Mining and Society

The Swann Group
**Mining and Society**

**Introduction**

I wrote the first version of this report in 2019, following a series of conversations with people deeply involved in the mining industry all over the world.

My objective was to compile a list of the challenges that our industry is facing. While some companies within our industry were working more collaboratively across all audiences, I was surprised to find that all too often, people took a siloed view of challenges in the sector, focussing on whatever was facing them at the time and with little account taken of other competing pressures. The lack of consensus was striking.

And then came Covid-19. A challenge so monumental and all encompassing, that few minds have been able to focus on anything else.

But there will be a time after Covid, when challenges that cannot be fixed by a miraculous vaccine will reassert themselves. The contrarian and the optimist in me have combined to think of a time when the pandemic is a bad memory, and our industry has to deal with those threats that have temporarily been put to one side.

In this white paper I explore those challenges and, in some cases, make some suggestions for how we might address them, based both on interviews with some of the mining greats and my own lifetime of experience in the industry.

I've categorised these challenges into six areas:

1. Mining’s relationship with society
2. A lack of external investment
3. Evolving technology
4. Rising nationalism
5. A lack of diverse thinking
6. Talent shortfalls

I hope this paper provides food for thought and would welcome your thoughts and comments for a future update.

John Murray.
Founder and Advisor, The Swann Group.
Mining’s relationship with society

Mining underpins the infrastructure of our society. Everything that people use or consume is either grown, mined or extracted. Yet this fundamental fact, familiar to anyone in mining, is not understood by a whole generation who have been persuaded by negative social media and NGO campaigns that mining is a bad, carbon intensive, dirty and often socially irresponsible industry.

This perception is not society’s fault. It is our own. Our industry’s marketing and external affairs work with society has been poor. We’ve been unable to create a coherent and shared narrative that lands well with society and the tired stereotypes persist. Events such as Rio Tinto’s destruction of the Juukan Gorge cave don’t help.

But there is another side to the story. Society’s understandable desire for a cleaner, greener world too often ignores the fact that the metals that are used in green technologies such as solar panels, wind turbines and electric vehicles need to be mined. That also applies to the now indispensable technologies of modern life, from smart phones and tablets to medical devices.

Mining also provides employment prospects in emerging economies that go beyond the manual jobs of old. Miners provide training and education to encourage local talent into management and leadership roles.

Yet we hear little of these initiatives outside of our industry bubble where mining means dirty, carbon-releasing fuels such as coal.

We need to change the relationship we have with society – and with each other

Mining is losing its influence

The need for mining to reposition itself in the minds of a sceptical and environmentally aware public coincides with a period when the strength of the industry’s influence appears to be disappearing.

Like all organisations, mining, quite rightly, has to face questioning and challenge from the governments, campaigners and the media. But the various sins of mining (both real and perceived) have made it an easy target for increasingly belligerent criticism, reinforced and amplified by social media influencers.

There once was a time when mining was such a dominant industry it was able to exert significant influence over host governments, a power that was unethically exploited by some to the point of bullying.

Now, like the car industry before us, our sectors power is diminishing as the irresistible forces of Silicon Valley overtake us. The uncomfortable truth is that the owners of the social media platforms that hosts such vitriolic criticism could easily buy all of the biggest players in mining.

It may be premature to suggest traditional mining firms may go the same way as once flagship brands like Kodak, and Blockbuster, left behind by more agile and technologically advanced new entrants. But we must act collectively now to avoid that possibility

Our industry does not have an enduring compact with society

Over my long career in mining, I have witnessed a continuing inability for the industry to collaborate effectively with society. There is clear evidence that the rules and norms by which mining agreements were established thirty years ago are no longer fit for purpose. Yet I have seen little evidence of miners renegotiating these terms without the threat of government intervention.
It is incumbent upon miners to build a new relationship with society by doing more to realise the value we can add to a greener society by, for example, funding young entrepreneurs who are developing innovative technologies.

Such new technologies may substantially extend the life of individual mines, which will certainly make them more sustainable, and is arguably cheaper than creating a new mine (in Capex if not Opex terms) and delays decommissioning costs.

Extending a mine’s life may also bring into question the appropriateness of the original agreement under which the mine was licensed to operate (see section 4), but the wider sustainability and economic benefits are compelling.

The need for cooperation

Consideration of Environmental, Social and Governance issues has evolved over the years. For many years they were largely ignored by many industries, before becoming an inconvenience to which lip service had to be paid. As they began to be taken more seriously ESG concerns transitioned into a competitive battleground, resulting in unedifying industry battles which undermined efforts to demonstrate mining’s positive credentials.

I maintain that ESG needs to become a collegiate topic in which all miners should collaborate to ensure we have a positive impact on the world and the communities in which we operate.

Once we get this right, we can begin to communicate about the benefits of mining in a way that is authentic, and evidence based. To do this effectively we need to work collectively through an industry-funded representative body such as the ICMM.

I see a role for the ICMM, empowered and resourced by mining companies, to lead a PR, lobbying, social media and advertising campaign to articulate the necessity of mined materials for modern society and the role mined materials play in renewable energies and new technologies. Mining companies, other representative bodies such as regional chambers of mines, educators, and government ministries have a collective responsibility to collaborate to tackle the negative stereotype and get this message heard.

2. A lack of external investment

If mining fails to build a new compact with society it will become increasingly difficult to attract funding from traditional sources.

This imperative is made even more critical owing to the rise in ESG-focused investments, which in Europe in 2019 amounted to EUR 1.66 trillion AUM, representing 15.1% of total mutual fund assets (PwC – The growth opportunity of the century). The vast majority of the European institutional investment community expect that ESG and non-ESG products will converge next year, and 77% will stop investing in non-ESG products then.

By 2025, PwC forecasts European ESG investments to reach EUR5– EUR 7.6 trillion, representing up to 57% of the total. Persuading these investors that mining should be the target of their decisions will be challenging.

Organisations have a choice about how to respond. The temptation of green washing, which will render ESG meaningless in the same way CSR often became meaningless, will be too difficult to resist for many.
For the less myopic, making positive change is obviously the best option, providing better returns for shareholders and investors, improving the running of the business, and contributing to a more positive profile for the industry.

There is a chasm between investor perception and mining reality that needs to be closed, nevertheless with the right positioning and messaging, we anticipate mining will continue to attract investment from those investors able to take a longer-term perspective.

<table>
<thead>
<tr>
<th>Why Invest?</th>
<th>Sources of funding</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exposure to underlying commodity – proxy for gold, copper – ETFs</td>
<td>• Traditional banks – corporate debt, project finance, PXF, structured debt, receivables, reserve base lending, trade finance, inventory finance</td>
<td>• Risk assessment – perceived and real - technical, geo-political</td>
</tr>
<tr>
<td>• Capital growth – IRR, DCF</td>
<td>• Bond Issuance - convertibles, hybrid, fixed income, floating rate notes, project bonds</td>
<td>• Cyclical nature of commodity cycle</td>
</tr>
<tr>
<td>• Counter cyclical – defensive, portfolio management (long / short strategies)</td>
<td>• Government agencies – Export Agencies, IDC, World Bank, EBRD, Coface, KfW</td>
<td>• ESG issues increasingly important and will negatively impact valuations and trading multiples</td>
</tr>
<tr>
<td>• Yield – dividend stream, buy backs - and time frame / consistency</td>
<td>• Traditional equity- IPOs, placements, rights issues</td>
<td>• Comparative performance – industry / corporate / commodity</td>
</tr>
<tr>
<td>• Hedging</td>
<td>• Private equity – ordinary, preference shares</td>
<td>• Riding the China investment proxy wave – Belt &amp; Road investment for next 20 years</td>
</tr>
<tr>
<td></td>
<td>• Sovereign wealth funds – ordinary, preference shares</td>
<td>• Off take demand perception – Electric Vehicles v source of power generation</td>
</tr>
<tr>
<td></td>
<td>• Royalty agreements, streaming agreements</td>
<td>• Investment growth – brownfield, greenfield, price taker or price influencer</td>
</tr>
<tr>
<td></td>
<td>• End users – off-take funding, PXF, trading houses</td>
<td>• Capital intensive – cash burn when cash is king</td>
</tr>
<tr>
<td></td>
<td>• Production hedging – off take, conversion cycle finance</td>
<td>• Equator Principals impacting debt availability.</td>
</tr>
<tr>
<td></td>
<td>• Mezzanine funding – PIK, warrants, subordinated instruments</td>
<td>• ETITI, ICMM issues</td>
</tr>
<tr>
<td></td>
<td>• High net worth individuals and Family Offices</td>
<td>• Ethical perceptions</td>
</tr>
</tbody>
</table>

Table 1: The changing face and shape of money
3. Evolving technology

Mining’s adoption of new technology has been mixed. An early adopter of interconnectivity and the Internet of Things, the industry nevertheless remains more reliant on manual labour and plant that has not been required to change radically.

It is time to embrace the technologies that have the ability to transform the industry, applying existing technologies from other industries and developing new ones to address challenges particular to mining.

Large, established miners that resist the adoption of new technologies risk being outcompeted by more agile, small-scale miners that are unencumbered by massive investments in old technology. Such firms may be more attractive investment vehicles than the mega projects, offering lower risk and faster returns. We see it already in oil and gas, with fracking and enhanced oil recovery in some geographies.

Firms that fail to embrace incremental technological change will reach a point where the only option is a sudden step change in technology, with all the disruption and expense that accompanies such change.

Technological solutions have a major role to play in the wider process of changing perceptions of mining. They can reduce exposure to tough working conditions, resulting in a safer working environment with fewer injuries and stoppages. And they can make the industry cleaner, greener, more sustainable and more profitable.

Such changes are likely to require a need for new skillsets in mining, with a greater need for more skilled roles in IT, analytics and automation. Local workforces will need to be educated in the use of the technologies, resulting in a welcome upskilling of local communities.

It is also worth noting the demands new technologies place on miners to keep on mining. Renewables, electric cars, and wind turbines are all heavily dependent on commodities produced by the much-maligned mining industry. And we might do well to educate the Millennials and Generation Z that the smart phones from which they are inseparable are packed with materials from the extractive industries.

This presents an opportunity to reconnect the next generation with the positive side of mining and the possibilities of a mining career.


Mining companies are awash with data, and this flow will only become more overwhelming with the introduction of more technology and automation. But in itself, data is of limited use. What matters is how it is analysed, considered and turned into insights that inform decision-making.

There will be increased demand on miners to provide data to the ESG Houses – at no charge – and then witness it being sold to competitors and other industries as commoditised data.

How organisations prepare for the increase in data and the increased demand for it from stakeholders will be another challenge for mining. At Swann we have long argued for the importance of the analyst’s role in mining, to prioritise and interpret the data and find the story within it, presenting another opportunity to attract a new kind of talent to the sector.
THE CHALLENGE AND OPPORTUNITIES OF RECYCLING

• Improved technology is driving down the cost and energy requirements of recycling. This trend, combined with increased public demand for more recycling, makes it an increasingly attractive option.

• Does this mean recycling presents an investment opportunity for traditional mining houses? Should mining companies encourage manufacturing business partners to ensure that items made from their raw materials can be recycled and become part of the circular economy? Or is it an industry for others to focus on?

• Given that 87Mt\(^1\) of steel scrap was recycled in the EU during 2019 and a further 17Mt\(^2\) to follow from North Sea decommissioning, there could be a significant threat to commodities that miners cannot afford to ignore.

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\(^1\) Bureau of International Recycling Ferrous Report 2019

\(^2\) OSPAR Offshore Installations Inventory 2017
4. Rising nationalism

Miners need to recognise that developing countries will increasingly seek to renegotiate agreements and increase their revenues and self-sufficiency. Exploitation over past decades will need to be addressed, and we’ve seen equitable new mining conventions negotiated with governments in Sierra Leone, Mali and the DRC in recent years.

But governments will become more demanding under pressure to appease local demands for better living standards; demands intensified as people use social media to vent their frustration and compare their living standards with their regional counterparts.

At the very least, these governments will expect miners to invest in local processing and refining facilities to keep value adding processes within their jurisdiction.

Mining companies will increasingly need to consider the balance between the removal, retention and contribution of wealth in their relationship with any country. Governments that focus purely on the money will need convincing of the education, employment and infrastructure development opportunities than mining can bring. Miners that fail to manage expectations or communicate effectively with local governments and communities will quickly find themselves facing political difficulties.

Such demands are not restricted to developing counties. When the West Australian Government ran into difficult budgetary problems it demanded a very significant increase in the iron ore royalty from Rio Tinto and BHP.

Firms and nations that have become heavily dependent on China will need to be aware that the country will always be searching for alternative and more economic supplies of iron ore and coal as part of a China First policy.

We can only expect such demands and nationalism to intensify. The shift in the global power paradigm and the subsequent threat to trading routes are prompting nations to act proactively to secure sourcing of strategically important materials integral to military infrastructure (manganese, vanadium, tungsten) – either by forging new, unexpected alliances or by sourcing materials domestically.

Mining will always be a strategic priority for any nation-state. But we must seek equitable treatment with other, equally impactful industries. Big tech companies, many of which have turnovers larger that the countries in which they operate. These companies have proved themselves masters at hiding their considerable environmental impact. I am not suggesting mining copies this sleight of hand but rather surfaces the issue to establish equivalence in any debate about the impact of different industries.
5. **A lack of diverse thinking**

It has been many years since increased diversity at all levels of an organisation has been perceived as a reluctant compromise to pacify legislators and the politically correct. The case for increasing the number of women in board positions, for example, is well established and uncontroversial in most industries.

Nevertheless, our own research, *Board Rigid*, found that only ten per cent of 686 individuals listed on the boards of LSE and AIM listed mining companies are women. It’s a pitiful number which, despite the efforts of Anglo America, Glencore and others is likely to take decades to change at current rates. This is a global phenomenon; we have recently reported initiatives in Chile and South Africa which attempt to address the gender gap.

Similarly, racial diversity in our industry is generally poor, and education figures suggest that at the more senior levels this will not change anytime soon. In 2016, for example, only six per cent of US citizens or permanent residents awarded geoscience doctorates came from underrepresented minorities – the lowest proportion of any STEM field.

Age diversity too, is an issue. Mining’s struggle to attract new talent since the last boom is well documented and has resulted in an ageing workforce and a lack of new ideas and approaches coming into the industry. At Swann we’ve long argued the need for a strategy to position mining as an attractive option for graduates, co-funded by the large mining employers, governments and membership bodies.

And we can look beyond the standard lenses of diversity. The benefits of neurodiversity – employing individuals with conditions such as ADHD, dyslexia, autism and others – recently received a great deal of coverage after the British secret service publicised its search for people who could provide completely new ways of looking at data and challenges. In mining, BHP has already made a commercial case for a more neurodivergent workforce recognising the value fresh ways of thinking can bring.

The lack of fresh ideas in mining is reinforced by the seeming reluctance on the part of miners to employ individuals from different sectors or backgrounds. Hiring from the IT sector, for instance, will help close a skills gap that could become an existential challenge as miners increasingly need to embrace automation, AI and connectivity.

Even when miners employ leaders from their own sector, the range of backgrounds from which they are appointed is narrow. Once again, the Board Rigid research report makes for unsettling reading here. Analysis of the membership of London listed mining firms found that only five per cent have backgrounds in health, safety, community, and ESG. Of these, half are women.

The benefits of diverse workforces are well rehearsed – if not always widely accepted: more innovation, new solutions to old problems, closing skills gaps and improved financial performance. But if we are to affect change, we need more visible role models, outreach work from industry bodies, and recruitment processes and methodologies that encourage applications from those other than the usual suspects.
6. Talent shortfalls

The emerging talent gap in mining - the result of large swathes of senior leaders retiring, divestments and redundancies forcing emerging leaders into different sectors, and mining firms failing to make the industry attractive to graduates – has been well documented, not least of all in previous reports from the Swann Group.

The challenge of losing such talent has been further compounded by the failure of our industry to capture the knowledge and expertise of experienced team members before they leave. Semi-retired advisors and consultants help fill the gap, but they can be expensive and are not a permanent solution.

Those who left the industry during the downturn see little incentive to return to a sector that abandoned them during the downswing of the last commodity cycle. Young talent well versed in the new technologies are more attracted to the cleaner, greener world of IT than an industry they've been led to perceive as dirty, destructive and morally questionable.

However, as mining becomes more technologically driven, these digital natives, currently unknown to the industry, are precisely the talent mining needs, while those with more traditional mining skills become less critical. As we noted in a previous paper (Approaches to Addressing the Mining Skills Gap), Education and Industry must learn to collaborate more effectively to develop the talent our sector will need in future.

Senior leaders will need to adapt to meet the expectations of Millennials, Generation Z and their successors. It is foolish to treat any one of these generations as a homogenous group, but it is generally true to say they are more informed and vocal about the importance of values, purpose, and work/life balance than their predecessors. Leadership and management styles are likely to have to change as the next generations expect to be consulted and informed, and to receive feedback informally and regularly rather than as part of an annual performance review.

New forms of development will be needed too as this new talent matures into leaders. The future will see the pace of change accelerate and we will need flexible, smart individuals who will remain effective even if the paradigm has shifted dramatically by the time they reach a leadership position.

It will take a monumental effort on the part of professional bodies, educators, policy makers and the industry but I believe it is within our grasp. But once we have grappled with the complexities of this collaboration and addressed this fundamental challenge, I believe the next generation of mining leaders will be well-equipped to weather the storms of the future.
Conclusions

The mining industry is historically slow to adapt. The largest companies have ‘tried and tested’ processes that have served them well for decades, creating a mindset of ‘that’s the way we do things here’ rather than considering how things should be done.

Mining companies seem to be over reliant on the Big 4 consultancies to do their strategic thinking for them. This means they do not grow this kind of strategic talent internally. As a result, they have access to respected global thinkers but struggle to synthesise or apply what they are told. The mining industry deals with risk but pays scant attention to uncertainty, which is more difficult to assess.

In these most uncertain times, this has to change, and we have seen examples of that happening.

Amongst all the gloom of the last 12 months or so, positivity can be found in the resilience and adaptability shown by our industry. In the face of the monumental challenge of Covid-19, survival is an achievement. The speed with which mining firms ensured production continued, using national workforces rather than expats subject to travel restrictions for example, is worth celebrating as an example of agility in the sector.

So, I have no doubt that mining can and will withstand the impact of the trends identified in this report – and any others that will emerge in the coming months and years. But undoubtedly those organisations that anticipate and prepare for them will be best placed to avoid the negative consequences and take advantage of the opportunities which emerge as a result.

I hope this paper helps catalyse that thinking process for you.

John Murray