demand for cobalt to increase 60% between 2018 and 2025.² While the mid to long term cobalt supply shouldn't be constrained, the question of sustainable cobalt production has recently attracted a lot of public attention.³

Around 60 percent of the world's cobalt supply comes from the mineral-rich Katanga copper belt, in the South of the Democratic Republic of the Congo (DRC).⁴ End of 2018 the DRC government classified the metal as a 'strategic substance', mirroring cobalt's importance for the country today and in coming years.⁵ But governance issues in the DRC have led to numerous human rights and environmental abuses being reported over the last few years.

As a result, public pressure has increased on governments and technology companies to go beyond minimum legislative requirements. Most businesses have therefore committed to more responsible mining practices by subscribing to voluntary sustainability standards. However, the implementation of such standards has proved very difficult and heterogeneous depending on regions and schemes.

This briefing explores key issues linked with cobalt mining in the DRC. In particular, it compares several existing sustainability standards and singles out core necessary criteria that can ensure sustainable cobalt mining operations. It also looks at the small-scale artisanal mining practices and suggests recommendations on how these can be strengthened.

1. Cobalt mining in the DRC: a complex landscape and issues

As demand for critical metal soared over past years, sustainable mineral supply chain has become a focal point for both extractive industries (upstream) and end user companies (downstream). Public scrutiny both locally and internationally has spurred a multiplication of responsible sourcing initiatives originated from a wide range of stakeholders, notably governments and companies.

²<https://www.mckinsey.com/~/media/mckinsey/industries/metals%20and%20mining/our%20insights/lithium%20and%20cobalt%20a%20tale%20of%20two%20commodities/lithium-and-cobalt-a-tale-of-two-commodities.ashx>

³https://www.washingtonpost.com/politics/2019/02/21/demand-congos-cobalt-is-rise-so-is-scrutiny-mining-practices/?utm_term=.c912fc454bf5

⁴<https://phys.org/news/2018-09-scientists-reveal-hidden-cobalt-dr.html#jCp>

⁵<https://www.electrive.com/2018/12/04/cobalt-now-classed-strategic-substance-in-congo/>

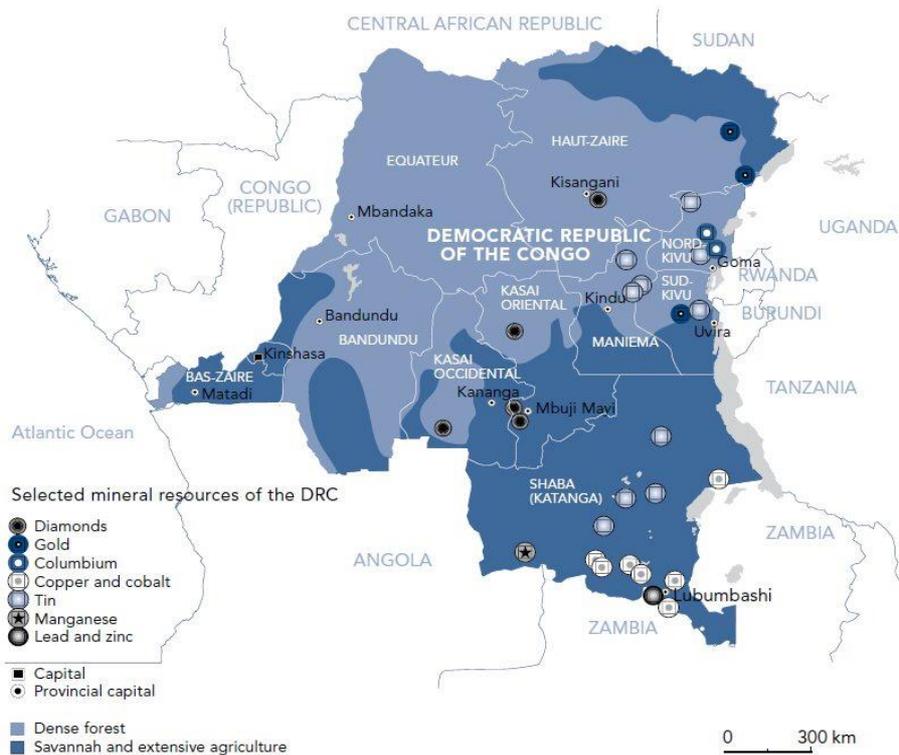


Figure 1: Most of the Cobalt mine in the Democratic Republic of Congo comes from the ‘Copperbelt’, in the South of the country.⁶

In DRC, the rising global demand for cobalt due to increase in technology applications such as electric cars and energy storage has put mining conditions in the spotlight. Mining in DRC is carried out both by extraction companies (around 75 to 80% of the Cobalt production), and by artisanal miners (around 20 to 25% of the country’s production).

Most of the cobalt is mined in the DRC’s copper belt, located in the Katanga region in the South of the country near Kolwezi (biggest regional city being Lubumbashi). Around half of the estimated 7,000,000t global cobalt reserves come from that region⁷, which is the size of a country like Slovenia.⁸ High cobalt content can also be found in the soils of the Katanga Copperbelt region (rather than deep underground), which is a unique feature, making it easier for artisanal miners to access and extract.

Artisanal small-scale mining (ASM) - perceived as the Achilles heel of cobalt extraction - was legalised in 1981 by president Mobutu, and has quickly developed in DRC over the 1990s, when the largest state-owned mining company collapsed and the Second Congo War broke.⁹ It is difficult to precisely quantify how many workers are involved in artisanal mining. According to estimates quoted in the Guardian¹⁰ and Swiss media RTS¹¹ there are between 200,000 and 255,000 artisanal miners involved in cobalt mining.

⁶ Source: <https://limacharlieneews.com/africa/cobalt-mining-congo/>

⁷ <https://www.reuters.com/article/us-cobalt-supply-at-home/column-why-cobalt-will-struggle-to-free-itself-from-the-drc-andy-home-idUSKBN1F41PN>

⁸ <https://www.oeko.de/oekodoc/1294/2011-419-en.pdf>

⁹ https://www.amnestyusa.org/files/this_what_we_die_for_report.pdf

¹⁰ <https://www.theguardian.com/global-development/2018/oct/12/phone-misery-children-congo-cobalt-mines-drc>

¹¹ <https://www.rts.ch/info/monde/10099336-en-rdc-la-ruée-vers-le-cobalt-aggrave-les-conditions-des-creuseurs.html>

These workers (so-called ‘creuseurs’, from the French word for ‘digger’) work in artisanal mines with few tools, often by hand, and are vulnerable to different kind of abuses, from unfair remuneration to arbitrary violence.

The complex DRC mining landscape leads to major risks for local populations and the environment. Those have been identified by various stakeholders and tackled (to different extents) by sustainability standards. They can be divided as below:

- **Human rights:** armed groups and recurrent wars have made the DRC, especially the East of the country, particularly unstable. Security issues were reported such as armed groups violence or brutal law enforcement by the police shooting at artisanal miners illegally digging on mining concession. Consequences of human rights abuses for local communities include land right rules and forced relocation.¹²
- **Working conditions:** In 2016, an Amnesty international report highlighted abuses in the cobalt supply chain¹³, especially regarding child labour and hazardous working conditions. In the DRC, one third of children are working (cross sector). Around 35,000 of them work in mines.¹⁴ In 2017, the Congolese government reformed the mining code to explicitly introduce penalties for resorting to child labour in mines or for selling ore mined by children.¹⁵ However the US department for labor points out that mining site inspections weren’t carried out often enough, highlighting major issues with law enforcement regarding both child labour and hazardous working conditions.¹⁶
- **Environmental impacts:** mining operations have a long-lasting impact on biodiversity. In some instances, mining can even take place in protected areas, as happened in some natural reserves in the Katanga region.¹⁷ Some of the effects of mining relate to toxic waste waters being released into the local environment, as a result of ores being washed. In rivers from the Katanga region high level of lead have been detected, making water unsafe to drink or to bathe in, and dangerous for people and animals. While the impacts of mining are commonly associated with water pollution, these operations also lead to air pollution, especially particulate matter and dust resulting from drilling and blasting. The proximity of cities and towns to mining sites worsens population’s exposure to bad air. For instance, the cities of Lubumbashi and Likasi illustrate these issues, as both face air quality problems due to dust and truck traffic. And water in the area is neither proper for human consumption nor for farming. In a study carried out by KU Leuven and the University of Lubumbashi, children living near the explored mining district had 10 times as much cobalt in their urine than children living elsewhere.¹⁸
- **Socio-economic impact:** issues mainly relate to economic benefit sharing, especially in artisanal mining, as traders buying from ASM often buy under market prices and have more leverage due to weaker representation structures.¹⁹ In addition, artisanal ores can be smuggled more easily across borders, meaning wealth escapes the country and cannot benefit communities.²⁰

¹² <http://corporatejustice.org/news/36-cobalt-blues-environmental-pollution-and-human-rights-violations-in-congolese-cobalt-mines>

¹³ https://www.amnestyusa.org/files/this_what_we_die_for_-_report.pdf

¹⁴ <https://www.theguardian.com/global-development/2018/oct/12/phone-misery-children-congo-cobalt-mines-drc>

¹⁵ <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/congo-democratic-republic>

¹⁶ <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/congo-democratic-republic>

¹⁷ <https://www.somo.nl/nl/wp-content/uploads/sites/2/2016/04/Cobalt-blues.pdf>

¹⁸ <https://www.sciencedaily.com/releases/2018/09/180920102107.htm>

¹⁹ https://www.theguardian.com/global-development/2018/oct/12/phone-misery-children-congo-cobalt-mines-drc&sa=D&ust=1554106471485000&usg=AFQjCNHKIB0QPA3KqP1gpp_Ene0jGw6GAg

²⁰ <https://issafrica.org/iss-today/the-true-cost-of-mineral-smuggling-in-the-drc>

- **Unfair business practices:** fighting corruption is the main priority when it comes to improving business practices (DRC ranks 161 in Transparency international corruption perception index²¹). According to NGO Global Witness, between 2013 and 2015 there were more than USD 750 million paid by private companies to the Congolese state bodies that didn't reach the treasury.²² In this context, several NGOs²³ have highlighted the need for closer checks on corruption.

2. Existing mining sustainability standards for cobalt: T&E analysis

Over the past decades, sustainability certification schemes for the mining sector have multiplied. Mostly voluntary, these initiatives reflect the increasing public pressure faced by the extractive sector to demonstrate the origin of sourced minerals. Most sustainability schemes aim to demonstrate compliance with international law, as well as with standards set by the UN and the OECD. These laws and standards have been primarily developed to control and rule out the use of conflict minerals in supply chain for tin, tantalum, tungsten and gold. The principles, procedures, and checks they lay down are broad and transferable to a 'significant extent'²⁴, meaning they can be applied for other minerals, for instance cobalt.

One of the most widely recognised international standard for responsible mining is the OECD Due Diligence Guidance for supply of minerals in conflict and high-risk areas (OECD DDG).²⁵ It puts an emphasis on so-called 'due diligence' as a process to ensure a company's supply chain respects human rights and does not contribute to conflicts. The OECD due diligence guidance focuses on human rights, provision of security, forced and child labour, legality of operations, and payment of taxes. By following the OECD DDG minimum standards, companies can demonstrate they comply with national and international laws.

In addition, the OECD advises multinationals to carry due diligence in order to minimise risks associated with mining and unsafe practices around mining sites. Especially with regards to ASM, the OECD guidance calls on companies to 'minimise the risk of exposure of artisanal miners to abusive practices, by supporting host countries' government efforts for the progressive professionalization and formalisation of the artisanal sector, through the establishment of cooperatives, associations or other membership structures.'²⁶

The OECD's 'soft law' approach towards norms and standards is increasingly becoming actual regulation and law in many countries, including the EU, Colombia, Turkey, the United Arab Emirates, and the United States.²⁷

As far as cobalt supply chain certification is concerned, few certification standards stand out, which all draw on the OECD DDG and UN recommendations (e.g. guiding principle on business and human rights, voluntary principles on security and human rights). These standards differ in scope, but their ambition level can be evaluated in the light of the key criteria T&E identified for this comparative analysis, such as:

- **Comprehensiveness:** how many criteria have been taken into account?
- **Level of detail:** how prescriptive are the criteria?
- **Accountability:** how is compliance with the standards ensured?
- **Transparency:** how is the mineral origin certified?
- **Governance:** who is/ has been involved in the drafting of criteria and schemes' decisions?
- **Scale:** are sustainability criteria applicable to a variety of different mining sites?

²¹ <https://www.transparency.org/cpi2018>

²² <https://www.globalwitness.org/en-gb/campaigns/democratic-republic-congo/regime-cash-machine/>

²³ <https://www.ft.com/content/950d4ad8-2af7-11e9-88a4-c32129756dd8>

²⁴ http://stradeproject.eu/fileadmin/user_upload/pdf/STRADE_Report_D4.19_Due_Diligence_Certification.pdf

²⁵ <http://www.oecd.org/corporate/mne/mining.htm>

²⁶ <http://www.oecd.org/daf/inv/mne/OECD-Due-Diligence-Guidance-Minerals-Edition3.pdf>

²⁷ <https://www.rcsglobal.com/wp-content/uploads/rcs/pdfs/RCS-Global%20The-Battery-Revolution.pdf>

Figure 2 provides a non-exhaustive overview²⁸ of the most relevant sustainability schemes for cobalt extraction in the DRC, notably:

- Global reporting initiative (GRI).²⁹ The GRI is an independent international organisation set up in 1997. The latest version of the GRI G4 standards has been published in 2014. These reporting standards are applied by 75% of the world's largest 250 companies, across many different sectors.
- International Finance Corporation (IFC).³⁰ The IFC (World Bank group) was founded in 1956 and started publishing its standards in 2006. IFC standards are universal and apply to all kind of industries.
- Initiative for Responsible Mining Assurance (IRMA).³¹ IRMA was founded in 2006 by diverse stakeholders including civil society, governments and companies. IRMA applies to all mineral commodities except energy fuels.
- Towards Sustainable Mining, Mining Association of Canada (MAC TSM).³² TSM standards were set up by members of the MAC, together with a civil society panel. MAC counts 42 full members and 54 associated members.
- International Council on Mining and Minerals Sustainable Development Framework (ICMM SDF).³³ The ICMM was set up by a group of mining and metal companies in 2001 and applies to all mineral commodities. It counts 27 members.
- Certified Trading Chains (CTC).³⁴ The CTC was developed by the German Federal Institute for Geosciences and Natural Resource (BGR). In 2009, The DR Congo adopted the basic CTC concept of the BGR within a bilateral German Congolese cooperation project. The CTC is placed under the authority of the DRC's Ministry of Mines.

²⁸ This overview is based on the detailed scheme analysis carried out by BGR:

https://www.bgr.bund.de/EN/Themen/Min_rohstoffe/Downloads/Sustainability_Schemes_for_Mineral_Resources.pdf?__blob=publicationFile&v=6

²⁹ Global reporting initiative: <https://www2.globalreporting.org/standards/g4/Pages/default.aspx>

³⁰ International Finance Corporation:

https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/home

³¹ Initiative for Responsible Mining Assurance: <https://responsiblemining.net/>

³² Mining Association of Canada: <http://mining.ca/towards-sustainable-mining>

³³ International Council on Mining and Minerals Sustainable Development Framework: <https://www.icmm.com/>

³⁴ Certified Trading Chains: https://www.bgr.bund.de/EN/Themen/Min_rohstoffe/CTC/Concept_MC/CTC-Standards-Principles/ctc_standards-principles_node_en.html

Schemes	Comprehensiveness	Level of detail	Accountability	Transparency	Governance	Scale
GRI G4	Very good	Good	Fair	Poor	Very good	Good
IFC	Very good	Good	Fair	Poor	Very good	Good
IRMA	Very good	Good	Very good	Fair	Very good	Very good
MAC TSM	Fair	Very good	Very good	Poor	Very good	Fair
ICMM SDF	Very good	Fair	Very good	Fair	Fair	Very good
CTC	Very good	Poor	Very good	Very good	Fair	Very good
T&E recommends	>50 issues covered, including social and environmental aspects	Multi-tier criteria with several ambition levels	3rd party verification and audits	Proof of origin and publication of non-business sensitive data	Industry, government, NGOs are equally involved in all scheme-related decisions	Applicable to a variety of mining sites, transferable to ASM

Legend: very good good fair poor

Figure 2: Comparative analysis of sustainability standards relevant to cobalt mining in the DRC

Overall, this short analysis of the most relevant certification standards to cobalt mining in the DRC reveals that transparency (including traceability) and accountability are the existing schemes' weak spots. It is also worth noting that the number of social, environmental, business and human rights criteria are in most cases satisfactory, as is their level of details – so the schemes are robust and comprehensive on paper; yet thorough enforcement is what's lacking. Regarding governance, most of the studied schemes incorporate the need to involve a variety of stakeholders in the designing and evaluation of the standards.

Looking at the schemes' provisions in detail, the following conclusions can be drawn on each of the criteria:

Comprehensiveness: The best schemes appear to be the Global Reporting Initiative (GRI G4), IFC and IRMA, which set around 60 comprehensive environmental and social criteria for companies to meet. These standards go beyond the OECD or UN guidelines and cover several aspects of environmental management, mainly linked to fauna and flora; as well as energy management.

Level of detail: IFC, IRMA, and MAC are the most prescriptive schemes from the ones analysed. The requirements they outline, such as for water quality, air pollution, or waste management criteria, are more specific than the average observed in other schemes; they also provide companies with a clearer guidance on steps to be implemented.

Accountability: accountability is mostly linked to how auditing of the schemes is carried out. Only a few schemes foresee independent audits by third parties – these are IRMA, MAC, and ICMM. This is crucial to provide an unbiased, fair account of mining operations and to assess continuous compliance.

Transparency: Traceability has been identified as the key challenge as can be seen in the table above, as it remains difficult to trace the different cobalt sources all the way down to the exact extraction location. This results in ASM ores often ending up in LSM supply chains despite company assurances to the contrary. Traceability is important to avoid the current practice where some cobalt is being smuggled through the border to neighbouring countries where it is then certified as 'clean'. Assuring proof of origin and putting in place transparent and easy tools to trace cobalt from the second it is extracted is crucial, but most schemes are failing to do this today. The exception is CTC which has detailed proof of origin requirements, as well as 3rd party independent mining site certification and audit.

Governance: most of the analysed schemes involve government, industry and NGOs in the design and updating of sustainability criteria and certification. Only the CTC does not directly involve NGOs but is based on recommendations of the German BGR and placed under the authority of the DRC's Ministry of Mines.

Scale: most schemes applicable in the DRC are already certifying mining sites and are scalable to cover more operations. But there are currently far more sustainability schemes addressing LSM (53 %) than ASM (16 %) or all company scales (31 %).³⁵ This can be probably traced back to the need for upstream mining companies to demonstrate responsible mineral supply, as a result of downstream and civil society pressure.

ASM involvement remains a challenge to most certification schemes. To that extent, the approach from CTC - which is applicable to ASM - is interesting and can help strengthen the ASM legalisation and formalisation process. If this issue is not solved in the long term, certification schemes could end up systematically favouring LSM over ASM thus missing an important part of the cobalt supply chain. This risk was for instance already pointed out in the case of the London Metal Exchange's position paper on responsible sourcing for all minerals, which was criticised by a group of NGOs for automatically discriminating ASM against LSM.³⁶

3. Artisanal small-scale mining: what can be done

Risks linked to cobalt mining are already tackled in many certification schemes that include criteria covering human rights, environmental, social, and economic aspects. However, while these criteria can be applied by multinational companies subject to global scrutiny, ensuring sustainability and fair working conditions in artisanal and small-scale mining remains much harder, because of the very informal (sometimes even illegal) nature of ASM.

ASM in the DRC is an important revenue stream for local communities. Therefore, while an outright ban of ASM might reduce the risks of child labour and extortion in the cobalt extraction, it would move the problem elsewhere and would also run the risk of being detrimental to local populations. A survey of more than 400 artisanal miners carried out in the province of South Kivu finds that revenues from artisanal mining (of gold in this case) amount in average to more than 80% of the workers' family income.³⁷

On top of this, cobalt demand's increase in 2016 - 2017 led to a surge in ASM, which is not expected to last as large-scale mining projects are being started. This could potentially jeopardise revenue streams for artisanal miners, thus sharpening existing tensions between ASM and LSM in the future. Artisanal mining activities by their own nature are flexible and ramp up and down in response to cobalt demand and price; in this context, the current plans by many manufacturers to decrease or even fully eliminate cobalt content in their lithium-ion batteries might reduce the attractiveness of this artisanal activity in the years to come.

³⁵ https://www.bgr.bund.de/EN/Themen/Min_rohstoffe/Downloads/Sustainability_Schemes_for_Mineral_Resources.pdf?__blob=publicationFile&v=6

³⁶ <https://www.ft.com/content/950d4ad8-2af7-11e9-88a4-c32129756dd8>

³⁷ <https://www.uantwerpen.be/images/uantwerpen/container2673/files/Publications/WP/2016/09-verpoorten-stoop-kilosho.pdf>

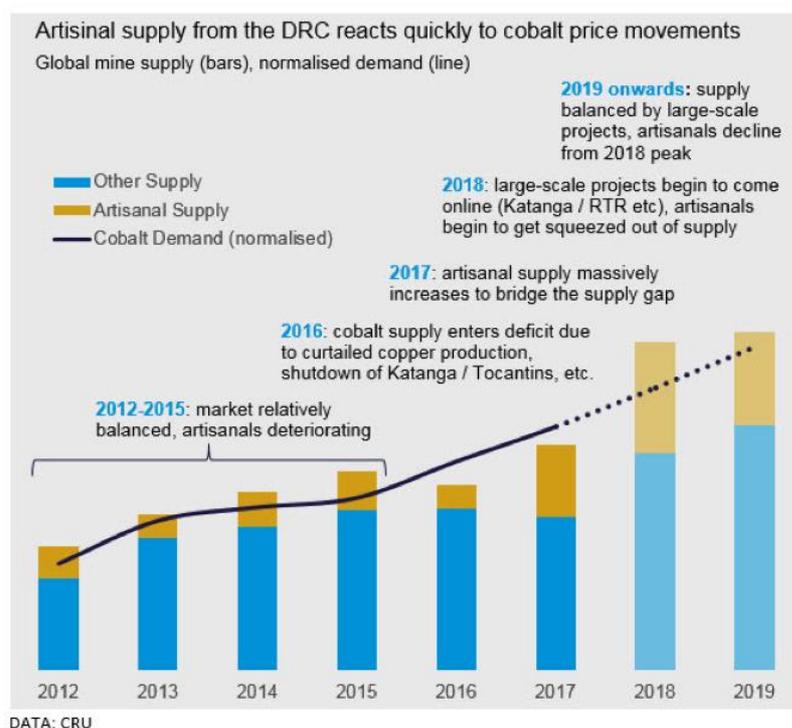


Figure 3: evolution of artisanal and industrial cobalt supply in the DRC.³⁸

Constructive approaches to ASM can help manage the existing problems and tensions and lead to a fairer repartition of mining revenues. For instance, commodity trading company Trafigura estimates that ASM can ‘only be legitimately undertaken if the significant social, environmental governance and reputational risks are mitigated.’³⁹ In October 2018, the company announced the launch of a pilot project at the Mutoshi concession, in collaboration with mining company Chemaf and NGO PACT.⁴⁰ The consortium agreed to train and provide miners with adequate protection equipment: artisanal miners can extract the ore under the company’s supervision, and are required to follow specific procedures and checks to meet safety and environmental standards.⁴¹

Trafigura’s approach is one example of what is called the ASM formalisation and legalisation process, which aims to eradicate child labour and armed-group violence, provide miners with basic health and safety support as well as ensuring fair and transparent remuneration. The legalisation of ASM is expected to result in fairer economic treatment of artisanal miners. The OECD has called on all stakeholders involved in mining to support the ASM formalisation and legalisation process.⁴²

A similar initiative was launched by the German GIZ together with an industry consortium (BMW, BASF, and Samsung). The aim is to improve artisanal mining practices and miners’ living conditions around the selected mine, as part of a three year pilot project.⁴³ Another example of a downstream company trying to

³⁸ Source: CRU, retrieved from: <http://www.mining.com/congo-miners-buying-cobalt-artisanal-operators-balance-market/>

³⁹ <https://www.trafigura.com/media/365090/trafigura-responsible-sourcing-in-the-electric-vehicle-battery-supply-chain.pdf>

⁴⁰ <https://www.jeuneafrique.com/642532/economie/rdc-trafigura-lance-un-projet-pilote-destine-a-formaliser-exploitation-artisanale-de-cobalt/>

⁴¹ <https://www.jeuneafrique.com/642532/economie/rdc-trafigura-lance-un-projet-pilote-destine-a-formaliser-exploitation-artisanale-de-cobalt/>

⁴² <http://mneguidelines.oecd.org/artisanal-small-scale-miner-hub.htm>

⁴³ <https://www.giz.de/en/press/72347.html>

improve the mining on the ground is the new Sweden-based battery cell manufacturer Northvolt: the company has established a system whereby the miners that work on the site that provides its cobalt supply receive a financial bonus for each day their kids attended school.

While these schemes show the industry is moving in the right direction, they remain small pilots and still lack scalability for the moment to deliver sustainable change on the longer term. Crucially, as car and battery makers ramp up their operations and secure large cobalt supply contracts, these downstream players can and should leverage their contractual relations to improve and formalise ASM working conditions and ensure fair benefit sharing with local communities.

Due to the very informal nature of ASM, international standards such as those outlined in part II are hard to apply and monitor. Still, the few projects being currently undertaken show that large companies, both downstream and upstream players, can make a difference. Taking the legalisation process of ASM to a larger scale will probably require pan-industry, government and NGO involvement to agree on formalisation criteria and sustainable mining standards.

Conclusion: next steps to improve cobalt mining

Responsible sourcing of cobalt will be a necessary condition for the successful transition to clean electric mobility. The succinct comparative analysis of the most relevant certification schemes in part II has highlighted key benchmark criteria that are needed to assess and improve certification, bearing in mind the diversity of schemes and their membership.⁴⁴

Figure 4 illustrates what a robust governance model for mining site, upstream certification should look like:

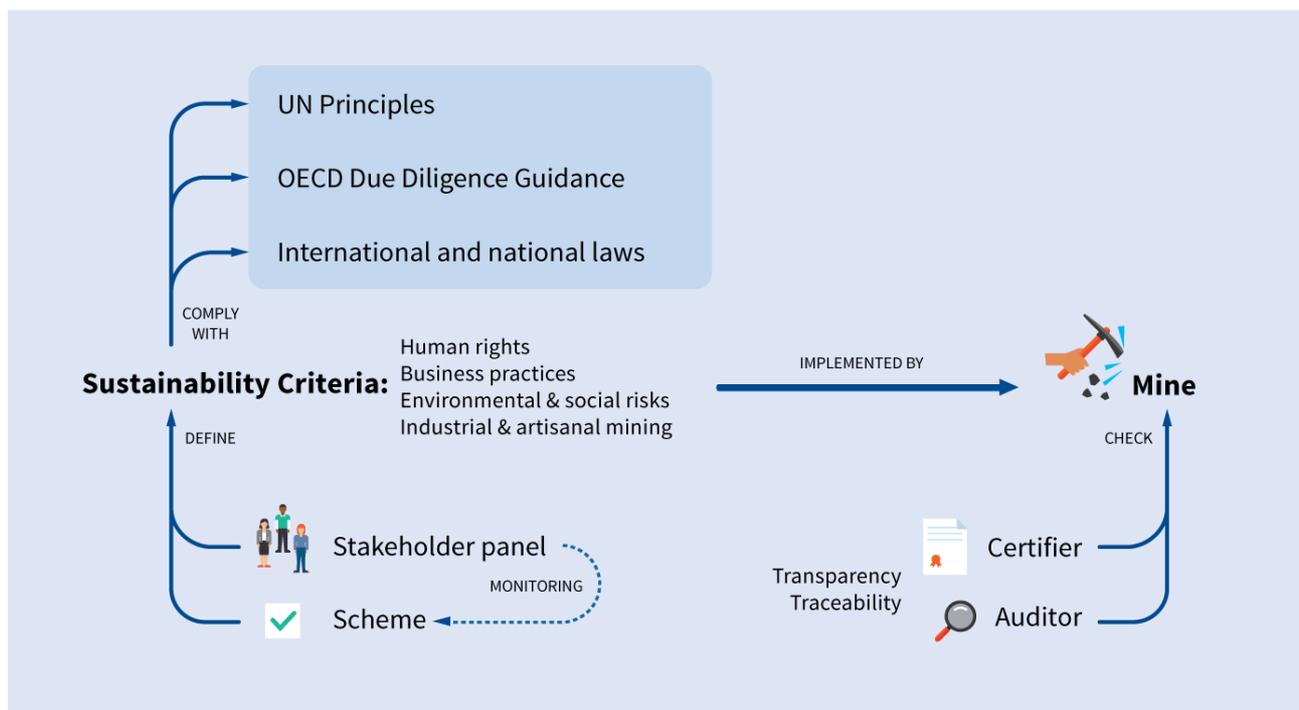


Figure 4: model of mining-site certification

This model shows the different necessary steps leading to a solid mining site certification procedure. Any sustainability standard should as a minimum draw on criteria established by the UN voluntary principles

⁴⁴ Commodity top news 59:

https://www.whymap.org/DE/Gemeinsames/Produkte/Downloads/Commodity_Top_News/Rohstoffwirtschaft/59_sustainability_standards.html?nn=1542388

on security and human rights, the guiding principles on business and human rights, and the OECD DDG, while ensuring compliance with international and national laws. These standards should include social, environmental and wider human rights aspects and are agreed by a wide stakeholder panel that continuously monitors the scheme. The model further highlights the important role played by independent certifiers and auditors in the certification process, as well as the key added value brought about by full transparency and the disclosure of non-business sensitive information regarding mine performance.

T&E recommends the following criteria to be met by certification standards:

- **A balanced panel** of industry, government and NGO representatives should be involved during all phases of any certification scheme design and monitoring. Decision mechanism (e.g. on certification of a particular mining site) should grant equal decision-making powers for each sector. Local community involvement should be sought and ensured. This approach has already been taken up by most certification standards analysed, which reflects proper awareness of governance.
- **Multi-tier certification systems** have been identified as a practical solution to attract newcomers and improve performance of more experienced companies. Such systems provide necessary flexibility to both large and smaller companies, as they can choose to comply with some or all criteria proposed. It is for instance illustrated by the ‘Certification’ and ‘Candidate’ statuses within the IRMA scheme, whereby candidates only have to meet a subset of criteria. This flexibility could also benefit the ASM formalisation process, ensuring comprehensiveness and scalability of schemes.
- **Level of detail** should follow the multi-tier system approach. As a minimum, criteria should draw upon the UN voluntary principles on security and human rights, guiding principles on business and human rights, the OECD DDG, and ensure compliance with international and national laws. IRMA, IFC, and MAC are the most detailed schemes, with for instance around 60 different environmental criteria for IRMA.
- **Traceability:** Likewise, traceability of the metal from its extraction to final use is a prerequisite to sustainable certification. Beyond traditional paper-based labelling methods to prove minerals’ origin, several pilot projects are exploring the use of digital tools, e.g. blockchain or QR codes, in certification as ways to demonstrate origin and trace material.⁴⁵ In January 2019, Ford, Huayou Cobalt, IBM, LG Chem and RCS Global have launched a blockchain pilot to put in place traceability for both industrial and artisanal cobalt.⁴⁶
- Focus of any robust scheme should be on **enforcement and compliance**, to which traceability tools are a prerequisite, as this remains the weakest point of most current schemes. This is best done by frequent independent certification and audit procedures, including by independent third parties. Companies like RCS global provide such services and can certify operation against e.g. the OECD DDG responsibility standards.
- **Public disclosure** of non-business sensitive information is essential to a schemes’ reputation and trust-building. Opacity of Congolese mining operations has often been pointed out by NGOs such as the Carter Center, and in recent years several corruption and environmental scandals have increased pressure for transparency. Transparency and disclosure of payments and contracts is essential to clean up the corruption veil surrounding cobalt extraction today.

While the above requirements should be applied to any industrial mining in the future, it is hard to assure their full application to the artisanal and small-scale mining operations which by their nature are informal.

⁴⁵ <https://www.icmm.com/blockchain-in-minerals-and-metals-supply-chains>

⁴⁶ <https://www.forbes.com/sites/rachelwolfson/2019/01/16/ford-motor-company-launches-blockchain-pilot-on-ibm-platform-to-ensure-ethical-sourcing-of-cobalt/#537b12685a1d>

As demand for cobalt is expected to multiply eightfold up to 2025, ASM in the DRC will continue to contribute to the country's short to medium term cobalt production, which means the sector cannot be ignored. But Banning ASM, as is preferred by some industry players, will not solve the problem: ASM constitutes an important revenue stream for many local communities in the DRC, and banning this in cobalt will shift the problem elsewhere. Instead, the current small-scale best practice examples of strengthening ASM should be continued and expanded: governments, companies and NGOs should focus their efforts on formalisation and helping artisanal miners work in safe conditions, with decent earning. Ultimately, with big players like VW, Tesla and LG Chem buying more and more cobalt, the downstream sector will have bigger clout to influence how the resource is mined.

In the longer term cobalt could be produced from more diversified sources (including urban mining and even deep sea beds), and innovation in batteries could drastically reduce demand. But the current cobalt spotlight due to the EV transition is an opportunity to sort some of the worst social and human rights problems that for decades have been associated with informal artisanal mining.

Further information

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