



re-sourcing

RE-SOURCING 2nd VIRTUAL CONFERENCE

Conference Report

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Business**

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1 Introduction

The second Virtual Conference of the RE-SOURCING project, *'Reality check on Responsible Sourcing: Trends, obstacles and opportunities'* took place from November 8-9, 2022. During two half-days, the sessions dived deeper into several key issues of responsible sourcing:

1. **Stress test for Responsible Sourcing** – In-between our 2050 ambitions and economic resilience in view of rising geopolitical tensions
2. **In Search of a Common Agenda** – Aligning EU & Latin America visions for sustainability & Responsible Sourcing of minerals
3. **Digital Solutions for Supply Chain Due Diligence** – A reality check for companies what to expect from blockchain & Co.
4. **Chasing Unicorns?** – How able is the mining sector to extract responsibly sourced minerals for the Green Economy?

This conference report summarises the presentations and discussions that happened during these four sessions. The first session focused on Europe's responsible sourcing ambitions for 2050 and discussed what is needed to get there. Two project members presented the RE-SOURCING sectoral roadmaps for the renewable energy sector and the mobility sector, which outline clear visions and pathways for responsible sourcing until 2050. These presentations were complemented by the panel discussion that discussed the need for resilient and collaborative supply chains in view of the current geopolitical climate and the EU's ambitions for responsible sourcing and the green transition.

The second session put the spotlight on the alignment of EU and Latin American visions and importance of well-designed trade agreements to create lasting win-win situations between the demand (EU) and the supply (Latin America) side. Two input presentations discussed the perspectives on responsible sourcing both from the EU and from Latin America respectively. The panel discussion of this session focused on the task of finding a common agenda between these trading partners and highlighted the importance of strong partnerships and coherent institutional approaches to responsible sourcing and sustainability.

Day 2, started with the third session with a focus on digital solutions for responsible sourcing, with a specific focus on Blockchain. Two input presentations discussed the high potential of blockchain, when applied correctly, to support supply chain due diligence and transparency, both from an institutional side as well as from a business perspective. The following panel discussion talked about the importance for businesses to properly identify which challenges could be solved by using a technological solution before implementing it, and gave the broader recommendations that the providers, enablers and users of this technology should always consider questions of interoperability.

The final session of the conference looked at the question whether or not meeting our growing demand for minerals in a sustainable way is possible, or if these efforts are like chasing unicorns i.e. imaginary and unattainable. To provide some context there was an input presentation about the current situation on the supply side of several high importance minerals, which highlighted the projected supply and identified potential future supply risks. The panel discussion of this session identified the need for the EU to increasingly support the demand side in their ambitions to implement and enforce responsible sourcing practices. Furthermore, the changes in people's minds i.e. both consumers and managers, as well as investments being increasingly strongly tied to meeting certain sustainability requirements are two factors that will accelerate responsible sourcing around the world.

2 Day 1 | Session 1 - Stress test for Responsible Sourcing In-between our 2050 ambitions and economic resilience in view of rising geopolitical tensions

2.1 Presentation of the RE-SOURCING Project



Alexander Graf, Researcher at the Vienna University for Economics and Business and Project Coordinator of the RE-SOURCING Project, provided an overview of the project. As a Horizon 2020 project, it aims at bringing together companies, civil society and policy stakeholders that are willing to contribute to the responsible sourcing agenda. The ultimate objective will be to build a global stakeholder platform. The project will be running through 2023 and has four main goals:

- Establish a common Responsible Sourcing (RS) Vision for EU industry
- Increase uptake of RS practices by business and public policy
- Foster global advocacy for a common definition of RS
- Build a well-connected and diverse global RS community

Major actions for engaging with different stakeholders, include workshops and webinars, good practice manuals, and roadmaps for three EU industry downstream sectors as well as finding and broadly disseminating solutions. To foster global advocacy for a common definition of RS, there will be three Global Advocacy Fora, one in Asia, one in Africa and one in South America. The project will support international RS agenda setting (e.g. at the OECD or UN). To support building a well-connected and diverse global RS Community there will be an online knowledge repository, conferences and webinars, as well as innovative storytelling and webcasts.

2.2 Input presentation 1: Perspectives from the RE-SOURCING Roadmap 2050 on Renewable Energy



Marie-Theres Kügerl, a researcher at the Montanuniversität Leoben and team member of RE-SOURCING, introduced the project's [roadmap for the Renewable Energy sector](#), which sets out a vision for Responsible Sourcing in the sector until 2050.

The roadmaps have identified five overarching targets:

- Creating a level playing field
- Social sustainability & responsible production
- Paris agreement & environmental sustainability
- Responsible procurement
- Circular economy & decreased resource consumption

In her presentation, she focused on three of these targets and discussed necessary actions to achieve them. In order to achieve circular economy and decreased resource consumption the sector needs to increasingly focus on recycling, reusing, resource efficiency and energy efficiency. These goals should be complemented by actions such as creating a market for secondary raw materials and increasing the awareness of the impact of current consumption patterns within consumers. Furthermore, there is a need for the introduction of eco-design policies and the development of new, and updating of existing, technologies to reduce resource and energy use.

For the target of the Paris agreement and environmental sustainability the sector should focus on taking up life-cycle business strategies, and push towards electrification as well as foster innovation. Complementary actions include the establishment of take-back programmes, supported by new regulations and investments into the infrastructure needed for such programmes. Additionally, there is the need to codify life cycle assessments for new technologies and products, and increase renewable energy capacities.

There are several measures needed to achieve continuous responsible procurement, starting with supply chain due diligence, which needs to be further taken up into national and international legislation as well as industry initiatives. In order to conduct proper due diligence it is important to have transparency in global supply chains, only through this can we ensure resilient supply chains. Supplier assessments are needed to further facilitate due diligence efforts as well as a more general approach to intra-supply chain cooperation. In order to create lasting positive impacts for all actors along the value chain, the sector needs to invest in local development of mining communities and have transparent and frequent consultations to ensure their well-being. Finally, an increase of mining in Europe would shorten supply chains and would be done with high standard of sustainability.

The roadmap includes the following recommendations for policy makers and industry.

Policy makers:

- Improve transparency of mineral supply chains
- Enable responsible mining in Europe, move away from ‘burden shifting’
- Implement supply chain due diligence laws, mandatory for all international players
- Implement thorough control mechanisms for supply chain due diligence

Industry:

- Increase local procurement and support local development
- Develop alternative suppliers
- Develop supplier assessments through shared resources
- Cooperation with suppliers to improve sustainability and trust

2.3 Input presentation 2: Perspectives from the RE-SOURCING Roadmap 2050 on Mobility



Johannes Betz, a researcher at the Oeko Institute and member of RE-SOURCING, introduced the project's [roadmap for the Mobility sector](#), which sets out a vision for Responsible Sourcing in the sector until 2050.

His presentation focused on the targets of creating a level playing field; and, like Marie-Theres for the renewable energy sector, on circular economy and decreased resource consumption as well as responsible procurement, and discussed important actions and milestones for each of them.

For the circular economy and responsible procurement targets, the recommendations are similar to the ones in the renewable energy roadmap.

For the level playing field, the roadmap recommends a harmonisation of national and international legislation and standards and creating mandatory minimum standards, as well as more equity via the implementation of 'polluter pays' principles and border-tax adjustments and further strengthening international cooperation. In addition, efforts towards the formalisation of the ASM sector are needed to ensure responsible sourcing in this sector. His presentations included necessary actions and milestones for the three discussed targets, these are listed below.

Circular economy & decreased resource consumption

2025 milestones

- Increased resource efficiency and implementation of waste policies
- Set incentives for changing public behaviour of mobility
- Stop the growth of newly registered cars

2030 milestones

- Reach the peak of primary material demand in absolute terms
- Achieve major advance in circular economy
- Only sell EVs by 2035
- Decreased number of registered cars by 10% compared to 2021

2040 milestones

- Circular economy implemented in the EU
- Reduction of resource intensity per battery by 50% compared to 2021
- Decreased number of registered cars by 30% compared to 2021

2050 milestones

- Reduction of primary resource consumption by 80% for traction batteries compared to 2035
- Recycling rate of 90% for batteries
- No more vehicles with internal combustion engines on the roads in the EU

Responsible procurement

2025 milestones

- Widen the view of responsible sourcing to all three ESG pillars
- Implement standards for tracing raw materials
- Inclusion of mandatory supply chain due diligence for all materials in trade agreements within G7

2030 milestones

- Supply chain due diligence laws
- SLO successfully implemented at all new mines and recycling facilities
- 100% of purchased minerals in the EU comes from responsible sources or responsible recycling processes

2040 milestone

- Use of renewable energy along the entire supply chain in the EU

2050 milestones

- No more negative impacts
- Use of renewable energy along the entire supply chain globally

Level playing field

2025 milestones

- Polluter pays principle and introduction of border-tax adjustments
- Extended producer responsibility
- Harmonisation of sustainability and reporting criteria and EU mining and production policies
- Consultations with civil society in producing countries as a mandatory step in the permitting process i.e. free prior informed consent
- International application of responsible sourcing standards
- Formalisation of ASM is supported by all actors in the value chain

2040 milestones

- Achieving sustainable conditions in all pillars of sustainability in EU and all imports e.g. raw material, semi- and finished products

2050 milestones

- Global common understanding and fulfilment of sustainable production methods
- International level playing field achieved

2.4 Panel discussion: Stress test for Responsible Sourcing



Panel discussion: Stress Test for Responsible Sourcing



Jan Noterdaeme
CSR Europe



Cecilia Mattea
*Transport
& Environment*



Richard Gloaguen
*Helmholtz-Zentrum
Dresden-Rossendorf*



Ashlin Ramlochan
Anglo American

Key takeaways of the panel discussion

More collaboration:

- More collaboration along supply chains between different levels and stakeholders is needed - The way forward is a collaborative approach between industry, civil society, workers and policy makers
- Companies need to move towards collaborative and resilient supply chains to ensure an efficient transition towards responsible sourcing and a secure future raw material supply for Europe
- Support local communities to create and retain value from mining activities
- Engage communities, before (free informed consent), during (social and environmental due diligence consultation) and after (restoration and rehabilitation) mining projects
- Creation and strengthening accompanying measures for collaborative actions from governments and industry initiatives i.e. platforms or websites with clear rules of engagement aiming to bring together different actors and disseminating helpful information

New approach:

- Move away from market driven supply chains to purpose driven ones
- More streamlined and targeted conversations on responsible sourcing and the role of mining
- Create the right incentives from a policy side to encourage companies in strengthening their responsible sourcing actions and support their trading partners in doing the same
- Focus on new, alternative, ways to get raw materials – tailings, recycling, black mass – in order to reduce demand for primary raw materials

Further take aways:

- Big companies have the possibility to set the pace or to move first and incentivise other companies to follow on enacting due diligence commitments and incorporate responsible sourcing as a baseline for their activities.
- Critical Raw Material Act is coming next year, to increase the focus on trade deals as the EU cannot source everything that it needs internally
- Support the development of manufacturing in supplier countries, so the value is also kept in these countries
- Improve the global communication on responsible sourcing requirements to companies and other actors at every stage of global supply chains, in order to clearly define what is needed and expected from them
- Consumers, or the demand side, have the power to influence the actions of suppliers through their consumption patterns, it is therefore important to educate the customer base, as this will accelerate the establishment of responsible sourcing practices i.e. establishing mining as a driver of long-term well-being for local communities

Speaker Statements



Patrick Nadoll introduced this first panel discussion and asked the speakers to share insights on how big the gap between responsible sourcing ambitions and reality is, in the current global setting. He further asked the speakers to reflect on the question if we need to change our mindsets more drastically than we already have, or if it is enough to change our business models from short-term benefit oriented to purpose driven. As well as the question if these two are mutually exclusive and if all of this is achievable in the current geopolitical climate.

Jan Noterdaeme is the co-founder of CSR Europe, he said that when focusing on what is currently happening in Europe, we see that a majority of efforts of different actors are being spent on developing European regulations on due diligence. This is welcome by all actors, as it will help to harmonise the playing field, from which every stage of the value chain, but especially European downstream companies, can directly benefit. This is putting more focus on the duty of care, which needs to go hand in hand with due diligence efforts.

However, increased focus on the duty of care needs to be complemented with an emphasis on the duty to collaborate between different actors. Currently, Europe is not undertaking enough in terms of mobilising the companies for collaborative efforts and building capacity and providing accompanying measures in this regard. These measures need to go beyond European borders and into supplier countries, to show that European regulations and principles, which are based on values of fairness and responsibility, are actually effective for improving the livelihoods of workers and local communities. More efforts need to be taken in this direction from both policy and industry, as an issue we see nowadays is that when a company enacts certain projects locally, they are often alone in their efforts i.e. there is little support or willingness for collaboration from other actors.

Cecilia Mattea is the clean vehicles officer at Transport & Environment, she said that the increased demand of raw materials in the near future will indeed lead to an increase in mining activities. However, she points to the significant importance of sourcing secondary raw materials, mainly through recycling. Any new mining projects need to follow the highest social and environmental

standards, but simultaneously we need to increase our focus on refining and recycling, as these will be paramount to mastering the transition. Refining and recycling capacities within Europe need to be significantly scaled up in order to create the framework for a functioning secondary raw materials sourcing industry. This will allow, in addition to being better equipped to deal with future waste streams, to also properly recycle and refine existing stocks of mining waste in Europe.

She also made the point that all actors within the value chain have the duty to work towards functioning due diligence and responsible sourcing, it is indeed a joint effort and new policies and regulations need to consider the importance of sharing the responsibility to be effective. In addition to policy makers, Cecilia identified the finance sector to play a big role in fostering responsible sourcing. In order to leverage the biggest impacts we really need to know where the money is going and there should always be the priority to invest into projects favouring sustainability as well as generally tying investments to certain sustainability conditions.

Richard Gloaguen is the lead scientist at the Helmholtz-Zentrum Dresden-Rossendorf, he agreed that indeed there was a lack of collaboration in the sector in different aspects and at different scales. He lamented the paradox that there is a strong demand for mining i.e. increased demand for raw materials, but little willingness to actually engage in mining. The lack of collaboration and witnessed disconnectedness of actors stems from the fact that all value chains are currently market driven, the profit motive is still the top priority at every stage of the value chain, which makes it hard to track sustainability at every stage. Therefore, more collaboration and commitment is needed to move from market driven to purpose driven value chains.

Furthermore, such collaboration and openness can lead to increased awareness of responsibility amongst various actors. One such example is that customers are quick to blame the mining sector for sustainability issues, however, the demand for electric vehicles is steadily rising and consumers want these cars to be bigger and bigger, hence more materials intensive, which contributes to increased mining activity. So, ultimately the customer is driving and increasing something by their market decisions which they do not want (mining).

Ashlin Ramlochan leads the sustainable supply chain function at Anglo American, he stated that there needs to be a closer look on how legislations e.g. in Europe impact different regions of the world. It is easily underestimated how difficult it is for suppliers in mining countries to be able to fully engage with formalised and highly complex supply chains i.e. increased requirements on reporting amongst others. Europe needs to actively support these suppliers in building their capacity to be able to deliver the expected levels of due diligence and transparency in order to keep these actors in the supply chains and therefore ensure a supply of adequately sourced raw materials.

The COVID pandemic has forced companies to really analyse their supply chains and identify threats at different levels. Combined with an increasingly comprehensive policy landscape on responsible sourcing this has noticeably increased the commitment to transparent and resilient value chains. Indeed, the global economy is increasingly working towards putting the right controls and investments in place to satisfy all involved stakeholders while ensuring sustainability is respected.

One identified issue is the lack of data sharing amongst companies and industries out of fear of losing some competitive advantage. This is exacerbated by companies following different reporting criteria or standards which results in a lot of duplication and lack of interoperability. He sees the responsibility with policy makers to provide adequate regulations and accompanying measures to encourage and streamline the sharing of information.

3 Day 1 | Session 2: In Search of a Common Agenda - Aligning EU & Latin America Visions for Sustainability & Responsible Sourcing of Minerals

3.1 Input presentation 1: Latin American perspective on responsible sourcing – What is responsible in countries with high raw materials extraction?

Claudia Peña is a member of the technical committee of the International EPD system and has worked in the Chilean resource centre for mining and metallurgy for 25 years. She started by introducing the concept of criticality, saying that there are imbalances between the supply and demand of metals which get exacerbated currently through high geopolitical concentration of the primary production, a lack of substitutes and political instability. Indeed critical raw materials have a high strategic importance for the EU, but they are associated with a criticality that is determined by high economic importance, high supply risk, and lack of substitutes.

Producing countries such as Chile are focusing mainly on daily problems, she recommends for Chile to develop more capacities together with the trading partners in order to ensure that the materials are gained with considerations for social, environmental and economic sustainability and resilience.

To address criticality, circularity is a very good measure, where alignment with SDGs and life cycle thinking are taken as overarching principles of measuring circularity. In order to assess circularity, additional methods are needed such as life cycle assessments. Such LCAs should be done locally and globally and used as a complementary tool for sustainably and circular economy approaches. This should further be complemented with EPDs – environmental product declarations and responsible sourcing to show compliance with global standards.

Indeed global standards need to be applied, such as ISO TC 323, and high transparency is needed to avoid greenwashing, furthermore, sustainable finance indicators need to be included. Indeed, Chile needs to keep in mind global geopolitical situations, commercial aspects as well as amount, type and distribution of its reserves, as well as global trends in sustainability in order to be able to conduct proper criticality assessment.

We often approach the discussion of responsible sourcing and value chains from a linear perspective, so the circular economy, together with other perspectives such as life cycle assessments and environmental product declarations, can be a way to achieve collaboration and integration for responsible sourcing.

3.2 Input presentation 2: European perspective on responsible sourcing – What is expected of trading partners?

Dániel Krámer has extensive experience working in European Institutions, he is currently working at DG Trade and is responsible for raw materials and the trade with Latin America. He discussed how Russia's invasion has reemphasised the importance of resilient supply chains and securing the raw materials supply for the EU. This showed that the EU needs to strengthen partnerships with neighbours as well as other world regions, to diffuse the risk of interruptions to supply chains by ensuring that the sourcing is diversified in order to avoid significant dependencies on a single region.

Currently, there are three main objectives of EU trade policy. First, is to support the recovery and transformation of the EU economy in line with green and digital ambitions; second comes the commitment to shape global rules for a more sustainable and fair globalisation; and third to increase the EU's capacity to pursue its interest and enforce its rights. This translates into an approach of open strategic autonomy where the EU should and will act cooperatively where possible, but autonomously where necessary.

The EU focuses on free trade agreements with global trading partners to foster sustainability efforts. Indeed, trading partners have to commit to uphold and enforce proper labour and environmental standards in order to attract trade and investments. This can be ensured by their commitment to ILO conventions, biodiversity and climate protection actions and CSO consultation mechanisms. To ensure countries and regions not under the scope of free trade agreements commit to responsible sourcing, the EU uses memorandums of understanding (MOUs) to get commitment to the aforementioned criteria from trading partners.

To clearly define the direction of future EU raw material sourcing strategies, the EU will adopt the - Critical Raw Materials act in 2023. This will lead to a shared understanding of which critical raw materials are of particular strategic importance, it will improve the EUs monitoring capacity and identify mineral resources and critical raw material projects with a strategic interest for the EU, while ensuring high levels of environmental protection.

3.3 Panel discussion: In search of a common agenda



Panel discussion: In Search of a Common Agenda



Rafael Benke
Proactiva Results



Claudia Peña
*International EPD®
System*



Dániel Krámer
*European Commission,
DG TRADE*



Elizabeth Ana Bastida
University of Dundee

Key take aways of the panel discussion

Establish and strengthen partnerships:

- Define common goals as they help to steer actions of the different actors in a value chain. Take up responsibility globally not just locally, as the increase in e.g. Lithium demand is a global phenomenon
- Move from competition to collaboration in global mineral value chains, with a focus on downstream companies to collaborate and combine their efforts on responsible sourcing practices
- Creating platforms for collaboration and clearly defining the goals of these platforms to support companies, as well as other actors, to share information and create synergies between their approaches

Institutional actions:

- There is the need for additional and stronger actions from an institutional side to create a level playing field, create favourable framework conditions as well as support and monitor companies in their due diligence efforts
- Strategic international partnerships between countries are needed on a policy level to align policies and commit to international standards
- Trade agreements are useful to set standards and ensure all partners act responsibly

Further take aways:

- The discussion around mining needs to be elevated to a strategic level and the existing challenges need to be viewed and addressed from a bird's eye perspective
- ESG responsible investment is transformative, and should play a big role in achieving responsible sourcing

- The EU has a unique position in global trade and is seen as a responsible trading partner that aims to uphold values of sustainability
- A holistic approach is needed to clearly define the role of mining in the future, acknowledge its importance for the global economy while ensure it is done with respect for ESG criteria

Speaker statements



Emanuele Di Francesco introduced the session and said that it will deal with the cooperation between the EU and Latin America to align on a vision of responsible sourcing and how it can be implemented. As minerals and metals will be at the core of upcoming production and consumption systems, and we will be faced with challenges on how to ensure that the demand can be met responsibly. He asked the speakers to reflect on these upcoming challenges and discuss the landscape of

fragmented interests, with the two main counterparts being resource rich countries and mineral poor countries, and how can an effective collaboration between these parties be realised to generate win-win situations.

Ana Bastida is an expert on the law policy governance and international cooperation on mining and minerals and is currently a senior lecturer at the University of Dundee. She aimed to provide context on the current vision of mining in Latin America and where this vision leads. In recent years, we can see a change in the trends in Latin America in the approaches to and the role of mining within the economies. Nowadays it is more widely understood that mining needs to have a role of a catalyst of industrialisation and to provide input for other industries as well being included when it comes to questions of innovation and research matters.

Indeed, the commitment to responsible sourcing via new legislations on the one hand and the need to align with global standards and requirements from trading partners, has improved the situation for human rights and the environment. It is becoming clearer for local stakeholders that a holistic approach is needed, where on the one hand mining is acknowledged as a catalyst for other industries that needs to be integrated into the general economy, and on the other hand there is a strong push to interconnectedness of economic instruments, investments and trade with environmental and human rights instruments.

The challenges of responsible sourcing need to be viewed in the local and regional context and not always from a market perspective. For example, it is important to first identify the realities and issues for local mining communities and workers, as well as the national legislative framework. Once the challenges there are properly identified, they can be considered and addressed locally but also in the transnational governance of responsible sourcing in the form of global standards and trade agreements.

Rafael Benke is the founder of the consultancy Proactiva results specialised in risk management and ESG performance and has extensive experience in human rights cases around the world. He said that the increasing regulations and agreements are conducive for a better business performance, but the question is still whether or not they are enough. In regard to how pressing the issues are that we are facing there needs to be more targeted discussions towards how to implement an effective common agenda, an important consideration is to move on from simply a common set of tools towards a more aligned strategic approach to face the current challenges.

Considering how big the challenges are, the discussion is often not considering the big picture enough. There is a lack of effective planning towards e.g. how to ensure free prior informed consent if the

demand for lithium will increase manifold in the next months. As mentioned before the discussion about a common agenda needs to include the large-scale strategic level of how to master these challenges.

Focusing on identifying the actual European demand and Latin American supply and how this can be matched while practising responsible sourcing is of utmost importance. This needs to start at the very beginning of the value chain and consider sustainable development in a responsible way, and then further consider aspects of sustainable finance, the necessary pace of development to match the supply with the demand of the new economy in the next years and the best ways of effective collaboration of all supply chain actors. Only by taking such a holistic approach to planning can we achieve an actual responsible approach. Indeed, a key question to be resolved is on the strategic role of mining in addressing the challenges we are facing while mastering the green transition. The time is pressing.

Daniel Kramer said that an ongoing discussion of the needs of both sides e.g. the EU and its trading partners, is important to ensure an alignment of efforts and creating win-win situations. The EU has deeply engrained values of sustainability, the consumers expect a sustainable approach of investors and companies trading with Latin America. Therefore, the EU needs to make sure that investments into CRMs are being made to protect the long term interests of both sides, by implementing a truly sustainable approach and bringing value to Latin America and the EU alike. Indeed, it is by championing sustainable practices in investment and collaboration, with a focus on creating lasting win-win situations that the EU differentiates itself from other global powers.

Claudia Peña echoed Daniel's statement and mentioned a study that found that citizens in Latin America see Europe as a preferred trading partner because of its values. The attitudes towards Europe are positive, as it is perceived as a force of good in terms of democracy, when compared to past dictatorships in Latin American countries and other illiberal global powers. This sets a good basis for increased collaboration, which is very much needed to ensure that the rising demand for raw materials can be met sustainably.

4 Day 2 | Session 3: Digital Solutions for Supply Chain Due Diligence – A reality check for companies what to expect from blockchain & Co.

Alexander Graf introduced the session saying that it will be a deep dive into selected topics of digital and technological solutions for supply chain transparency. Companies are held increasingly accountable for their supply chains, so there is growing pressure for them to collect information on the performance of their partners in their supply chains. Several digital solutions have emerged offering ways how to automatize these information flows to increase transparency and enact due diligence.

Concretely, this session provided a reality check along three lines: Firstly, **where do we stand** with these solutions (e.g. Blockchain, materials passport, data spaces, peer to peer etc.), what to expect from them and what are major challenges. Secondly, focusing on where **collaboration is needed so these solutions can work**, and how these solutions can facilitate collaboration to enact Responsible Sourcing of raw materials; and lastly, **what is the impact that these technologies can have**.

4.1 Input presentation 1: The Role of Emerging Technology to Support Sustainable Development in Supply Chains

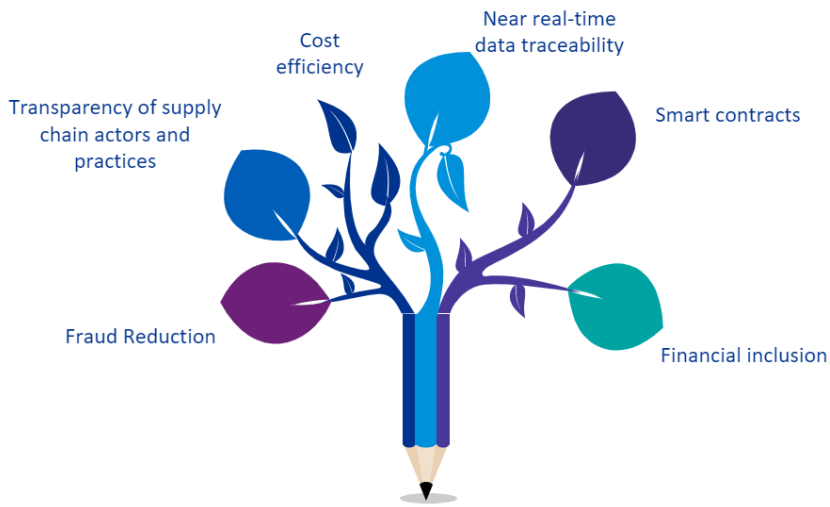


Rashad Abelson is a legal expert at the OECD centre for responsible business conduct working on due diligence standard with a focus on government implementation of OECD due diligence commitments. He briefly introduced the OECD ‘Due diligence guidance for responsible supply chains of minerals’ and discussed the responsible sourcing framework that it provides for companies all along the supply chain, aiming at promoting responsible investment and sustained engagement to avoid harmful de-risking, putting a special focus on ASM activities. Indeed, many countries and international standards have based their requirements for responsible sourcing on this guidance, and it has been codified into several national and international legislations.

The emerging technological solutions are very useful to promote transparency in supply chains, as they effectively address the challenges of fragmented and complex supply chains, allowing companies to engage responsibly with every actor along their supply chains.

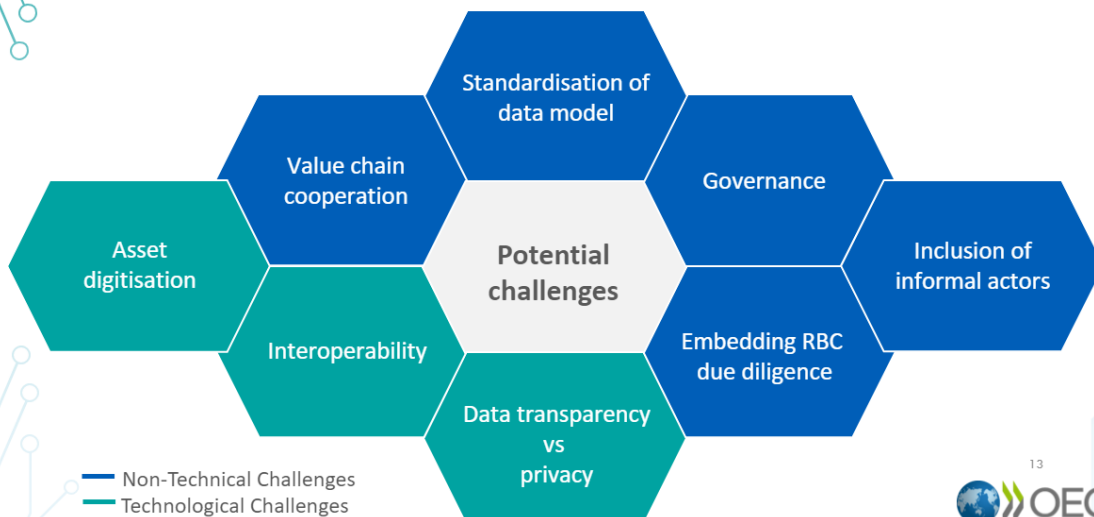
When all actors along a supply chain are mapped out and agree to this approach, the benefits are a reduction in fraud, increasing transparency of supply chains and actors, cost efficiency and financial inclusion for more marginalised groups.

Desired outcomes of tech solutions



Some challenges include difficulties of value chain cooperation if actors have different approaches (i.e. different technological solutions) and therefore want to engage in different ways; the need for a standardised data model as well as rules of governance, transparency, effective interoperability; and costs of implementation. In addition, less technologically sophisticated actors will face potential barriers in establishing such solutions due to the costs of implementation and technological infrastructure required, this holds especially true for the ASM sector.

Challenges in blockchain adoption



The main findings are that Blockchain is a powerful tool, but is not suitable for everyone. It is important to keep in mind that Blockchain cannot replace due diligence on the ground (via site visits, interviews and reports from workers and local communities), as it can help to identify anomalies along the supply chain but will not eliminate the first mile risk.

Some important take aways are that all actors should be consulted and a functioning value chain cooperation is necessary. It is important to acknowledge that Blockchain is not for everyone, but companies using it properly can unlock a lot of potential from it, ultimately, it should facilitate market access and not act as an additional barrier.

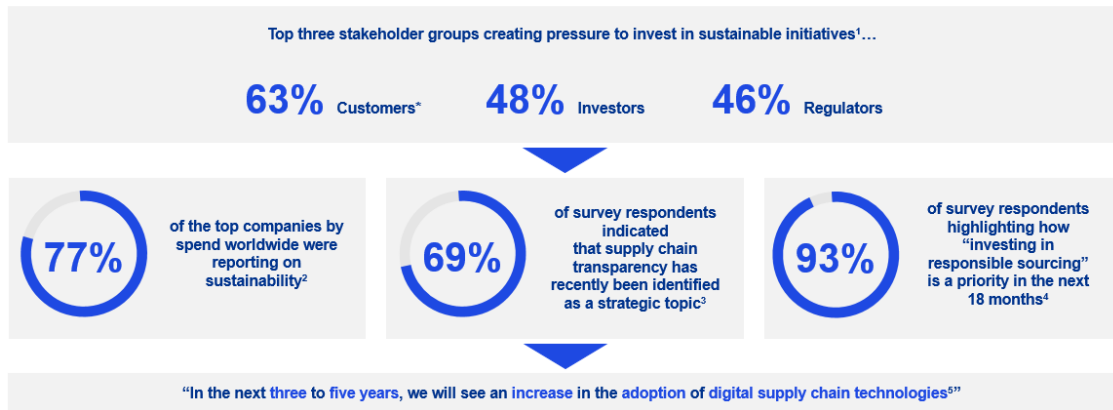
4.2 Input presentation 2: Digital Solutions for Supply Chain Due Diligence - Some business perspectives



Audrey Daluz from KPMG is an expert on supply chain issues and has worked with multiple clients to implement digital supply chain solutions; she followed up on Rashad’s presentation by covering the business side of Blockchain. Businesses are under growing pressure from customers, investors and regulators to build transparent and sustainable supply chains. Reporting on sustainability and investing in responsible sourcing is becoming an increasingly strategic topic. Digital

solution will play a crucial role in supporting companies to make their supply chains transparent and there will be an increasing adoption of such technologies in the next 3-5 years.

Businesses are under increasing pressure to build sustainable & transparent supply chains



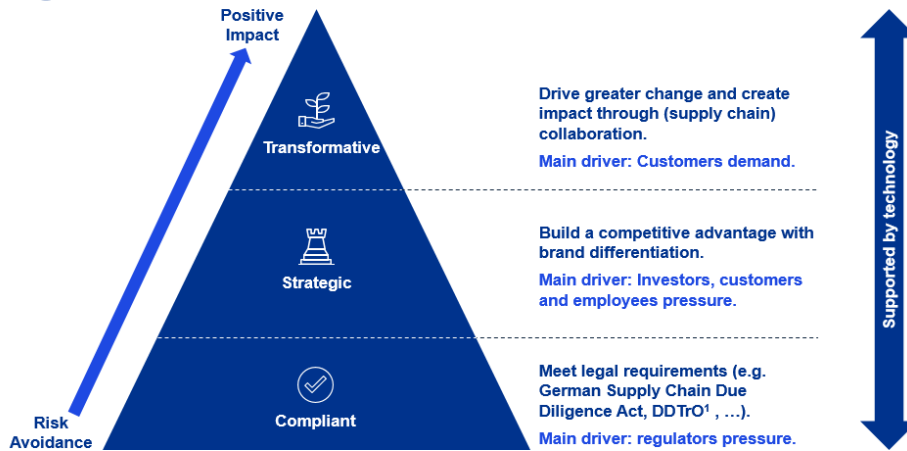
Source: ¹Gartner Sustainability Survey 2020 ; ²KPMG Survey of Sustainability Reporting 2020 ; ³KPMG Adapt to new trends with supply chain transparency - Thought Leadership 2021 ; ⁴Gartner Future of Supply Chain Survey 2020 ; ⁵Gartner Predicts the Future of Supply Chain Technology - Insights Article 2022 ; *customers also includes consumers



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The implementation and maturing of responsible sourcing approaches by companies usually start at risk avoidance and move towards positive impact. Companies will start with compliance with regulatory demands, towards strategic considerations to gain a competitive advantage to a transformative stage to actually create impact and work together towards goals for the common good e.g. preserving biodiversity.

Responsible sourcing approach differs based on a company's specific goals



Source: Figure adapted from Gartner - Different Approaches to Responsible Sourcing
 Key: ¹Ordinance on Due Diligence and Transparency in relation to Minerals and Metals from Conflict-Affected Areas and Child Labour
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There is always the challenge to decide which technological solution is best used for which purpose i.e. when data from multiple actors is supposed to be shared amongst each other, the actors need to decide if they want to use traditional means, centralised-, or distributed platforms. It will depend on the specific needs of the different actors and the levels of trust amongst them.

If there is a trusted, neutral, party such as an industry association, a centralised platform hosted by them, with clear rules of engagement permission levels and governance can be a good solution to share data amongst companies. In a supply chain with low levels of trust, a distributed platform would be a better solution as no single entity is the owner of the system. However, even there, clear rules of engagement and governance need to be established and followed for effective collaboration.

She concluded her presentation with 4 main take-aways:

- Solutions should be based on functionality responding to the current needs and evolutions of future needs. It should be flexible to be able to adapt over time, and should also be seen as a means to an end and not replace adequate background efforts.
- It is important to define what data a company actually needs, as complex technologies can complicate things if they are not actually needed.
- It is important to define the value for suppliers and informing them of how they can benefit from buying into this new technological approach. In these efforts the level of success will often depend on the position and importance of the company in the value chain.
- Finally, it is important to start small and build the solutions up from there i.e. future needs should be considered but the initially system requirement needs to start small.

4.3 Panel discussion: Digital Solutions for Supply Chain Due Diligence



Panel discussion: Digital Solutions for Supply Chain Due Diligence



Nathan Williams
MineSpider



Tanya Matveeva
KamniChain



Anna Stancher
Responsible Minerals Initiative



Niels Angel
BMW, Catena-X

Main Take aways of the panel discussion

Business case of blockchain

- Do not try to tackle everything at once, be clear about the focus and desired outcome of adapting technological solutions and ensure constant and thorough communication between people on the ground and tech-people.
- Companies should look beyond just traceability and see how blockchain technology can further benefit your company
- Education and awareness raising of the functionality of these solutions is needed to diffuse the fear and reservations of companies, coming from a lack of understanding, to adopt these technologies
- Companies should be encouraged to start using these technologies now to get early traction, and implement and prove that they can work internally, instead of having to catch up later

More collaboration and interoperability

- Companies should make sure that their chosen blockchain solution is interoperable with relevant networks in the industry, and be clear on what they want to interoperate and how to interoperate it.
- Clear rules of engagement and governance need to be established in blockchain systems to generate trust and ensure the effectiveness of sharing data amongst different actors
- People need to be trained and then trusted to adequately transfer data from one system to another, without it, interoperability, especially in the early stages, will be very difficult

Other take aways

- There is a mismatch between the people on the ground and the tech-people, the former do not fully understand the technology and the latter are unaware of the actual needs and challenges on the ground
- There needs to be solutions to integrate these new technologies with trusted third-party verification methods
- Blockchain can greatly improve communication between different actors, but it cannot replace on the ground actions for due diligence, such as site visits and consultation with local stakeholders.
- In addition to a proof of concept of the business case of this technology it is very important to provide a proof of concept how blockchain can actually support due diligence and transparency measures and inform all relevant actors of it

Speaker statements:

Nathan Williams is CEO at MineSpider, on the topic of biggest challenges that companies are facing he said that people and companies do not know exactly what they want as the topic is a very complex one. From upstream due diligence, to cross border transactions to downstream assurance for companies to be compliant with laws, all these problems are very different and require different approaches to be addressed. Blockchain is another tool that we have to get better data, but often companies miss to define the most important aspects of their problems first. Indeed, he often sees companies thinking about all solutions at once and trying to use Blockchain to facilitate these. However, there is a prevalent issue that the people experiencing the issues first hand do not know enough about the technology and the technological experts do not properly understand the needs to on the ground.

When it comes to collaboration between companies it is important that companies start to share data with each other to get a feeling of the common issues and challenges and equip them with the tools and experience to overcome these issues. He expects that in the next years, one efficient Blockchain standard will emerge as the winner and will take over the market. This will greatly streamline and facilitate questions of interoperability and data sharing as this emerging approach will set the background infrastructure for different providers. What is important to remember now is that the economy is in the early stages of blockchain adoption and there will be some issue that naturally come with the adoption of new solutions, but these will be gradually mastered over time.

Tanya Matveeva is CEO of KamniChain she discussed the questions of whether or not blockchain can reduce the burden of supply chain transparency and due diligence for smaller actors. She said that currently miners see blockchain as an additional expense incurred to comply with client requirements. However, it is important to communicate to these actors the many benefits that they can draw from this technology as there are additional elements such as facilitation of payments and smart contracts that mining companies and other upstream actors can benefit from. Even the ASM actors can benefit from this technology, as we have seen that it benefited small upstream actors in other sectors such as coffee or cotton farmers in developing countries.

When it comes to collaboration between actors, blockchain can even increase trust between parties, as it is a single, unmodifiable source of truth that can be easily verified by a trusted third party. Indeed, companies will have to be more responsible with the data they publish and add as this data can be seen forever, so they will have an incentive to ensure that their data is as accurate as possible. In terms

of collaboration, there needs to be more education for upstream actors to address their main concerns that are generally about transaction costs and big carbon footprints. Education on these topics as well as helping them understand the data security behind the technology will help companies become more open towards the adoption of these technologies.

Anna Stancher works at the RMI, she said that recently new regulatory requirements in Europe such as the battery regulation have put increased focus on, and need for, digital solutions, which is further being encouraged from the shift to circular business models. These technologies can be an attractive way for downstream companies to comply with the increasing requirements for due diligence and supply chain transparency.

However, currently, she still witnesses many challenges, hesitations and difficulties in the testing and adoption of these technologies, from both up- and downstream actors. First, there is the question of interoperability and how to avoid duplicating work in large and complex supply chains in different materials are traced with different blockchain systems. Furthermore, downstream companies are looking at the additional cost and workload to implement such systems, and are worried different suppliers having different approaches which would put the burden of harmonisation on this company. Therefore, there is a strong interest towards streamlining, standardisation and establishing a common approach. In addition, companies are worried about the human factor, as the inputting of data which requires certain levels of training and competencies needs to be done by a person. So there is a big question on how these digital technologies can be linked to already existing means of verification.

So, raising awareness of what the data will be used for and how companies can benefit from these technologies, as well as addressing the major concerns of companies is necessary to get them on board of adapting these technologies in an effective way.

Niels Angel works at BMW and on the development of Catena-X which is the first collaborative open data ecosystem, with secure peer-to-peer data exchange, to digitise the automotive supply chain. It aims at connecting actors all along the value chain including recyclers, dealerships, industry and upstream actors etc. This is a big challenge as the automotive value chain currently involves 275 thousand entities.

There are several challenges at places where the value chains are not so well connected yet, with the advancement of the technology and uptake along value chains. However, they will start with materials specific, highly relevant value chains first. Using technology to foster interconnectedness of all actors will help to build trust between the different partners.

They are aware of the worries of companies to lose their competitive advantage if they share too much data, so secure data and clear rules of engagement are important. One approach to avoid the diffusion of data on all levels is taking a one up, one down approach, where companies will be able to only see the whole reported data of their direct suppliers and their direct customers. In cases where more transparency or communication is needed, there needs to be clear governance guidelines to explain why and how this should be done.

5 Day 2 | Session 4: Chasing Unicorns? How Able is the Mining Sector to Extract Responsibly Sourced Minerals for the Green Economy?

5.1 Input presentation: Efforts and Impact of Sustainability in the Mining Sector - Some Food for Thought



Masuma Farooki consulting director at MineHutte and member of the RE-SOURCING project, opened her presentation by saying that we currently understand very well the challenges, needs and realities of the demand side. In her presentation, she will discuss the supply side of the sector and talk about the realities for resource rich countries and extractive companies. The main focus will be to look at the ability for the mining sector to extract minerals responsibly while meeting the demand for the green transition, or whether such an ambition is more like chasing a unicorn.

From a regulatory side there are a plethora of global standards e.g. ILO or IFC, that have focused on sustainability in mineral supply chains for several years. These are complemented by mineral specific standards e.g. Coppermark, ASI. In addition, there are larger alliances that look at the same topics e.g. RMI or IRMA, as well as global reporting standards e.g. GRI or ICMM, focusing on ESG criteria that establish benchmarks of what a sustainable supply is.

Regardless of these standards and regulations there are some persisting challenges from a country and company perspective. For example every country and company operates in certain geopolitical environment, there is the projection that global geopolitical risks to mineral supply will increase in the next decades.

The outlook for a secure mineral supply in the short to medium term looks different for different materials. When looking at copper, there is no significant increase in planned projects around the globe to actually increase the supply. This means that the short term demand will still be met e.g. until 2025, but if no efforts are taken soon to increase the production there will be a lack of supply leading to price increases and general supply uncertainty. Similarly, when looking at Cobalt, the DRC is still the main global producer and the level of supply is not projected to develop in line with the increase of global demand. This will lead to issues as the supply will not be able to satisfy the demand.

When it comes to the Lithium demand, it seems like the increasing demand will be met, as Australia and Chile are ramping up production. For the Nickel supply, we see that Indonesia is projected to be responsible for 34% of the global supply. This means that ensuring sustainability in its sourcing will be

highly dependent on the efforts of one actor, Indonesia, in terms of ensuring responsible sourcing. Such dependence on a single actor poses a risk to sustainable value chains.

She asked the question whether or not the achievement of sustainable and responsible mineral supply is wishful thinking, that has been conceived on the demand side with the assumption that it will all come together eventually, and are we missing the opportunity to establish the necessary practices and tools for the supply side while being too focused on the demand side.

5.2 Panel discussion: Chasing Unicorns?



Panel Discussion:

Chasing Unicorns? How able is the mining sector to extract responsibly for the green transition?



Amanda van Dyke
ARCH Emerging
Markets Partner



Ângela Viana
VdA Vieira de
Almeida



Andrew van Zyl
SRK Consulting South
Africa



Mark Fellows
Skarn Associates

Main take aways of the panel discussion:

Drivers for responsible sourcing

- Linking investments to conditions of responsible sourcing practices is a major driver towards ensuring a sustainable minerals supply, especially smaller companies that are fully dependent on investments can be moved to implement responsible sourcing through this
- There is a new generation of managers and engineers, that have ‘grown up’ with ESG considerations and will positively drive the transition towards responsible sourcing
- New mining companies and operations will be built to follow much higher standard as the old generation, this will be transformative for the sector

Support the supply side

- There is the need to homogenise standards in the mining sector, ideally converging them all into one global standard to facilitate compliance and level the playing field
- The demand side, e.g. the EU, needs to focus on the supply side and support these actors (such as governments and extractive companies) to ensure they will be able to meet the increasing demand in a sustainable way

- There is a lack of capacities for local governments to implement and enforce regulations on the mining sector, to address these issues there should be increased funding to non-OECD countries in order for them to develop the capacities to enforce their regulations
- Mining companies are often overwhelmed by the amount of regulations and customer demands to comply with, more harmonisation and guidance is needed

Other take aways

- The industry is on a bumpy but upward trajectory towards greater accountability and sustainability e.g. ESG discussions take up a lot of the agenda at every major mining conference nowadays
- It is important to understand and acknowledge the contextual nature of what responsible sourcing means for operations around the world e.g. a cobalt operation in the DRC will have other risks and requirements from a Lithium operation in Australia
- Companies need to work towards aligning competing internal objectives collaboratively, and take sensible compromises where internal KPIs are opposed to each other
- It is important to define system boundaries to use as the framework for responsible sourcing to be clear what gets included and excluded
- There is a lack of clear focus when it comes to the discussion of responsible sourcing, e.g. too little attention is being paid to what is happening inside of mining companies, or are mining companies being asked to deal with issues that should be solved by other actors in the supply chain

Speaker statements

Masuma Farooki briefly introduced the session and said that the focus of this panel discussion will follow the input of her introductory presentation and focus on two aspects. On the one hand, what companies are doing, and on the other hand, what countries are doing to increase the supply and master the related challenges.

Mark Fellows is CEO of Skarn associates and working on creating benchmarks to help assess sustainability across companies and assets in order to compare them with each other, in his statement he discusses how the companies are actually performing on the sustainability standards that are expected from them. He said that companies have only really started to publish sustainability reports in the mid-2000s, so we are currently not even two decades into a very long journey. However, in this time, there has been a major change in global industry in terms of governance and compliance. So, the industry is on a bumpy, but upwards, trajectory towards greater accountability and sustainability.

However, it is undeniable that there are still major problems within the mining industry, and when these culminate in catastrophes, such as dam failures, they attract global media attention. On the other hand, it is important to acknowledge the positive developments such as that ESG topics are making up a big part of the agenda at any mining conference, and while the conversations are not targeted enough, they are becoming more substantive.

In his work on gathering the numbers to help such conversations to be held on an empirical level on criteria based in reality, he still sees difficulties on the effective measuring and reporting of social impacts, but there have been great improvements in environmental reporting.

Ângela Viana is managing associate at VD associates and is an expert on the legislative and landscape and voluntary compliance approaches of companies. In her statement she focuses on the questions how much of the industry's actions towards sustainability are driven by regulations and compliance as opposed to voluntary changes. Different departments within companies will have different concerns and therefore take different approaches. Where the legal team is highly focused on compliance with regulations and standards, business teams are faced with the pressure to meet client demands and will therefore not necessarily be fully focused in compliance. Indeed, in recent years, companies are often overwhelmed in the face of the amount of standards and regulations they have to comply with.

The main focus will always be in the regulations in the current jurisdictions e.g. in African countries there will be a lot of concern and regulatory pressure for social sustainability with focus on human rights and corruption. But the local governments often lack the resources to properly enforce these regulations and ensure that companies operate within the regulatory framework.

Major and junior companies tend to have different approaches in this regard. As major companies are very risk averse and ensure everything is done by the book, as they are also driven by reputational questions, stock exchange and investor pressures, and regulations in the country where they are headquartered, junior companies on the other hand are faced with less of these pressures. However, no matter the size of the company, when it comes to compliance with standards and regulations, companies will always seek to comply with the standards that are relevant for the clients they are interacting with.

Amanda van Dyke is managing partner at Arch Emerging Partners where she developed the sustainable commodities strategy and has extensive experience on the financing side of extractive projects. She discussed the realities and motivations of junior companies to enact principles of responsible sourcing. In general, junior companies are paying a lot of attention to compliance with sustainability standards as they are highly dependent on money from investors, which depends on the ESG performance. One major issue that big companies are facing is the high cost of making already existing mines, built according to old standards, compliant with new standards. Therefore, operators of new mining projects such smaller companies entering the market, have an advantage over the big players as they can plan and build new mines according to current standards. The biggest incentive to do this is the access to capital with conditions, as every investor or lender will look at the ESG performance and compliance with standards before providing funds. Indeed, most investors are willing to pay more if an operation adheres to very high ESG standards.

A major question is still about which standards to use, and this is a question that many companies are faced with. As all standards cover similar things, she suggests to select two or three that are fitting for this specific operation and plan the mine accordingly. This will lead to the next generation of mining companies to be operating to very high ESG standards, which will be transformative for the sector. To further facilitate this transformation, there is ultimately the need to homogenise the standards and converge them all into a single standard for the mining industry.

Andrew van Zyl is CEO of SRK Consulting, supporting mining companies on all questions relating to strategy, engineering and business development. He discussed the major struggles inside of mining companies in regard of the pressures to consolidate a variety of requirements. Companies often have

competing objectives, e.g. the pressure to procure as cheaply as possible can compete with the pressure to procure locally. In a large organisation this can make it impossible for all objectives, or KPIs, to be met as they might be opposed to each other. It is therefore important for different departments to communicate with each other and strategically plan their approaches in order to come to good compromises. Compromising might not be possible for every area of the operations but certain areas can be focused on to align competing objectives collaboratively.

In recent years, many changes have happened to organisational culture and values, starting with enacting health & safety for workers, to consideration for the environmental challenges, to the broader social challenges and then to issues of governance. Many managers and engineers have now worked their whole careers in settings where sustainability and responsibility are valued and have therefore, adopted these value. These people are now being promoted into decision-making positions and will have the power to implement such commitments and follow through with them during their time at the company.



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