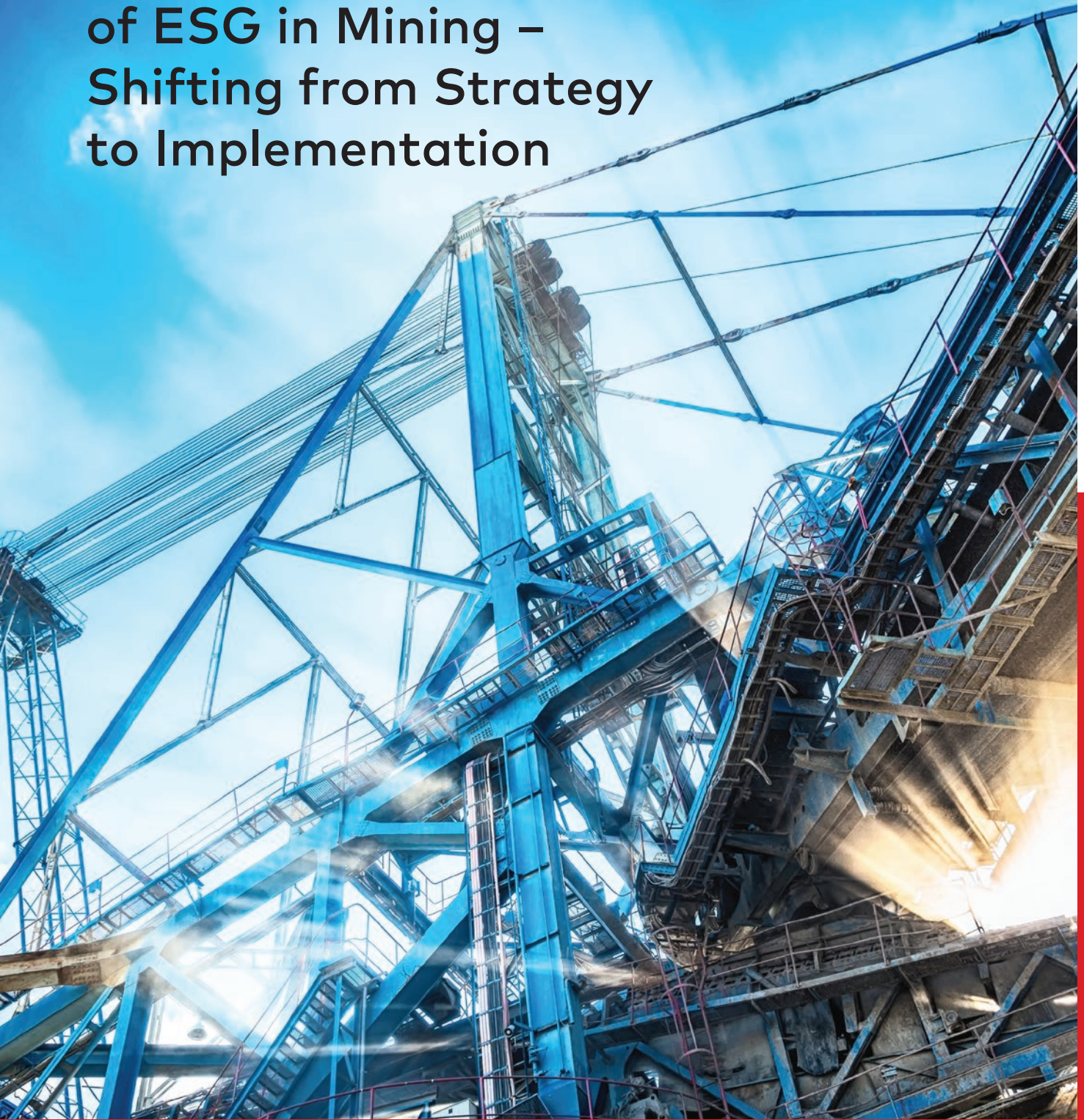


Accelerating the Impact of ESG in Mining – Shifting from Strategy to Implementation



dss⁺

Protect. Transform. Sustain.

The mining industry is well aware of the need to improve its environmental, social and governance (ESG) performance and reputation. How it does so and the speed at which it demonstrates change are what will make the rapid ESG transformers stand out to investors and communities alike. With pressure and scrutiny from stakeholders only set to increase, how can mining companies integrate ESG into their operating model, scale up change, improve ESG governance, and measure as well as communicate impact?

Accelerating the Impact of ESG in Mining – Shifting from Strategy to Implementation

Introduction

As the focus on climate change intensifies, numerous mining companies have set ambitious corporate sustainability goals and several aim to reach net-zero emissions before 2050. But how quickly they get there and the steepness of the trajectory they follow in their pursuit of ESG goals will have a large effect on their impact. With recent environmental and social catastrophes fresh in their minds, mining companies are aiming for accelerated and more visible change. Not only have several companies appointed new board members with extensive ESG and sustainability experience, but metals & mining companies are also increasingly linking remuneration for senior executives to measurable ESG improvements. A steep rise in the percentage of executives whose remuneration is partially based on ESG metrics is apparent today compared to five years ago, as shown in Figure 1. At the same time, we can observe that the decarbonization ambitions of mining companies is not yet fully reflected in specific GHG emissions incentives for executives, with less than 50% of sample miners having made a clear step forward.

Despite this effort to drive ESG performance from the top, the UNEP's report on Sustainability Reporting in the Mining Sector¹ still highlights "the lack of a global common vision for the sector in terms of what constitutes sustainable operations for mining, including Key Performance Indicators at the mine-site level." It further criticizes most large mining groups for not moving reporting "from the global corporate level to a more granular, mine-site level". And according to the Responsible Mining Index², effectiveness of environmental responsibility lags about 50 per cent behind stated commitment. Moreover, recent "greenwashing" scandals will further increase the level of scrutiny and demand for more standardized, detailed, and transparent reporting requirements of actual ESG performance and impact. So how can mines move from ESG strategies to effective implementation while communicating measurable ESG impact in greater detail?

"ESG has been central to our thinking and strategy since 2003. It is not new, but pressure on financial institutions is starting to reflect on us. It actually feels a little delayed. We had expected it to come way earlier."

VP, precious metals company

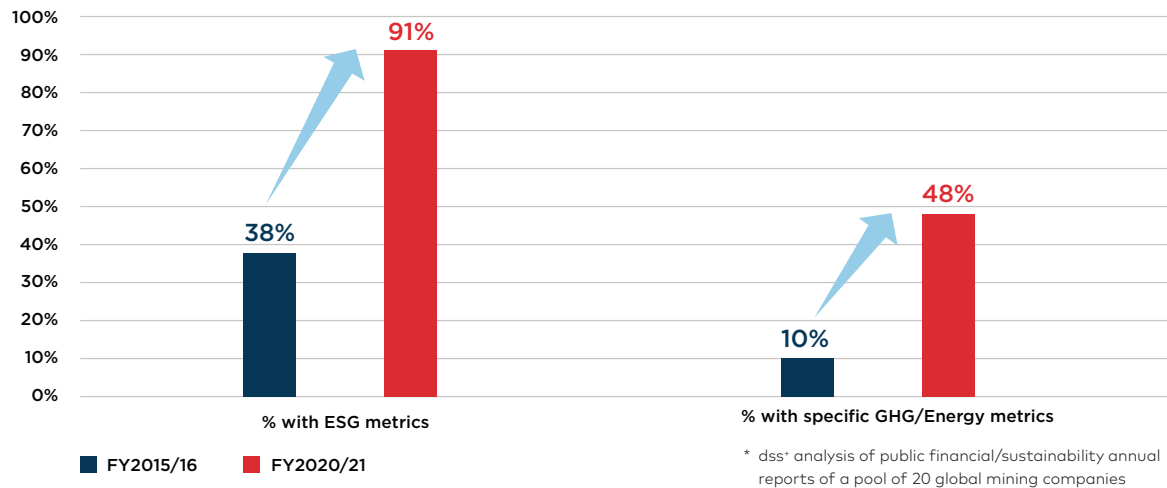


Figure 1: ESG metrics integration into mining executive remuneration – Variation between 2015/16 and 2020/21

ESG impact expectations on the rise

ESG is now seen as one of the biggest challenges and opportunities facing the mining sector. It is however not new to the industry which has dealt with numerous ESG aspects for a long time. What has changed is the heightened expectations and greater involvement of the financial community, creating opportunities for proactive metals and mining companies to distinguish themselves by generating value sustainably and minimizing business risks.

In this context, we have been witnessing a shift from a focus on ESG compliance and reporting to bolder commitments with

measurable targets as well as greater transparency in reporting progress. Organizations are changing from viewing ESG as a functional necessity to a way of doing business, for example by setting clearer direction and progressively re-aligning decision-making and capital allocation with new aspirations.

The importance of achieving and demonstrating impact in ESG performance affects all fields, not only the ability to attract capital or projects. With the more nuanced diversification of financial instruments, bank loans may, for example, be tied to emission reduction levels. Companies without a compelling and systematic approach to addressing material ESG gaps, or those who are unable to show actual impact on critical ESG aspects are finding that it is more difficult to secure funding, obtaining permits or insurance coverage, attract talent, and maintain their social license to operate.

Across leading metals & mining companies up to **30% OF CEO REMUNERATION** may be linked to ESG metrics³



Effectiveness of environmental management by metals & mining companies **LAGS 50% BEHIND** stated commitment⁴



International Council on Mining & Metals (ICMM) introduces **NEW ESG MINING STANDARD** in 2020



Global assets under management invested in sustainability funds and portfolios predicted to reach **\$53 TRILLION** by 2021, accounting for more than 1/3 of projected total AUM⁵



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"First tier organizations will think about and incorporate ESG, second tier won't get investments. Not doing ESG well will mean insurance will be a challenge and it will be a barrier to entry on stock exchanges."

Non-Executive Director, leading iron ore company

In this context, it is no longer enough to set long term ambitious goals and disclose a wide array of metrics. What will convince investors and other stakeholders are clear plans and systems of measurement that drill down to mine-site level and demonstrate actual impact. That is not an easy task considering the wide range of aspects that play into ESG, but it makes it ever more important to define and implement the right approach toward the goals, ensure timely progress and impact as well as build resilience to be able to adapt to ever changing expectations, scenarios, and regulations.

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ores for metals
ng companies
June 2021

Introduction of
**NET-ZERO
STANDARD**
by SBTi
in October 2021,
a science-based
framework for corporate
net-zero strategies




Global issuance of
sustainability-linked debt
instruments set to
SURPASS \$200 BN.
in 2021,
UP NEARLY 300%
on 2018 levels⁶


Mining companies
come under
**CLOSER INVESTIGATION
BY THE INSURANCE
INDUSTRY**
for their ability to
meet ESG criteria⁷

The London Metals Exchange
is due to
roll out
**RESPONSIBLE
SOURCING
PROTOCOLS**
by 2022

An HKE Company

ESG material aspects in mining

For decades, mining companies have actively been identifying, assessing, and managing a range of ESG aspects such as health & safety, water & wastewater, waste, atmospheric emissions, community relations, labor, and supply chain practices, as well as corporate governance, diversity, and inclusions to name a few.

But the strategic relevance of specific ESG aspects have rapidly escalated in recent years at executive and board level. These include, in particular:



Climate change, GHG emissions and decarbonization – The majority of mining companies have set

GHG emissions reduction targets with both long term horizons (e.g. 2040-2050) as well as medium to shorter term horizons (e.g. 2030 or before). The focus has recently shifted from GHG emissions reporting and target setting to defining and executing viable and accelerated paths to Net Zero, in alignment with global climate scenarios and foreseeable trends. Reducing energy consumption, switching to renewable sources of energy, electrifying mining equipment, offsetting and increasing integration of circular economy principles are all on the agenda. At the same time, the industry is pivotal to the energy transition. As a recent World Bank Group⁸ report points out, "Over 3 billion tons of minerals and metals will be needed to deploy wind, solar and geothermal power, as well as energy storage, if we are to achieve a below 2°C future." Mining companies are being called upon by the International Council on Metal & Mining to take further action to address climate change. Increasing resilience of operations and surrounding local communities to severe weather events is a strategic imperative.

	Environment						Social Capital				Human Capital			Business Model & Innovation				Leadership & Governance					
	Air quality	GHG emissions	Energy management	Water & wastewater management	Waste & hazardous material management	Biodiversity & land stewardship	Human rights & Community relations	Access & affordability	Product quality & safety	Selling practices & product labelling	Labor practices	Employee health & safety	Employee engagement, diversity & inclusion	Product design & lifecycle management	Business model resilience	Supply chain management	Materials sourcing & efficiency	Physical impacts of climate change	Business ethics	Competitive behavior	Management of legal & regulatory environment	Critical incident risk management	Systemic risk management
Exploration		●		●		●	●				●	●	●		●			●	●		●	●	●
Mining	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
Processing (incl. concentration, smelting, refining)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Transportation/ Logistics	●	●	●		●	●	●				●	●	●			●	●	●	●	●	●	●	●
Mine Closure	●	●		●	●	●	●	●			●	●	●	●	●			●	●		●	●	●
● Typical major material aspects ● Other potential significant concerns																							

● Typical major material aspects ● Other potential significant concerns

Figure 2: dss* view of typical ESG material aspects across the mining value chain (simplified). Re-elaboration of SASB Materiality Map



Water management – The visible impact of climate change on the availability of water in stressed areas – both scarcity or flooding – and the potential contamination of superficial and underground water quality from inadequate mining operations require companies to drastically re-think water use and management in their operations. Drought or flooding are among the major risks to operations continuity. Some of the most impactful incidents that the industry has experienced in the past have been related to large contamination of water bodies or flooding of underground shafts or open pits. The cost of water management can represent 10-15% of total mining spending⁹ and is expected to rise further. At the same time the competition for limited fresh water sources poses key challenges to the future viability and sustainability of mining operations.



Biodiversity and land stewardship – Sensitivity to the loss of biodiversity has dramatically increased across the industry in the last decade. The majority of mining companies (just over 50%) publicly disclose data on biodiversity-related risks and tier 1 companies have established focused improvement targets and programs with more transparent disclosure on commitments and progress made.



Community and broad social and cultural heritage aspects

– The multifaceted social aspects – from respecting diversity, deeply understanding the values and needs of various community groups, social disparities and wealth inequalities, broader community well-being and longterm health, etc. – are increasingly critical and some companies are already shifting from “earning the social license to operate” to “creating social value.”

“There is a tension between the drive for automation and job creation. Mining companies need to understand the transformation internally and externally and consider how it will connect with the broader social agenda.”

Executive Head of Safety & Sustainability, major global mining company



Future of work and social implications

– The acceleration on digital and technology transformation will have profound implications to the nature and availability of jobs over the next decade, with related social implications in fragile societies and economies that are yet to be fully understood and tackled strategically and systemically.



Governance – Underpinning the above, there is a need to further improve corporate governance.

If mining companies want to enhance their ESG reputation, they will require an effective governance framework to ensure the organization aligns decision-making with sustainability and ESG goals. These days, corporate governance has to focus on more than productivity and efficiency and create transparency and accountability around mining activities that impact ESG.

“Implementation is the biggest challenge – what are the changes to our people and processes we need to make ESG work. How do we adapt processes and change people?”

Completions Manager, leading metals group

While the ESG aspects above have attracted increasing attention, other aspects such as health & safety and environmental protection still remain core to mining operations and continue to attract resources and investments to mitigate risk and bridge the gap to best-in class performance.

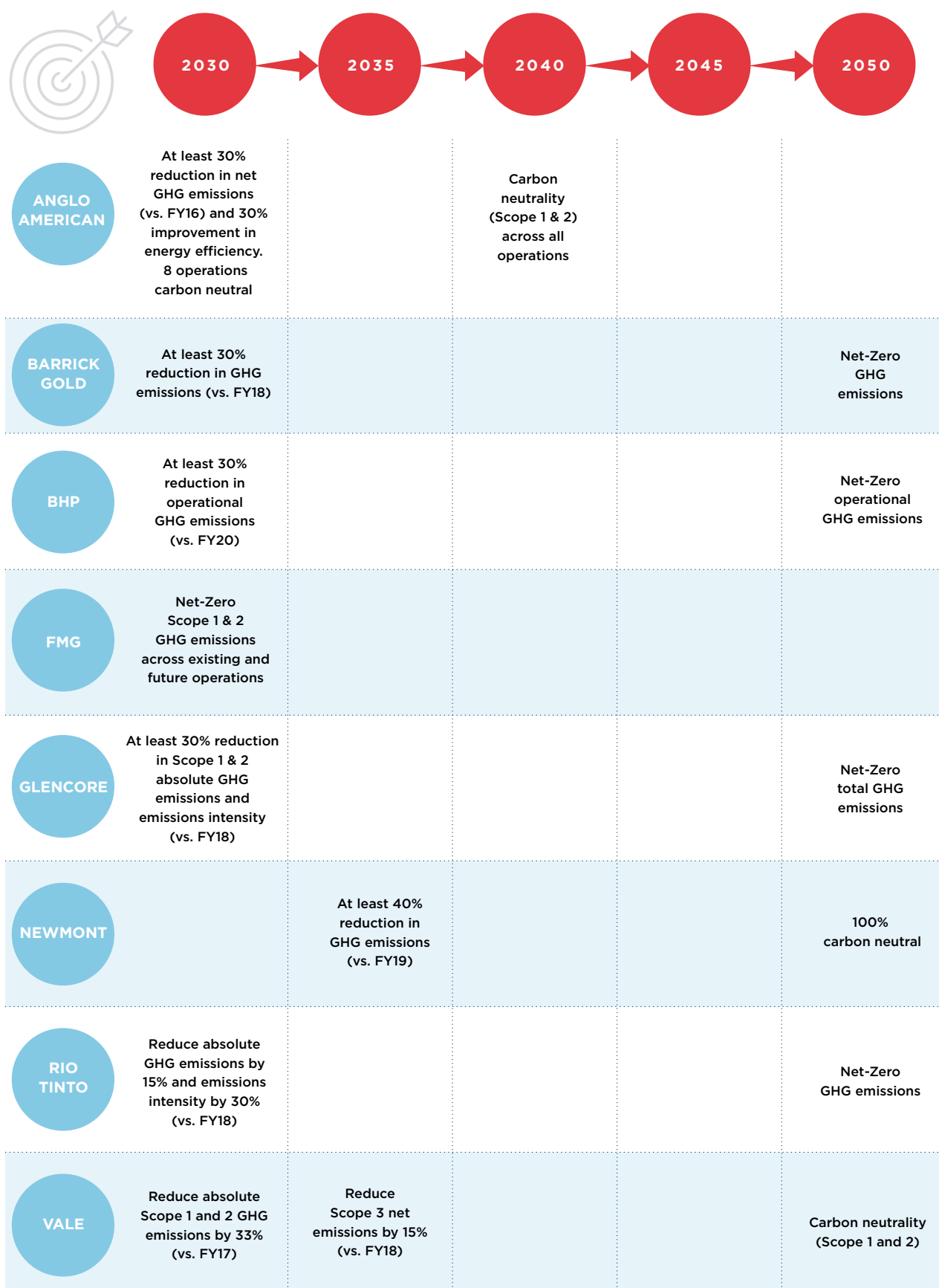


Figure 3: Key GHG emissions targets for selected mining and metals companies¹⁰

Note: The above chart illustrates a selection of key disclosed GHG emission targets and should not be considered exhaustive (for example, specific goals on Scope 3 emissions might not be included in the above)

Key challenges for ESG implementation

Speaking to senior leaders of major mining companies, the list of challenges in implementing ambitious ESG goals is long. While leading mining companies feel more confident about making headway with environmental goals such as carbon emissions reduction, and water efficiency, governance and social aspects are considered more complex.

Although ESG is regularly on the agenda, internal governance is challenging. "ESG often languishes when you have a raft of business issues chewing up your time. That is the challenge most of the resource sector is dealing with. Everybody is fighting for a bit of airspace," as one executive candidly puts it. "How do you fully integrate ESG into your business planning and core processes?"

Another executive told us, "The 'S' in ESG is what we need help with. The path ahead for the social dimension is less clear than for decarbonization, energy and water efficiency. What are society's expectations? What should we be doing? We need to address health and education, community access to clean water and sanitation, build respect in the workplace, work against bribery and corruption and avoid conflicts of interest." There are a raft of social issues to consider and minefields to negotiate, from responsible sourcing to scope 3 emissions.

"How do you fully integrate ESG into your business planning and core processes?"

Executive, leading metals group

And then there is biodiversity. The Group HSE Officer of one of the largest mining companies in the world highlights the increasing importance of managing biodiversity risks, citing the recent



Dasgupta Review. And yet the vice president of a major metals company believes "People in this industry are growing with a siloed mentality. New talent is not necessarily conscious of the bigger picture."

Faced with all these challenges, quite a number of executives recognize that individual efforts are likely to be insufficient and that industry needs to act in concert to address major global concerns such as loss of biodiversity and climate change. But they lament a non-unified global policy and the fact that populism is in the driving seat, which is likely to add complexity, variability, and turbulence.

Several executives further admit that driving impact at the desired pace even at single site level is a challenge. "Strategically, a lot of work has been done, but where there is still a lot of work to do is at operationalizing the strategy," one Head of Safety and Sustainability says. So where should mining companies focus to increase and demonstrate impact?

Accelerating ESG impact and value delivery

ESG will determine the future landscape of mining. Change is inevitable. And mining organizations need to quickly advance their journey and achieve a leading positioning by focusing on four key aspects. The aim should be, as a mining executive recently stated, to "lead the industry in ESG performance."

KEY ACTIONS TO OPERATIONAL EXCELLENCE

1

Improve ESG governance, accountability and assurance

- Increase board level oversight on the adequacy, progress and impact of plans to achieve targets.
- Stress test growth strategies and business plans against ESG scenarios to build business resilience.
- Align senior leadership understanding of the "business case for ESG", to help move beyond short-term traditional "trade-offs" that may still underpin key decisions.
- Routinely review and align incentives to match evolving priorities and the magnitude of desired impact on ESG performance, starting at executive level.
- Improve the depth and quality of assurance processes and information to provide higher transparency and confidence on ESG performance and plans.

Periodic independent third-party reviews are needed to provide both increased assurance on accuracy of ESG information and progress/impact of plans as well as share best practices and new developments within and across industries."

Global Mining
Sustainability Executive



3

Measure the right metrics that drive actions and increase transparency on the impact generated

- Build the core capabilities required to deeply understand, measure and address emerging ESG material aspects (e.g. social, scope 3 emissions, ESG financing, etc.).
- Critically re-examine the set of KPIs and how they are integrated in the management operating system routines.
- Leverage digitalization and data analytics to measure key drivers of impact down to asset level and to inform appropriate target setting and planning.
- Embrace or even pioneer new ESG impact accounting practices to be ready for higher level of scrutiny and evolving expectations and frameworks.

"We need to be able to account for and be accountable for what we are doing. We need to clearly communicate the output and the financial return and articulate the impact on natural capital"

VP Sustainability of a Global
Metals Company



ance so they do not get left behind. In this regard, we believe mining companies can accelerate the impact of their ESG efforts by putting it, for: "ESG to be like safety – part of our moral fiber."

NALIZE THE ESG STRATEGY

2

Cascade targets, align the organization, and integrate ESG into core processes

- Cascade clear targets and plans, align and mobilize the entire organization around priority material risks and opportunities.
- Integrate ESG into the management operating system and way of working at all levels, avoiding a "pilot approach" mentality.
- Enhance program portfolio management with fit-for-purpose tools, to support consistent prioritization, leverage synergies (e.g. energy-water nexus, GHG emissions-biodiversity interactions) and minimize conflicts/risks of multiple initiatives.
- Realign life-of-asset plans, capital allocation and M&A processes to enable accelerated paths toward goals.
- Integrate key ESG criteria in relevant business processes for maximum impact and sustainability.

“ We (miners) need a clear pathway toward our ESG aspirations and goals. Be clearer on what we are actually going to do and how are we going to get there. Each asset needs tangible action plans and metrics.”

**Group HSE Manager,
Global Diversified Miner**



4

Embed the culture required to enable the business transformation

- Adopt a transformative and regenerative approach, and constructively challenge and reframe the deeply rooted mindsets and beliefs in the organization and old paradigms.
- Address cultural change with the same or even higher intensity and operational discipline as for any other major business challenge.
- Integrate ESG expectations and criteria into key HR processes such as recruitment, performance management, succession planning, promotions and career movements, reward and recognitions, and remuneration schemes.
- Embed ESG in learning and development programs at all levels, from initial onboarding to on-the-job development and refreshers, and – most importantly – ensure its relevance to each role.

“ We need to focus on our business culture, change management, get topics on the agenda, give (ESG) the right voice with GMs and leadership teams, ensure ownership, and drive more proactive planning.”

**Operations Executive,
Global Miner**



Conclusion

Publicly disclosed ESG goals and commitments taken at board level are not sufficient to drive actual implementation. Many aspects of ESG require the entire organization to be mobilized and aligned in order to ensure that targets can be achieved at the pace and magnitude required, and that they are measured and reported, so the company can better assess and communicate its ESG impact to stakeholders.

"We want ESG to be like safety for us now, part of our moral fiber."

COO, Global Diversified Miner

Driving an ambitious energy transition and decarbonization agenda, for example, requires every single department and all organizational levels to be involved and pull in the same direction. While breakthrough business models and technological innovations are being screened and evaluated by multidisciplinary corporate or business unit level teams (e.g. technical/engineering, HSE, sustainability, finance, supply chain, etc.), shorter term and easier energy efficiency measures require the involvement of site-level teams. These need to include mining crews, production/process engineers, maintenance teams, contractors, OEMs, and service providers to embed changes to equipment design or operations and sustain the new way of working with a high level of operational discipline.

If ESG ambitions and specific targets and plans are clearly communicated to employees at asset level and embedded in the operating system, ESG efforts have a far greater chance of driving desired impact at scale.

At the same time, the synergies, and interdependencies among a wide range of ESG initiatives require robust and fit for purpose program portfolio management and organizational alignment processes and tools to ensure consistent prioritization, exploit synergies, minimize conflicts and potential risks. Historically, most mining companies have built strong capabilities and processes to manage HSE and operations improvement initiatives as well as large capital projects. While these are still relevant and transferable, they might need to evolve considering the specific complexities posed by some of the most pressing ESG challenges. The wide range of stakeholders concerned (e.g. technical partners, regulatory bodies, unions, universities, data provider, investors, etc.) and the level of innovation required to drive breakthrough impacts in the next couple of decades demand unique approaches, skills and mindsets that need to be developed or strengthened and that are not necessarily deeply rooted in the organizational DNA and way of working. By making ESG part of HR processes, governance and the operational model, mining organizations will gradually be able to integrate ESG into their operating culture and achieve the necessary transition to have a lasting positive impact on the environment and society at large. Whilst the ESG landscape is broad, evolving and inherently complex, the value from strategic considerations will eventually become dependent on how well miners can cascade these from the board room to geographically, socio-economically, and culturally diverse sites around the globe.

"(Mining) is experiencing a real and irreversible acceleration of ESG...and the pace of change and rate of acceleration of expectations is increasing."

Global Mining Sustainability Executive

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