DIGGING OUR WAY OUT OF THE CLIMATE CRISIS

From Extraction to Restoration

BUSINESS MODEL TO ROLE MODEL SERIES
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ABOUT DRA'S FUTURE OF MINING SERIES

The mining industry is one laden with contradictions. On the one hand we must produce faster, smarter and more lucratively than before, and on the other we must consider the environment, sustainability and even the end consumer. Is there a common ground to achieve mutually beneficial outcomes on this unchartered and, often unstable, terrain?

We've seen accelerated strategies in environmental, social and corporate governance (ESG), digitisation and automation since the outbreak of the COVID-19 pandemic. Change has become business as usual and compared to a long history of using the past as our compass, the industry is now looking to the future as a driver of fundamental and sustainable change.

Disruptive technologies continue to shape and reshape our picture of the future. There's no clear or definitive image of what that will look like but we unpack some fundamental elements of what success might look like in our next horizon. Share our journey, as we imagine the workforce of tomorrow, explore socially conscious mines of the future, weigh up the risks, investigate new business models and get real with artificial intelligence.

In DRA's Future of Mining Series, we take a look at the challenges the industry is facing. We leverage the knowledge from our expert team of advisors to highlight some considerations for mining companies and its value chain to navigate the future with confidence. Join us as we step into tomorrow.

INTRODUCTION

Sustainability talks in the mining industry started in the 1980s, when the Mining Association of Canada (MAC) introduced an environmental policy for the sector[1]. The talks escalated in the 1990s, when the United Nations conference on the environment and development in Rio de Janeiro raised awareness of the environmental impact of industrial activities[2]. The Whitehorse Mining Initiative Leadership Council Accord was also launched in 1992, aiming to improve the social and economic climate and environmental protection in association with mining activities in Canada. Since then, sustainability talks have become more frequent and urgent, as the mining industry faces increasing pressure from regulators, investors, customers, and society to align with the Paris Agreement and the Sustainable Development Goals[3]. The mining industry has a large role to play in enabling the transition to a low-carbon economy but can mining companies anticipate and adapt to the changing expectations and demands of their customers, investors, regulators, and society in relation to sustainability?

The importance of sustainability discussions in the mining industry will gain more momentum as the demand for metals increases and the challenges of climate change intensify. In the world's largest survey of public opinion on climate change, conducted by the United Nations Development Programme, results show that people often want broad climate policies beyond the current state of play[4]. 64% of people viewed climate change as a global emergency and not the "hoax", "con job", or "Chinese plot" it was previously made out to be. In fact, under Biden's authority, the US has pledged to cut carbon emissions by 50-52% below 2005 levels by the year 2030, stating that we are in a "decisive decade" for tackling climate change. Biden has mobilised the land of opportunity to address extreme heat, boost offshore wind, and protect communities from dangerous climate impacts.

As the discussion around sustainability intensifies in our societal fabric, the burden of responsibility increasingly falls upon key industry players. The mining industry, in particular, finds itself under the stringent scrutiny of these expectations, pressed to translate mere rhetoric into tangible actions.

GREAT EXPECTATIONS

In the bigger picture of our planet's future, the mining industry finds itself at a crossroads. As a significant contributor to global warming, accounting for about 4% of total anthropogenic emissions, the industry is under increasing pressure to align with the Paris Agreement and the Sustainable Development Goals.

The industry is not immune to the effects of climate change. Mining operations are vulnerable to climate hazards such as heavy precipitation, drought, and heat, which can alter the supply of water and disrupt production[5]. Thus, building resilience in their operations is not just a choice, but a necessity.

The path to sustainability is paved with opportunities. By adopting low-carbon technologies and practices, mining can benefit from lower operational costs, improved efficiency, and an enhanced reputation[5]. Moreover, it can play a vital role in enabling the transition to a low-carbon economy by supplying the minerals needed for clean energy and transport. Addressing both Scope 1 (direct emissions owned or controlled by a company) and Scope 2 (indirect emissions consequent to activities), which account for 40 to 50 percent and 30 to 35 percent of CO2 emissions respectively[6], is crucial. Solutions such as electrification, renewable energy use, and operational efficiency are likely to become economic within this decade.

Scope 3 emissions (emissions from the supply chain and transport), which account for 28 percent of global emissions, are largely driven by the combustion of coal. To achieve a 1.5°C climate-change target, coal consumption would need to decline by 80 percent by 2050[6]. This necessitates mining companies to diversify their portfolios and invest in low-carbon alternatives.

Responsible sourcing and stewardship of minerals are paramount, especially those critical for the transition to a low-carbon economy, such as copper, lithium, cobalt, and rare earths. Environmental and social impacts like water use, waste management, biodiversity loss, human rights, and community engagement must be managed by applying best practices and standards.

Collaboration with stakeholders is key. Mining companies need to align with the Paris Agreement and the Sustainable Development Goals to create shared value. They also need to leverage innovation and technology to enhance their sustainability performance and competitiveness.

In essence, the mining industry stands on the precipice of change. It has the potential not only to reduce its greenhouse gas emissions but also to be a catalyst for a sustainable future.

INCREASED ACCOUNTABILITY

In the grand theater of global industries, the mining sector has been cast in a new role. Once a silent performer, it now stands in the spotlight, its every move scrutinized by an audience with a growing interest in its activities. This shift is fueled by several factors.

Despite the relentless onslaught of local and global challenges, the mining sector has emerged as a beacon of strength. Its robust performance has sparked a surge in demand for commodities, demonstrating economic resilience. As the world pivots towards a low-carbon future, the mining industry finds itself at the heart of this transition.

Trust has become the cornerstone of the mining narrative. Mining companies are striving to foster trust among their diverse stakeholders, from investors and employees to local communities. The ghosts of past failures still haunt many mining companies. As they strive to regain investor trust, public interest in their activities has surged.

Once taboo topics in the mining industry are now open for public discourse. These include the environmental impacts of mining, such as land degradation, water pollution, biodiversity loss, and greenhouse gas emissions. The social conflicts associated with mining are also being discussed openly. The lack of transparency and accountability in the mining sector is another topic that is now being addressed.

With every aspect of operations under scrutiny and interest growing, could mining be the unsung hero that holds the key to our planet's future? If the mining industry aligns with the sustainable development goals of 2050, we could limit global temperature rise to 1.5°C above pre-industrial levels[2]. We could meet our demand for minerals and metals through more efficient and responsible use of resources.

The mining sector could provide decent work and economic growth for millions of people. It could respect human rights and promote social justice for all stakeholders. The mining sector could contribute to peace and security and a few luminaries are emerging, casting a light on the path towards sustainable change. These companies are not just digging into the earth, but digging deep into their practices to advocate for a greener and more equitable future.

Pan African Resources, a South African gold producer, is painting a new picture of mining. They've adopted a holistic environmental and social responsibility strategy that encompasses water and energy management, tailings reprocessing, biodiversity conservation, community development, and health and safety[7]. They're not just extracting gold from the earth; they're extracting lessons on how to coexist with our planet and its people.

BHP, a global mining giant, is not just moving mountains; it's moving mindsets. The company has committed to achieving net-zero emissions by 2050[8]. Their strategy involves investing in low-carbon technologies, reducing operational emissions, diversifying their portfolio, and collaborating with stakeholders. They're proving that it's possible to dig deep without leaving deep carbon footprints.

Anglo American, a multinational mining company, is setting ambitious sustainability goals for 2030. They plan to improve water efficiency by 50%, reduce greenhouse gas emissions by 30%, and create five jobs off-site for every job on-site[9]. They're not just mining materials; they're mining opportunities for communities and the environment.

These companies are showing that the mining industry can be about more than extraction; it can be about transformation. They're advocating for change not just in their operations but in their impact on the world.

A WORLD TRANSFORMED

Imagine a world where the mining industry, once a symbol of environmental degradation and social disruption, transforms into a beacon of sustainability and social responsibility. By 2050, this could be our reality.

The mining industry of the future could be a far cry from its current state. It could achieve a low-carbon future by embracing new technologies and practices. Innovation and technology would be the driving forces behind this transformation, with digitalization, automation, artificial intelligence, biotechnology, and circular economy at the forefront.

Responsible sourcing and stewardship of minerals would become the norm, especially for those critical to the transition to a low-carbon economy. The industry would manage its environmental and social impacts by adhering to best practices and standards. Collaboration with stakeholders would align the industry with global initiatives like the Paris Agreement and the Sustainable Development Goals.

This metamorphosis of the mining industry is not just a challenge but an opportunity. An opportunity for the sector to contribute to a more prosperous, and progressive world.

And if the industry gets it right, what does this mean for our world?

Our planet's temperature rise could be limited to 1.5°C above pre-industrial levels, sparing us from the worst impacts of climate change. The demand for minerals and metals could be met through more efficient and responsible use of resources. The mining sector could provide decent work and economic growth for millions, especially in developing countries.

The industry could respect human rights and promote social justice for all stakeholders. It could contribute to peace and security by preventing conflicts over natural resources and supporting good governance.

But these goals are not easy to attain. They require collective action and cooperation from all actors involved. And, mining's role in our net-zero future does not make individual companies inherently sustainable.

GREEN BUT NOT CLEAN

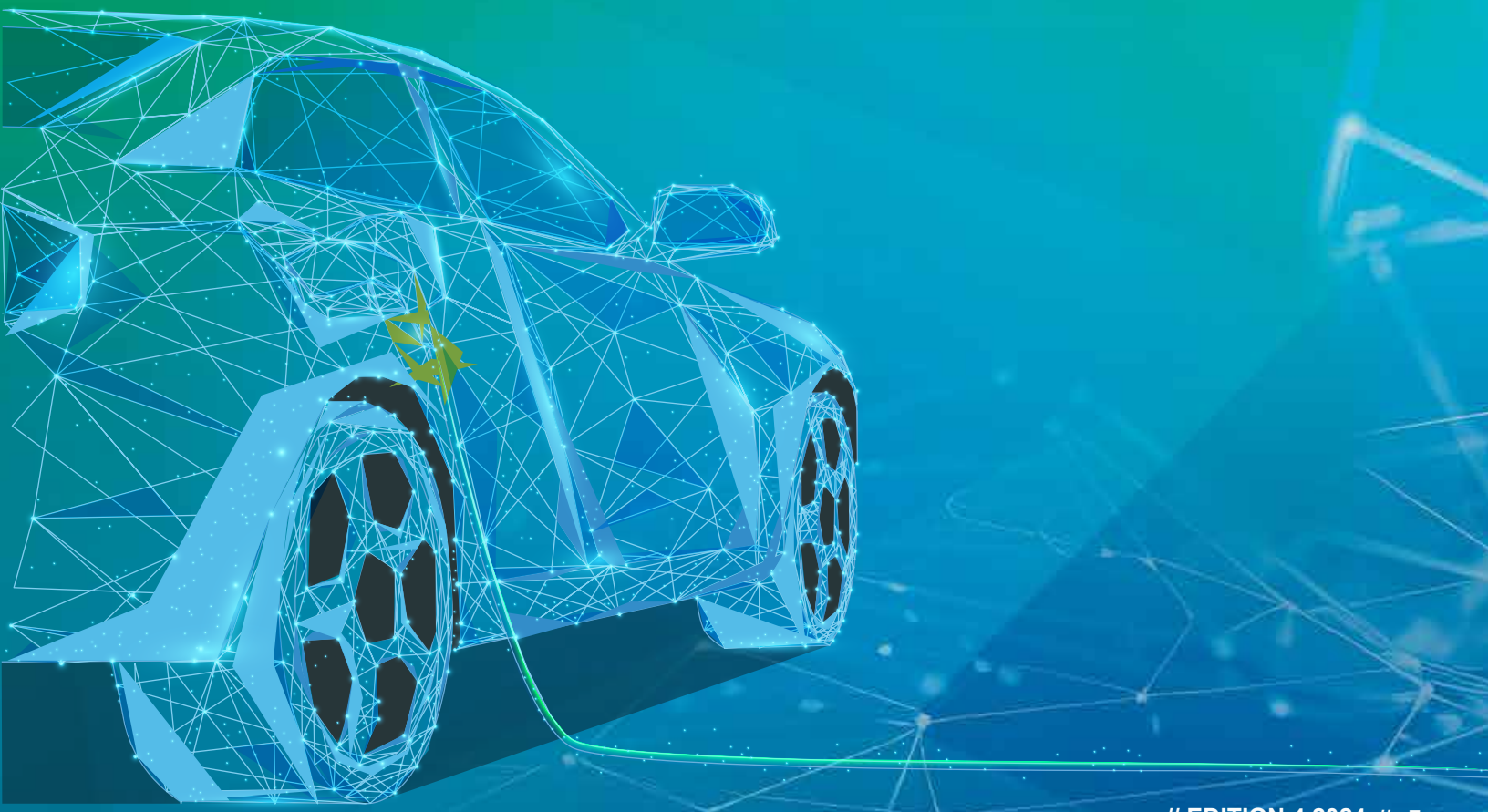
Greenwashing is a term used to describe the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service. In the context of sustainability, greenwashing can occur when a company or organization spends more time and money claiming to be "green" through advertising and marketing than actually implementing business practices that minimize environmental impact.

The Volkswagen emissions scandal, also known as "Dieselgate", had significant consequences for the company. Volkswagen admitted to cheating emissions tests by installing a "defeat device" in their vehicles that could detect when it was undergoing an emissions test and alter the performance to reduce the emissions level[10][11].

As a result of this scandal, Volkswagen agreed to plead guilty to three criminal felony counts and paid a $2.8 billion criminal penalty[12]. The company's stock price fell by more than thirty percent[11]. The scandal led to a massive recall of vehicles, the resignation of the CEO, changes in the board of directors, and hiring a renowned victim compensation expert to administer a claims fund[11].

The scandal also damaged Volkswagen's reputation and eroded consumer trust in the brand[11]. It highlighted the need for stricter regulations and greater transparency in the automotive industry[11]. Despite these challenges, Volkswagen has since committed to investing in electric vehicles and achieving carbon neutrality, indicating a shift towards more sustainable practices[13].

The implications of greenwashing are far-reaching. For consumers and investors, it can lead to misguided decisions based on false information. For the industry, it can erode trust and damage reputations. And for our planet, it can result in missed opportunities to mitigate climate change and promote sustainable development. Solutions to the climate crisis must instead be rooted in social justice.



CONCLUSION

The path to sustainability, while strewn with obstacles, is also ripe with unparalleled opportunities. The concept of circularity - a cycle of reducing, reusing, and recycling resources - is poised to be the cornerstone of the industry's future. Accountability is no longer an option but a necessity. Mining companies must bear the responsibility for their environmental footprint and strive to lessen it.

Yet, as the industry strides towards greener pastures, it must remain vigilant against the specter of greenwashing. Transparency and honesty are the compass that will guide us towards genuine change and earn public trust.

The industry of tomorrow will not merely be a miner of minerals but also a cultivator of values and principles. It will be an industry that reveres our planet and its inhabitants, making positive contributions to our collective future.

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