



RCS GLOBAL
Making Sure.

THE EMERGING COBALT CHALLENGE

COMPETITION, CONCENTRATION, AND
COMPLIANCE. UNDERSTANDING THE COBALT
SUPPLY CHAIN AND HOW TO RESPOND

ABOUT THIS PAPER

The next few years will see worldwide consumption of cobalt rise significantly as nascent demand from the electric vehicle market comes on line. For both electric vehicle and tech manufacturers, cobalt forms an essential ingredient of the ubiquitous lithium-ion battery in cars, mobiles and computers.

But there is a catch. While demand is rising, the worldwide supply and future reserves of cobalt are increasingly concentrated into one major market: the Democratic Republic of Congo (DRC). This market produces 60% of the world's cobalt supply, but suffers from crumbling infrastructure and significant human rights challenges. These challenges are increasingly putting companies in the cobalt supply chain under scrutiny from campaigners, regulators and the media.

It is within this context that companies must now secure their supply chains of cobalt-based, lithium-ion batteries. Simply put, the battery technology which is central to the imminent large-scale commercialisation of the electric vehicle industry and the revolution in consumer technology is dependent on Congolese supply to meet demand.

This briefing paper, derived from RCS Global's own recent research on Congolese cobalt supply chains, aims to:

- Provide insight on the risks associated with DRC production that represents approximately 60% of global cobalt output and half the world's known reserves;
- Unpack the associated regulatory challenges linked to DRC cobalt;
- Provide a road map for companies seeking to mitigate their risk exposure.



THE UNIQUE COBALT CHALLENGE

In the immediate to medium term companies face a unique set of three interlinked cobalt supply chain challenges, which can be defined as competition, concentration, and compliance.

- Cobalt is the key element within lithium-ion batteries – allowing them to produce more power and last for longer. While cobalt substitutes do exist, they are nowhere near as effective. Unless a viable substitute is found cobalt demand will continue to rise. By 2020 forecasts suggest over three quarters of all such batteries will contain cobalt.
- At the same time as demand is projected to increase, there seems little prospect of significant increases in output from other cobalt producers, such as Australia and Brazil, meaning the market will continue to be concentrated on the DRC. This in turn will expose an increasing number of manufacturers to legal and reputational risks.
- Perhaps most crucial is the challenge of compliance and ethics. Recent research conducted by Amnesty International and the Washington Post has uncovered significant human rights risks in Congolese cobalt supply chains. These risks include the worst forms of child labour, illegal mining operations that expose miners to abuse, life-threatening working conditions and corruption.

As a result of these challenges, a handful of major companies are moving to treat cobalt supplies in the same category as 'conflict minerals', which by law, are currently limited to gold, tin, tantalum and tungsten (3TG). At the moment, this re-classification is industry-led with a few leaders setting the new standard but regulatory changes to incorporate cobalt must now be a realistic possibility with the OECD leading on expanding supply chain transparency and due diligence to other commodities.



CURRENT TRENDS IN TACKLING THE COBALT CHALLENGE

As it was when conflict minerals first appeared as an issue, the initial response to the crisis in cobalt supply chains from companies has been muted.

Companies directly named in NGO reports, not least the Amnesty report cited above, have made public commitments to conduct improved due diligence on their supply chains.

Likewise, leading companies are already beginning to address this issue. Apple, which drives industry responses to responsible raw materials supply chains, has already made a public commitment to include cobalt in its conflict mineral program to further promote responsible sourcing practices among its suppliers.¹ This will have a ripple effect as suppliers seek to demonstrate all the way upstream to DRC.

We're proud that our responsible sourcing program is one of the most robust in the world. It has grown to include 40 materials such as tin, tantalum, tungsten, and gold, which have been designated as "conflict minerals"; in 2014 we added cobalt.

Apple Commitment to Responsible Sourcing.
28.9.16

While companies like Apple are in a significantly advanced position, it is clear others are now following. Several companies throughout the cobalt supply chain are now intensifying their due diligence activities. At a top-line level this focuses on two elements:

1. Undertaking comprehensive mapping of their cobalt supply chains to understand their exposure;
2. Developing responses in line with the OECD Due Diligence Guidance, which provides a standard approach towards due diligence (we have condensed the OECD Guidance into a digestible table format later in this paper)

As important as the responses from individual companies are, those of the industry as a whole are perhaps more important, as they set the standard for whole sectors.

Considering the pivotal role of Chinese cobalt processing and battery manufacturing companies on the world market this initiative could have a significant impact on standards within the DRC's cobalt supply chain and significantly augment the follow-on effect of good practice standards adopted by individual US or European companies.

Not to be outdone, the Electronic Industry Citizenship Coalition (EICC), which governs the Conflict Free Smelter Program for conflict minerals, has announced the Responsible Raw Materials Initiative (RRMI) to develop responsible raw material sourcing strategies for their members.²

1 https://www.washingtonpost.com/business/economy/companies-respond-to-questions-about-their-cobalt-supply-chains/2016/09/30/910f94de-7b51-11e6-bd86-b7bbd53d2b5d_story.html

2 <http://www.eiccoalition.org/initiatives/rrmi/>

THE CHALLENGES OF THE CONGOLESE COBALT SECTOR

As cobalt supply chains come under more scrutiny, it's important for companies to understand what the risks are and how they relate to the unique structure of the sector in the DRC.

Of the cobalt exported from the Congo, around 20% originates from the artisanal and small-scale mining (ASM) sector, with the remaining 80% from industrial mines known as large scale miners (LSM). While both suffer from responsible sourcing challenges, it is the labour-intensive, highly informal ASM sector that is fundamentally beset with challenges for responsible sourcing. The global cobalt consuming industries trade comes into direct contact with the ASM sector through the local cobalt purchasing activities of international traders and buyers.

In the ASM context, the cobalt industry is exposed to reputational, legal and compliance, operational and commercial risks:

REPUTATIONAL RISKS:	LEGAL AND COMPLIANCE RISKS:	OPERATIONAL RISKS:	COMMERCIAL RISKS:
Child labour, human rights abuses, corruption and illegal mining activities have already developed into public relations incidents that have caused considerable damage to some companies' reputation and undermined their customers' and wider consumer confidence in the integrity and validity of responsible sourcing commitments.	Scrutiny of mining and trading activities sourced from the ASM sector has increased following the introduction of extraterritorial legislation, such as the US Dodd-Frank Act 1502 on conflict minerals. The Modern Slavery Act 2015 could see industry members facing legal proceedings if their engagement in the ASM sector fails to meet relevant requirements and/or if its risk exposure is not appropriately mitigated.	Unsafe working conditions can create health, safety and environmental hazards and undermine operational efficiency and safety, but also leave mining companies and traders open to legal proceedings (in the short and long term) both in international courts, and in the host nation courts.	For buyers, failure to adhere to good practice standards and relevant legislative requirements could complicate or prevent the sale of minerals and metals and/or make trade finance significantly more expensive for traders to secure, as financial institutions and downstream companies are themselves under more scrutiny.

The final section of this briefing paper details the due diligence expectations being driven by the OECD and how companies can best mitigate their risk exposure.



EXPLAINING THE DRC'S COBALT RISK

As a consequence of a prolonged conflict and profound economic mismanagement, the DRC's once strong industrial mining sector gave way in the 1990s to widespread artisanal mining activities.

Despite reindustrialisation in Katanga's copper belt, informal ASM activities have continued on active or former industrial concessions. Key issues, which both RCS Global's and Amnesty International's researchers have observed, are:

Worst Forms of Child Labour

The informality in the ASM sector, coupled with extreme poverty, leads to frequent instances of the worst forms of child labour. Based on RCS Global observations in Katanga, in 2016, physically capable children, usually between the ages of 15 to 17, work as miners, washers, transporters, and sorters. Underage sex workers (15-17) can also be observed on important ASM sites.

A higher presence of children can be observed in ASM sites in urban areas and in the less organised mineral marketplaces where buying houses purchase cobalt from open market suppliers.



Corruption

Corruption by state institutions takes the form of illegal taxation of ASM miners and transporters, local traders, and LSM operators/exporters. While the ASM transporters and miners are required to pay "taxes" to go through checkpoints and be allowed to mine, the traders and LSM operators/exporters instead are charged small per diems by state officials in order for them to provide their formally mandated services.

Illegal Mining Operations

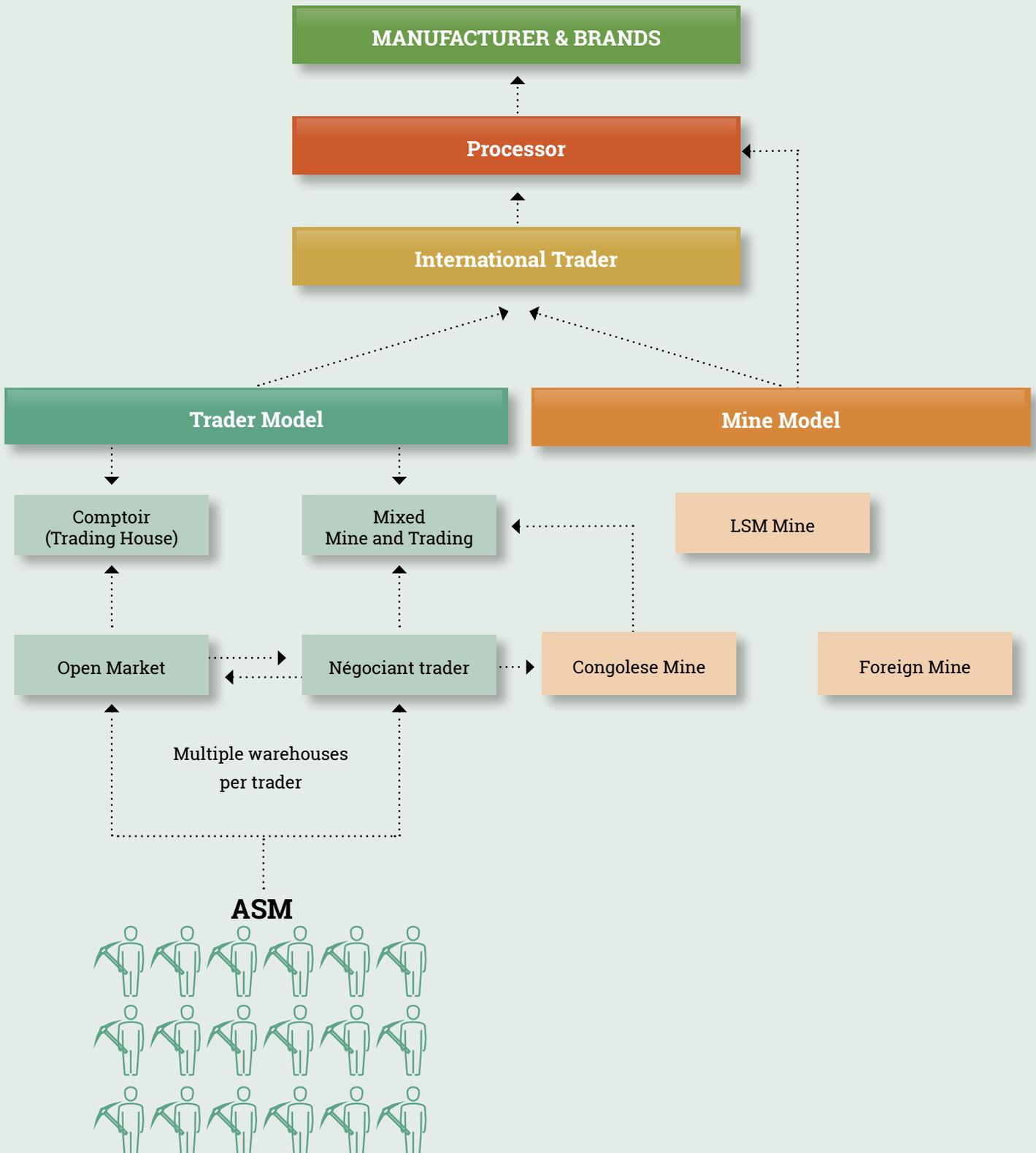
Our research shows the existence of illegal ASM mining operations taking place on a number of mining concessions, including many belonging to industrial mining companies.

Life-threatening working conditions

On many ASM cobalt mine sites observed, working conditions are life-threatening. Occupational Health and Safety (OHS) standards are not adhered to and violations are not monitored and corrected by the state agencies present on site. These agencies do not intervene against even clearly visible and severe violations, such as, the operation of narrow mining tunnels up to 50m in length underground, compared to the 30m permitted by law.

CONGO'S COBALT SUPPLY CHAIN MODELS

Two main models of cobalt sourcing can be observed in the DRC: the **trader model** and the **large-scale mining (LSM)** sourcing model.





TRADER MODEL

The trader model involves traders (négociants) purchasing cobalt production on the open market, which includes material from the ASM sector and some mid-sized and large-sized mines.

Artisanal Mining (ASM) Model

The local traders operate warehouses and trade amongst themselves before selling to bigger buying houses (comptoirs), who in turn sell to the international cobalt supplying companies or directly to processors.

In this way cobalt from problematic ASM sources finds its way into the supply chains of global brands. Under the trading model, it is extremely difficult to identify the source of the material, as transactions prior to sale to the local trader are undocumented. As a result end users have limited to no visibility into the origin of their material. Indeed, without an active and risk-based due diligence process in place, they will only know their direct suppliers and not the origin of the material.

Large Scale Mining (LSM) Model

The local traders (négociants) can also sell to medium-sized industrial mining companies that purchase ASM produced cobalt to complement their own cobalt production, thereby contaminating what is otherwise perceived as cleaner industrially mined cobalt supply chain.

However, the largest industrial mines in the DRC typically try to disincentivise ASM operators on their concessions and therefore as a rule do not purchase ASM mined material. As part of their actions to reduce ASM activities, LSM companies employ security providers to guard their

concessions but this in itself can result in human rights risks relating to the appropriate use of force.³



Non-uniformed armed guards on LSM mine sites tolerate, or even encourage, clandestine ASM

Security providers, both public and private, often have no knowledge of the internationally recognised Voluntary Principles on Security and Human Rights. The provision of security by off-duty public forces is particularly problematic, as the Congolese Army (FARDC) has over the years been identified by UN agencies as a principal perpetrator of human rights abuses and can present politically exposed person issues.

Consequently, while sourcing through the LSM model presents less immediate risks, it is not risk free. Even so, reverting purely to sourcing from the largest industrial mines would itself have a profoundly negative knock-on effect to the local economy. Abandoning the ASM sector would result in a direct, dramatic and altogether undesirable livelihood impact for hundreds of thousands of ASM sector stakeholders and their families. In other words, reverting to sole sourcing from LSM cannot be called responsible sourcing.

³ See for example: Bread for All, RAID, and Swiss Catholic Lenten Fund, 2014, PR or Progress? Glencore's Corporate Responsibility in the Democratic Republic of the Congo.

EXPECTATIONS ON DOWNSTREAM COMPANIES AND THE OECD DUE DILIGENCE GUIDANCE

An OECD Due Diligence Guidance-aligned approach provides a common standard for companies and remains the most helpful in guiding companies towards an internationally recognised supply chain due diligence program.

Still, many companies underestimate the implementation requirements of the Guidance. Before outlining these requirements, we need to provide a quick general debrief.

The OECD Due Diligence Guidance - originally developed in the context of 'conflict minerals' - is now the go-to standard to mitigate raw material supply chain risks in the upstream. Endorsed by the United States Securities and Exchange Commission, the European Commission and

the Chinese CCCMC, the guidance essentially provides a clear management systems approach towards risk-based supply chain due diligence.

The OECD's work in increasing the scope of the Guidance to other minerals beyond 'conflict minerals' to other raw materials (e.g. palm oil) also reflects a growing trend that demands more transparency in supply chains that can be seen in both regulation and normative standards such as the UN Guiding Principles on Business and Human Rights, as well as industry guidelines (RJC, CCCMC, LBMA etc.).

The following table provides a brief overview of the OECD Guidance's directives and overlays these with corporate implementation requirements, which RCS Global has implemented with a range of clients:

Table 1 – The OECD Due Diligence Guidance - Directives and Implementation Requirements

DIRECTIVE	IMPLEMENTATION REQUIREMENTS
OECD 1: Establish strong company risk management systems	Companies: <ul style="list-style-type: none"> - Commit to a standard - Adopt a policy and establish procedures that provide management and staff with clear actions to carry out to meet the standard - Provide sufficient resources to conduct effective due diligence
OECD 2: Identify and assess risks in the supply chain	Companies: <ul style="list-style-type: none"> - Map the supply chain - Conduct a risk assessment, usually involving suppliers - Assess risks against their chosen standard
OECD 3: Design and implement a strategy to respond to identified risks	Companies conduct: <ul style="list-style-type: none"> - Ongoing due diligence - Supplier Engagement - Risk mitigation, usually involving suppliers - (Possible) Traceability/Chain of Custody system - Implement a Grievance Mechanism
OECD 4: Conduct 3rd party audit	Smelters/Refiners/Processors: <ul style="list-style-type: none"> - Audit against standard audit protocols. Only at key parts of the supply chain
OECD 5: Report on activities	Companies: <ul style="list-style-type: none"> - Report publicly on activities including results of DD



ACTING ON THE GUIDANCE

The OECD Guidance has been adopted by a large number of US based companies who are required to meet requirements set out by the SEC for Dodd Frank Section 1502 on conflict minerals.

While companies do adopt the five-step process, we often see too much emphasis on top-heavy management systems and related metrics and not enough emphasis on the risk assessment and risk mitigation elements. However, it is this risk management process that is the beating heart of an effective due diligence program.

Part of this common mistake is the arms-length approach companies adopt towards their own suppliers. Supply chain risks inevitably lie with suppliers and so effective mitigation means a program that also improves the responsible sourcing of suppliers and sub-suppliers.

This may seem daunting but actually when broken down in to a process it is eminently achievable. In our experience, companies face two road blocks when planning their cobalt compliance – the first comes when companies decide to instigate a program and the second comes after initial planning has taken place.

From our perspective, these are the steps companies need to take at both stages:

Stage One: Preparation and planning:

1. Commit to an OECD aligned industry standard that your program can be based on
2. Adopt an internal plan to bind in management and staff to the process and actions needed
3. Map your supply chain – to understand suppliers, geographies where they source, and exposure to risks
4. Identify and categorise risks

Stage Two: Program Implementation:

5. Analyse your ability to leverage suppliers and sources to identify where they can have the most influence
6. Develop a plan to mitigate risks that includes an on-going supplier engagement program
7. Undertake independent supplier audits and build a record of the results
8. Train suppliers to ensure they have the capacity to both understand and apply the OECD Due Diligence Guidance



RCS GLOBAL HELPS SOME OF THE LARGEST BRANDS IN THE WORLD RESOLVE THEIR SUPPLY CHAIN COMPLIANCE AND ETHICS CHALLENGES

RCS Global is one of the world's leading responsible raw material supply chain audit and advisory groups. We empower upstream, midstream and downstream operators to demonstrate the highest standards of responsible supply chain due diligence and compliance. Together with our clients, we are making industry more ethical, accountable and transparent.

RCS Global has established an unrivalled position as the bridge between actors at each stage of the value chain, from major EU and US regulators and corporations to global manufacturers, processors, mining companies and artisanal mining communities. Our senior staff each have over a decade of experience in supply chain auditing, advisory, technical assistance and research and our brand reputation is built on our team's performance since 2008. We currently work with the OECD, CFSI, BetterCoal, CCCMC, RJC and other industry bodies, as well as world leading companies.

RioTinto

EICC
ELECTRONIC INDUSTRY CITIZENSHIP COALITION

TRAFIGURA

Microsoft
NOKIA



AVAX
A KYOCERA GROUP COMPANY

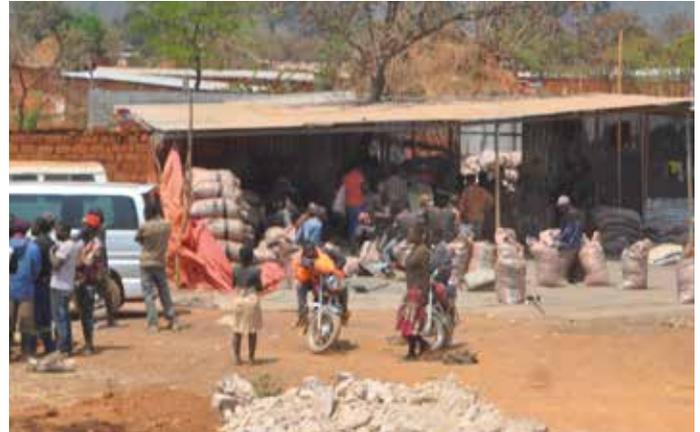


CCCMC

OECD
BETTER POLICIES FOR BETTER LIVES

bettercoal
defining standards.refining practice

Responsible
Jewellery
Council



Our position means that we have:

1. The experience, expertise and confidence to guide you through your next steps in implementing the OECD Due Diligence Guidance's requirements. Whether that is obtaining more insights through research, making sure your management systems are robust, managing your supplier engagement and training, or undertaking supplier validation audits.
2. A decade of boots on the ground experience. With our representation in China and Africa we have an in-depth understanding of mineral supply chains, from multinational downstream actors to micro-scale artisanal mining operations, as well as the governance realities these supply chains have to function in.
3. A profound understanding of the risks in these supply chains and the standards that govern responsible supply chains worldwide - including regulatory and voluntary standards in North America, Europe and China.
4. Excellent professional networks, from companies, to implementing bodies and governments, NGOs and the media.



OUR WORK IN PRACTICE

We assist companies and industry programs with all of the above elements, from program design, to implementation and audit. We are proud of our work history and encourage clients to take up our references and speak to our current and past clients, such as:

Ongoing Program Development work:

- OECD and CCCMC for whom we are developing the detailed assessment guideline for 3TG - based on the CCCMC and OECD Due Diligence Guidelines. This is to improve the enthusiasm and feasibility of participation of Chinese companies.
- For the Conflict Free Sourcing Initiative (CFSI), RCS Global is developing the new versions of the CFSI Standard Protocols governing 3TG. We are also developing and piloting a midstream audit program to validate manufacturers in the CFSI supply chain as OECD compliant. RCS Global's Asian based team provides ongoing advisory support for Asia-based suppliers.
- Responsible Cobalt Initiative (RCI) led by CCCMC and the OECD whom RCS Global has conducted due diligence research on cobalt supply chains and is developing a standard and audit protocol for cobalt based on the CCCMC and OECD Due Diligence Guidance.
- For Bettercoal, RCS is on the Advisory Council and developing the standard and audit program;
- For the Responsible Jewellery Council, RCS is providing program advisory and is on the Advisory Council.
- Regular presenters at the CFSI, LBMA, CCCMC and EITI conferences.

For companies:

- For one of the world's largest consumer electronics companies, RCS Global is supporting a broad range of practical solutions to ensure the client lives up to its public commitment to responsible supply chains. Our work includes strategy development, direct supplier engagement and assessment, research, supply chain mapping, training and more. 2013 – on-going.
- For a number of SEC issuers, RCS Global helps develop or assess OECD Due Diligence Guidance compliant policies, processes and procedures to ensure they are compliant with DF1502 requirements. 2013 - on-going.
- For Trafigura, RCS Global provided advisory to the company to become the world's first Commodities Trader to adopt the EITI standard. We continue to provide advice to the EITI to help develop a transparency standard for the trading sector, 2013 – on-going. Our unrivalled understanding of responsible raw material supply chains from mine-site to manufacturer to brand enables us to deliver to our clients technically excellent and innovative projects. We are proud of our work history and encourage clients to take up our references and speak to our current and past clients.



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