Desk Review of Related Supply Chain Certification Initiatives

Final Report Analysis:

Introduction

Concurrent to the mapping of supply chains, RESOLVE conducted a desk review of supply chain initiatives with relevance to the electronics sector. The review focused on initiatives relating to supply chain, assurance, certification, and sustainability issues around the production, sourcing and handling of natural resources. The purpose of these desk reviews was to identify lessons and potential linkages with potential relevance to minerals used in electronics.

Methodology

RESOLVE utilized a collaborative research methodology to undertake a review of initiatives with potential relevance to GeSI and EICC as these organizations and their members develop strategies and programs to help meet their stated environmental and social objectives related to metals utilized in their products. These objectives include sourcing minerals from non-conflict sources, and sourcing minerals that meet environmental and social criteria during mining and processing.

RESOLVE worked with a multi-sector Stakeholder Advisory Group to select the most relevant initiatives and define a methodology that allowed comparison across initiatives. Based on design decisions in certification and transparency initiatives, RESOLVE examined the following supply chain characteristics of each chosen initiative:

- **Supply chain complexity.** Is it similarly complex to GeSI-EICC target minerals?
- **Formalization of sector.** Is the sector informal or formal? Is government oversight and enforcement capacity strong or weak? Are economic transactions regularized and reported, or hidden or covert?
- **Material processing, coherence.** What is the type or nature of the resource and how is it processed? Does the material remain whole or intact through key steps in the process?
- **Significance in product composition.** Does the material end up as a significant part of a product or is it found in a product component? Is the material mixed into a product in a way that it is no longer recognizable or identifiable?
- **Issue/source geography.** Does the geography of the material match that of GeSI-EICC target minerals? Is it relevant to regions of conflict?

RESOLVE also examined the nature of initiatives, including the following characteristics:
• **Stage of development, maturity.** What is the stage of development of the project or initiative? Was or is it a one-time pilot? Is it ongoing, active? How mature is the project or system?

• **Nature of governance.** Is this an initiative organized by one company or organization? Are those who participated in establishing the system from multiple sectors?

• **Standards breadth and focus.** Does the initiative address one specific issue or objective or multiple issues? If multiple issues, does the initiative respond to one category of issues such as “environment” or “human rights” or multiple categories?

• **Nature of standards/program development.** How was the social good or goal that this initiative seeks to meet defined and measured? By one party or an association of parties within a sector? Dialogue across sectors? By utilizing standards developed by others?

• **Approach to verification.** How are results verified or how is compliance monitored? Is verification self-administered or performed by an external party?

After the Stakeholder Advisory Group reviewed the initiatives list and criteria, RESOLVE drafted profiles of a number of different initiatives and requested that participants in these initiatives. Profiles selected include the following:

- Association for Responsible Mining (ARM) Green Gold
- Birks, Direct Metals Sourcing Case Studies
- Bullion Vault
- Diamond Development Initiative (DDI)
- Forest Stewardship Council Certified Post-Consumer Recycling (FSC)
- German Federal Agency for Geosciences and Natural Resources (BGR) program on Certified Trading Chains Trading Chains in Mineral Production (CTC)
- Green Lead Project
- Initiative for Responsible Mining Assurance/Framework for Responsible Mining (IRMA)
- Kimberley Process (KP)
- Mining Certification Evaluation Project (MCEP)
- Responsible Jewellery Council (RJC)/Council for Responsible Jewelry Practices
- Roundtable on the Sustainability of Platinum Group Metals
- Wal-Mart “Love, Earth”

To create each profile, RESOLVE worked from publicly available documents (e.g., web site summaries, meeting minutes or reports, and newspaper articles). RESOLVE also reviewed commentary from external sources, where available.

After drafting each profile, RESOLVE asked for input from an external reviewer, typically an individual involved in the design and/or implementation of the initiative. Most reviewer comments addressed factual issues, often adding new information that was not available on
websites or in posted reports. In a few cases, reviewers challenged initial findings or conclusions. In instances where their input could be substantiated, RESOLVE made the suggested changes.

Desk reviews were not intended as comprehensive profiles; rather, they are focused on issues of significance to GeSI-EICC and their stakeholders. They are designed to focus on issues relevant to the supply chain for minerals utilized in electronics products.

RESOLVE has posted these desk reviews online and requests public input, responses, reaction and dialogue via the project wiki. The goal of posting these reviews online is to encourage an iterative and interactive process leading to a rich discussion that can inform the GeSI-EICC members and other stakeholders about mechanisms for increasing transparency in a way that is credible to a range of stakeholders.

**Challenges and Lessons from Related Initiatives**

In analyzing these desk reviews of related initiatives, RESOLVE identified a number of findings that can inform future transparency initiatives. Below are a set of challenges, lessons and potential responses, and other observations of relevance to the electronics and other sectors, including the following:

1. Traceability and metals processing
2. Electronic product composition
3. Certification fatigue and potentially competing efforts
4. The pace and nature of change

**Challenge 1: Traceability and Metals Processing**

As previously described, minerals typically lose their provenance in the supply chain when ores are mixed (during trading, prior to refining; in the smelting or refining process; or in re-melting, re-processing, or recycling of metals).

In other sectors, methods have been developed in response to similar traceability challenges. For example, with recycled paper, a product is certified in proportion to the post-consumer recycled content that enters a pulp mill. FSC has also established a mixed source standard and label for products where different components meet different types of standards. Metals recyclers have started to offer assurance to jewelers as to the post-consumer content in their metals.

**Lessons and Potential Response:** For minerals targeted by GeSI-EICC, a number of solutions are possible, some of which are already being utilized in other sectors:

1) Intervention early in the supply chain, at the mine and through to the smelter, to mark and record ore, so that it can be tracked and verified into the smelter. This type of approach is being advance by ITRI, the tin association, and may for the basis for a trial for tin and tantalum.
2) Agreements with specific mines willing to track product into the smelter, coupled with batch processing in the smelter, where ore is processed separately.

3) A smelter that is captive to a particular mine (or a number of mines all of which meet standards) allows for a coherent, singular supply chain, at least through smelting phase (e.g. Wal-Mart “Love, Earth”).

4) A crediting system that allows for a smelter to mark the percentage of its outflow that matches the certified inflow, or to ascribe % content to the metal, as with recycled paper.

5) The creation of unique source to product relationships such as those put in place by Tiffany & Co., Birks and others.

Challenge 2: Electronic Product Composition

Voluntary supply chain certification systems have typically been advanced where the target natural resource or material represents a significant percentage of the consumer product. Examples include trees (for wood products or paper), fish, organic produce, diamonds or gold for jewelry, agricultural products under the fair trade system, and cotton for clothes. For these products, certification systems can result in a market premium and reputational or brand value.

There are also certification systems that verify the performance of the product itself or a particular aspect of performance or impact. These include energy efficiency ratings for appliances or safety ratings for automobiles.

Minerals for electronics are different than many of the products certified, to date, in that each of the metals typically represents a relatively small percentage of the components or subcomponents of a consumer product like a cell phone or computer. Therefore, an assertion that a cell phone or computer is free of minerals from conflict zones is significant but may only certify a very small percentage of the product. (For example, the major metals in cell phones included copper at 19%, followed by aluminum at 9% and iron at 8%. Other metals, including the three in focus of this report, constitute 1% of the materials in the mobile telephone.iii) Nor does it begin to address the myriad impacts related to other product components—from copper in wiring, to gold used as a conductor, to oil used in plastics, to end-of-life product issues. Gold is currently the most valuable element in electronics, despite its relatively low weight, and composes 67% of the metals value in a cell phone and 65% of the value in a personal computer.iv

Lessons and Potential Response: The emerging GeSI-EICC strategy is to advance a program of supply-chain transparency metal-by-metal, due to the differences in actors and supply chain relationships and dynamics for each target metal (although there may be linkages for some metals in regions such as DRC, at least in the pre-smelter trading phase). This, and the complexity related to the composition of electronics, indicates a somewhat different strategy than in other sectors. One could envision a strategy that seeks to increase the responsibly
sourced content inside electronics over time rather than an assertion regarding the product itself—and all of its component parts. The sector may also be ripe to test crediting strategies were company action serves as an incentive to increase the percentage of responsibly sourced content in the marketplace but don’t necessarily need to take step to establish a literal chain-of-custody, which might prove inefficient in some instances.

GeSI and EICC members may have more in common with the automobile, airline and aerospace, energy systems, green technology, and medical equipment sectors, and other industrial sectors, than with sectors and products like jewelry and forest products. Of note in this area are the Platinum Study Group, the Green Lead Initiative, and the supply chain work undertaken by Ford Motor Company.\(^v\)

Specific strategies could include:
- Articulation of a phased approach, to target metals in sequence, and to potentially add environmental and social dimensions, in addition to the issue of conflict.
- A focus on percentage content, such as those for recycled paper.
- Credit for achieving advances related to product components—a variation on the FSC certification for products with different components from different sources. Although in this case the product lines are probably not yet in a position to make assertions regarding all product components and materials.
- Exploration of crediting schemes and/or non-literal chains-of-custody, where an end-use company or retailer could get credit for demonstrated increases in responsibly sourced product into the market, without the requirement that that a literal chain of custody is in place. These strategies could range from smelter-focused schemes that allow credit for outflow based upon a small but increasing inflow, to the purchase of credits that don’t actually require any form of tracking as long as product is verified at the source and actually enters the market.
- The US EPA and other stakeholders are exploring concepts related to tallying the full sustainability value of particular electronics products—including sourcing, energy use, and recycling or end-of-life issues. GeSI-EICC could monitor these discussions for useful advances.

Challenge 3: Certification Fatigue and Potentially Competing Efforts
Some industry and NGO actors have expressed a growing sense of fatigue with the number of similar initiatives and with the proliferation of reporting requirements. For industry there is frustration with the cost associated with compliance and questions about the value and benefits. For NGOs, there is concern related to limited resources and an interest in focusing efforts to achieve maximum impact.

Through this research and other initiatives RESOLVE is aware of the following:
• the KP system for diamonds, focused on conflict;
• BGR trials focused on tagging and certifying minerals from the Great Lakes regions with a focus on Rwanda;
• the IRMA initiative, including some leading mining companies, jewelers and NGOs, focused on standards development and verification for a broad set of metals and the large scale metals sector;
• RJC with a focus on standards development, supply chain issues, and certification for gold and diamonds (and potentially gemstones) in jewelry;
• ARM focused on a Fair Trade certification for gold and the other minerals used in jewelry;
• the Diamond Development initiative focused on creating standards, sources and models for diamonds that protect human rights and promote economic and community development;
• the Platinum Working Group focused on responsible sourcing of platinum metals;
• the Green Lead initiative to promote responsible handling and recycling of lead;
• ICMM’s sustainability principles and company-specific verification requirements;
• Mining Association of Canada’s Towards Sustainable Mining program;
• research getting underway to assess the effectiveness of the KP to extend to conflict metals;
• multiple types of stakeholder engagement in conflict regions such as DRC to explore the potential to create certification trials; and
• a number of company-specific initiatives, such as Birks and Wal-Mart.

Even beyond this list is a significant set of transparency efforts such as the Global Reporting Institute, International Organization for Standardization, Extractives Industry Transparency Initiative, Publish What You Pay, investor indices, and other existing reporting systems followed by some mining companies. As previously noted, RESOLVE’s survey research led to some confusion and frustration because a number of electronics companies were already requesting similar information from the same suppliers.

There are sometimes benefits to multiple initiatives. Some target specific issues, sectors, metals or problems; sometimes individual actors or small groups can move more quickly than larger groups; and sometimes individual companies need to act given specific conditions in their supply chains.

At the same time, while the actors and issues can be different for different minerals, there is certainly a convergence with regard to issues from the smelter back to the source (i.e., the mine or recycling facility).
Lessons and Potential Responses: RESOLVE is struck by the potential inefficiency of overlapping efforts and sees a danger in potentially diminishing returns. A wide-angle look at the product/manufacturing end of the minerals supply chain and the mining sources leads us to a number of observations and questions that may promote efficiency and results.

There may be an opportunity to use this proliferation of reporting and disclosure initiatives to initiate a cross-sector conversation on the issue of reporting and disclosure. Like other industrial and manufacturing sectors, the electronics industry uses a wide array of minerals and materials. There is potential to work across industry sector to develop a coherent set of principles related to supply chain transparency.

All of these sectors overlap at the source. GeSI and EICC companies are in a position to work from existing standards and criteria, support current multi-sector standards development initiatives, and participate in existing programs. While issues and responses will vary to some extent by mineral type, a core package of principles, standards and/or criteria could be developed across mineral types, with two forms: 1) an add-on package for each mineral type and 2) standards for large-scale and ASM sources. There is likely to be a benefit to addressing the development of standards and criteria across sectors, rather than GeSI-EICC companies launching yet another effort.

Challenge 4: The Pace and Nature of Change
A review of other systems and initiatives shows that those that address multiple issues and include diverse stakeholders often emerge from a complex disorganized array of activities, move in fits and starts, and go through significant trial and error. They tend to emphasize inclusion and legitimacy over speed. This was true of FSC, the Fair Trade Label and ARM but is less true of MSC—which emerged more quickly although with considerable difficulty.

There can also be a tendency for systems to move relatively quickly to address a high-profile urgent issue (such as clear-cutting of forests, conflict diamonds, exposes on sweatshops, fisheries collapse or conflict metals) and then take years to accommodate related human rights, social and environmental issues. It would appear that FSC is a relatively successful model in this regard given its adaptability over time. KP is an interesting case in that some argue that KP can be adapted or serve as an example with regard to conflict minerals. However KP was designed with one issue in mind and it is unclear if it serves as a model for a broader set of conflict metals issues and/or can or should be adapted.

Lessons and Potential Responses: At this relatively early stage it is probably important for GeSI-EICC and/or stakeholders to determine whether they are building a response solely to conflict metals or to the broader set of issues related to responsible sourcing of metals—including or starting with the issue of conflict metals.
Our analysis would suggest that a system built to respond to conflict metals as a priority but with the flexibility to include other issues is likely to be the most effective and efficient way forward. For example, a sequence such as the following could be considered:

1. Focus first on supply chain transparency and accountability with tracking mechanisms required for target minerals.
2. Test and perfect the transparency and accountability system so that it builds confidence.
3. Develop and pilot a mechanism to secure conflict free minerals form the Great Lakes region, to test the system in a target region of concern.
4. Begin to work with companies and stakeholders in other sectors to share learning from the system and pilot and explore linkages.
5. Integrate systems with those in other sectors, link to standards development in other sectors or draw from other standards to develop criteria for GeSI and EICC.

Other Observations on Roles and Relationships in Transparency Initiatives

Supply Chain Relationships
Current systems are typically inadequate to trace (or track) materials flow with confidence. New supply chain systems (e.g., tracking technology, certificates of custody, transaction records, business-to-business agreements, independent auditing) and relationships are typically required to provide confidence as to the source and processing of the material. In most other sectors shifts in supply chain relationships, structures and dynamics have occurred. In some instances actors in the supply chain may feel threatened as relationships shift and companies make decisions based upon new sourcing criteria. Resistance can form due to the potential for loss of business, the added cost of compliance with new standards and criteria, and a sense that actors with no direct financial interest (e.g. NGOs) are interfering in business relationships.

It is worth noting that there can be legitimate business reasons to protect relationships and information in a supply chain. When this occurs it is possible to create systems or strategies that allow necessary disclosure and accountability, without jeopardizing proprietary information. To create and maintain legitimacy with regard to transparency and accountability, it is important to engage with stakeholders as provisions to protect proprietary information are developed.

Companies and/or stakeholders have pursued a variety of strategies to respond to the limitations of extant supply chains. With the FSC, stakeholders worked over many years to create a multi-sector governed certification system and there is competition between FSC and SFI for market share and legitimacy. In the jewelry sector multiple efforts have been launched in recent years. RJC pursued an organizing strategy which includes jewelers, manufacturers, miners and other commercial actors in the supply chain, and is working to create a business-to-business assurance mechanism with representatives from the entire supply chain at the design table. KP focused on
an agreement among governments, and a system of warranties, to address particular human rights abuses associated with diamond mining. ARM/Fair Trade and DDI have focused on literal supply chains and building support on a community basis. IRMA targeted a broad set of mining issues and sought to be multi-sector from the outset. Specific companies like Wal-Mart, Tiffany & Co. and Birks have pursued their own, direct sourcing relationships.

**Balancing Roles of Governmental and Voluntary or Market Solutions**

In these desk reviews, RESOLVE focused primarily on voluntary initiatives. However, it is important to note the critical role of government in long-term, system-wide solutions to extractives sector challenges.

There are a number of lessons based on initial analysis. First, certain issues such as conflict require the participation of governments, regional government bodies, and/or supporting international government agencies. This is particularly true for conflict minerals given recognition that trade of these materials is just one symptom of larger governance challenges. vi Government efforts are essential with regard to a performance floor and/or instituting bottom-line mandates.

Secondly, government can and should seek to promote efficiency of efforts in leading, participating in, and funding activities. Just as this report has noted the need for coordination on the part of NGOs and companies, there are opportunities for greater efficiencies with regard to initiatives led or supported by governments. One small snapshot of governmental-based activities related to conflict metals includes the following:

- The International Conference on the Great Lakes Region (ICGLR) is an initiative of the governments of Angola, Burundi, the Central African Republic, Congo, the Democratic of Congo, Kenya, Rwanda, Sudan, Uganda, Tanzania and Zambia. The ICGLR was formed to provide a legal framework governing relations between the Member States, create conditions for security, stability and sustainable development between the Member States; and implement a pact covering topics ranging from economic development, security, social and environmental issues, and governance.vii

- The UN Group of Experts was appointed to monitor implementation of the arms embargo in eastern DRC and investigate the financial and material support of these groups, as well as to produce guidelines for due diligence by minerals importers, processors, and consumers regarding the purchase, sourcing, acquisition and processing of minerals from the DRC.viii

- The United Nation Organization Mission in DRC (MONUC) conducts peacekeeping activities including facilitating the transition to democratic rule and elections, helping the DRC Government dismantle armed groups in the Kivus and Ituri, monitoring ceasefires, and supporting cooperation and reconciliation in the Great Lakes Region.ix
• The Organisation for Economic Cooperation and Development is working on responsible investment in the mining sector (building on their Guidelines for Multinational Enterprises and Risk Awareness Tool for Multinational Enterprises in Weak Governance Zones)x

• Through an amendment to the appropriations bill for the U.S. Department of Defense, the U.S. State Department has been commissioned to create a map to overlay areas under control of armed groups with zones of mineral resources in the DRC. The U.S. Senate and U.S. House of Representatives have both introduced bills that would employ this map and, through different mechanisms, 1) require importers or companies whose products may contain potential conflict goods to certify whether imports contain conflict minerals, and 2) require government agency reporting on which companies are importing goods containing conflict minerals.xi,xii

• The German Federal Agency for Geosciences and Natural Resources (BGR) is researching and piloting a program on Certified Trading Chains in Mineral Production (highlighted in this project’s desk review).

• Communities and Small-scale Mining (CASM) compiled information on major DRC donors including World Bank, the European Union, UNICEF, the United States, the United Kingdom, France, Germany, Belgium, the Netherlands, Japan, Germany, Canada, Sweden, South Africa, and Angola. These countries have funded projects including infrastructure, security, education, health services, governance, and civil society.xiii

Thirdly, and perhaps most importantly, voluntary and governmental initiatives, such as those described above, can have a mutually reinforcing role. While some will argue that only a solution imposed by governments will fundamentally resolve the problems that have plagued the Great Lakes region, others are seeking ways to take action during the long process of designing and implementing governmental solutions.

KP, for example, is a solution enacted by individual governments that has benefit in the marketplace. KP required a long negotiation and significant political will, leadership, and investment on the part of key companies, trade associations, NGOs, and governments. The evidence suggests that such considerations will be essential if a similar strategy is utilized. There is also evidence that voluntary initiatives are both necessary and complementary.

While government and political approaches will be essential to long term solutions, voluntary solutions supported and organized by industry, NGOs and associations also have a role to play. A hybrid approach could utilize the stakeholder engagement and negotiation necessary to create an effective sourcing mechanism and chain-of-custody as a means to take a real, concrete step in building the social and political capacity to get to a political agreement. In essence, political negotiations and commitments would be linked to a virtuous supply chain test or trial—both will be needed.
It is also worth noting that there is growing evidence about the value of voluntary systems creation as a means to strengthen civil society and build social and political fabric. Negotiating agreements and systems for effective natural resource management, even if voluntary, are nonetheless an example of effective governance built from the ground up.\textsuperscript{xiv} Such agreements can create leverage, relationships, and success stories. It can be useful to have an organized and successful venture in a conflict region, with leading global electronics brands, NGOs, experts, and other international actors. Even the early stages of system development can begin to create relationships and dynamics that provide new opportunities and useful leverage to those working to address issues of conflict, human rights abuses, community benefit, and environmental protection.

\textit{Early Corporate and NGO Initiatives Can Test Concepts and Create Momentum}

There is evidence that company initiated and directed initiatives can advance more quickly from conceptualization to implementation. Examples include the sourcing strategies pursued by the Wal-Mart “Love, Earth” program\textsuperscript{ xv} and Birks.\textsuperscript{xvi} A particular company is interested in protecting its brand or corporate reputation, or meet a corporate imperative, is likely an underlying driver. Industry-wide or multi-sector initiatives tend to move slower and a particular company or NGO is only one voice. In some instances, the risk may simply be too high for a company to put reputational issues solely in the hands of a multi-sector, negotiated decision making process.

While some may see company-driven initiatives as separate from broader industry-wide or multi-sector initiatives, it can be argued that these initiatives serve as critical pilots for broader systems, allowing systems and methods to be tested on the ground, and helping to create momentum. There is some evidence of this in the forestry sector, where a push-and-pull has existed between various systems and the early actions of particular companies created new leverage and legitimacy. The minerals sector has also seen early action by a number of companies.

Given on-the-ground complexities and political challenges related to mineral sourcing and trading in DRC, the Great Lakes region, and other mineral rich zones around the world, it is likely that in this sector a two-track strategy will emerge—with the creation of broader systems as one focus and targeted pilots and company specific initiatives as another track. If this emerges it could be useful to consider an intentional strategy to integrate these efforts so that the pilots and company-specific programs actually serve as testing ground and lessons are actually shared.

\textit{Defining Issue Scope and “Conflict Free”}

While conflict is a current issue of focus among governments, private sector companies, and NGO actors, all acknowledge a range of linked social responsibility issues including environmental impact, labor rights, governance, and community health and safety. In designing a
certification or similar assurance system, parties must carefully consider, agree upon, and articulate the scope and desired outcomes. A narrow issue focus may frustrate some stakeholders, but too large of a focus may overwhelm the early systems design and frustrate efforts to address pressing issues.

There is also a need to address the tension between moving quickly to advance “conflict free” sources and an interest in help advance economic, social and political development in conflict zones like DRC and parts of the Great Lakes region. As above, there is evidence that focused initiatives tend to advance more quickly to tangible results. While certified “conflict free” minerals should start to flow into supply as a set of agreements is established, such a system will not initially have in place a system to source from highly informal sources in or near conflict zones. For this to occur, without jeopardizing the credibility of the larger supply chain system, specific source-to-smelter mechanisms, targeting sources in these regions, will have to be developed. This is where the system could begin to look at elements of the KP system, the ARM chain-of-custody, or other systems designed for small scale sources where unique tracking mechanisms and/or independent auditing were initiated.

In a number of previous cases, interest emerged from a number of places: individual miners and traders who saw an opportunity begin to work with NGOs and leading global companies, NGOs with relationships with local communities and miners (particularly development oriented NGOs), entrepreneurs who saw an opportunity create new partnerships, and trade associations that were able to help connect actors and sometimes help with systems development.

It will be important to catalyze the development and testing of trials, strategies, and models to help create a flow of minerals from DRC into this newly transparent supply chain. For this to occur, these trials and alliances will have to be stimulated and supported, both financially and in terms of linkages. A fabric should be created that fosters testing and learning. This approach will also require patience. As RESOLVE sees with DDI, ARM, and other initiatives, it takes time to build credible systems and approaches.

Finally, there is strong evidence to suggest that for these activities to be successful (both the broader transparency and accountability initiative and in-region trials) it will be important for a fabric of stakeholder participation to be organized on a global and regional/local level.

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iv Ibid.


