EXPLORATION insights NEWSLETTER
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Times are a-changin' - Impacts of ESG-friendly investing criteria on gold mining M&As

Major gold sector's consolidations over the past few years have been geared primarily towards attracting generalist institutional investors away from passive ETF equity funds like the GDX and GDXJ.

However, as larger funds shift their focus to include environmental, social, and corporate governance (ESG)-friendly investing criteria, it is becoming more apparent that gold miners have more work to do to appease the keepers of the cash.

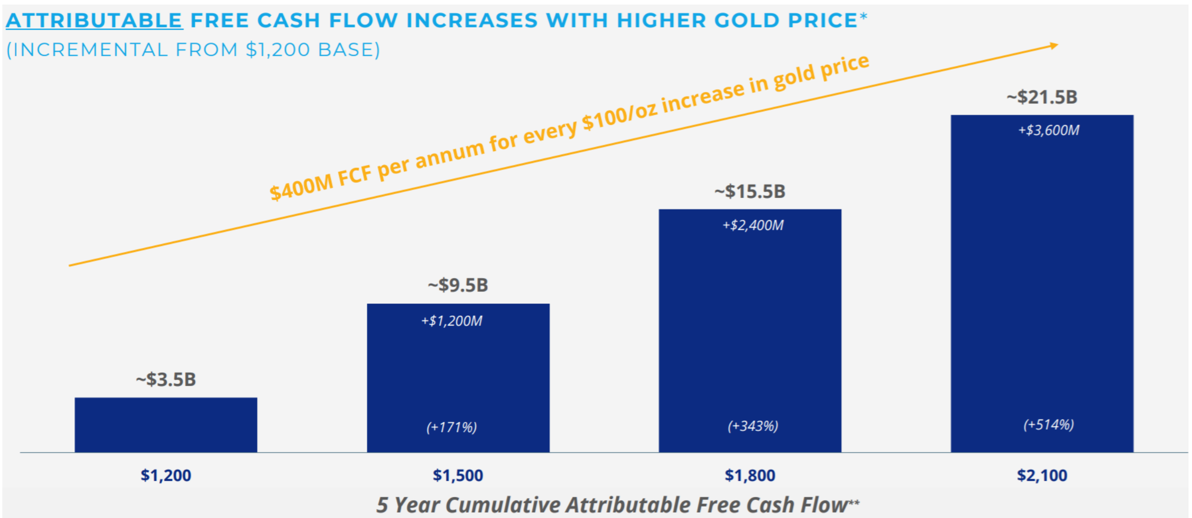
(What's up, ESG investor? Source: *supercartoons.net*)

An example of megamergers that have grown the asset base of some senior gold producers is Barrick Gold (ABX.T, GOLD.NYSE)'s acquisition of Randgold Resources (link here) and Newmont Corp. (NEM.NYSE, NGT.T)'s purchase of Goldcorp (link here), which resulted in the long-anticipated consolidation of their Nevada projects in what is now known as Nevada Gold Mines, (link here).

In this and other instances, the M&A activity paved the way for:

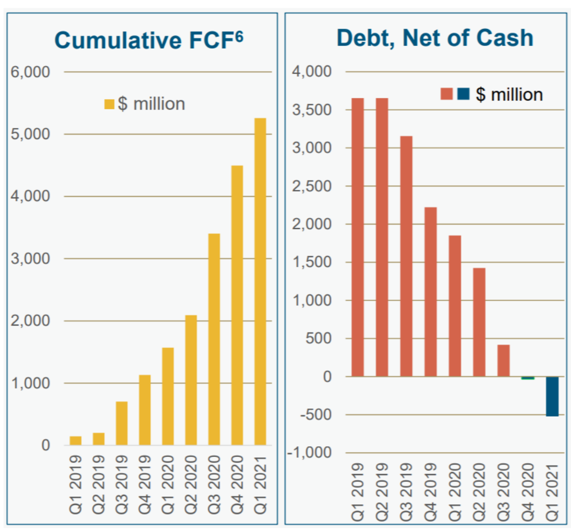
- **Higher liquidity**
- **Reduction of corporate G&A**

- **Portfolio optimization, including better capital allocation and a flurry of divestments**
- **Focus on free cash flow generation**
    - After its merger with Goldcorp and the joint venture with Barrick Gold in Nevada, Newmont has indicated that its free cash flow is set to grow over 4x to US$15.5 billion from its reserve price (US$1,200) to spot levels in the next five years, (Fig. 1).



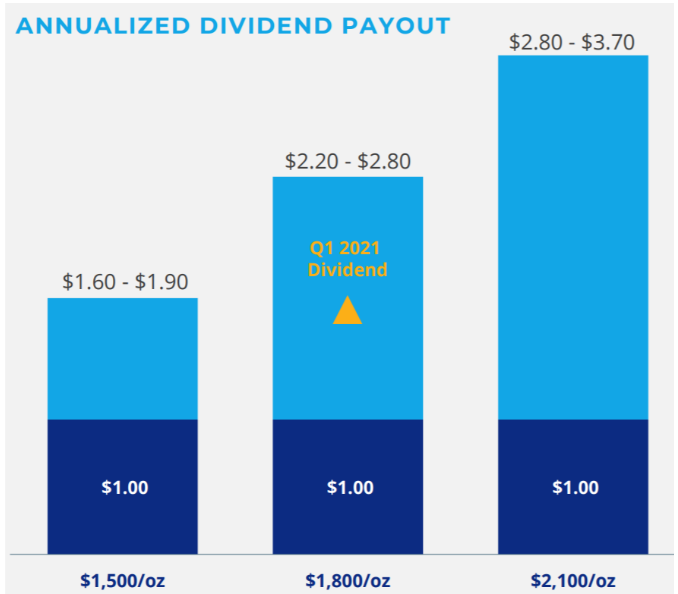
(Figure 1: Sensitivity of 5-year cumulative attributable free cash flow to the gold price. Source: *Newmont Corp.*)

- **Reduction of long-term debt**
    - Barrick Gold's net debt (long-term debt net of cash) has fallen from US$3.5 billion to negative US$0.5 billion in two years as a result of significant growth in free cash flow, (Fig. 2).



(Figure 2: Growth in cumulative free cash flow [left] and reduction in long-term debt, net of cash [right]. Source: *Barrick Gold*)

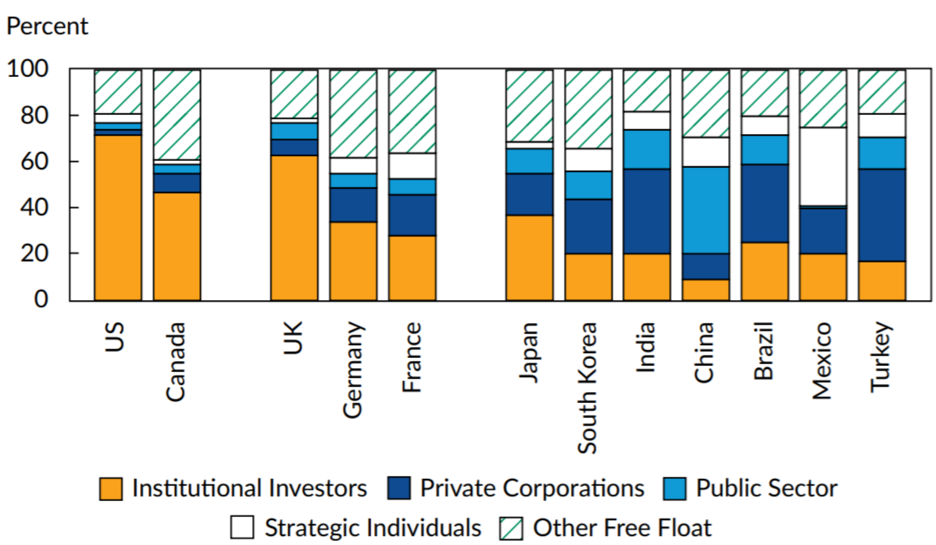
- **Dividend payouts increases**
    - Newmont's levered dividend strategy became very attractive, (Fig. 3).



(Figure 3: Sensitivity of annualized dividend payout to the gold price. Source: *Newmont Corp.*)

Who are the generalists?

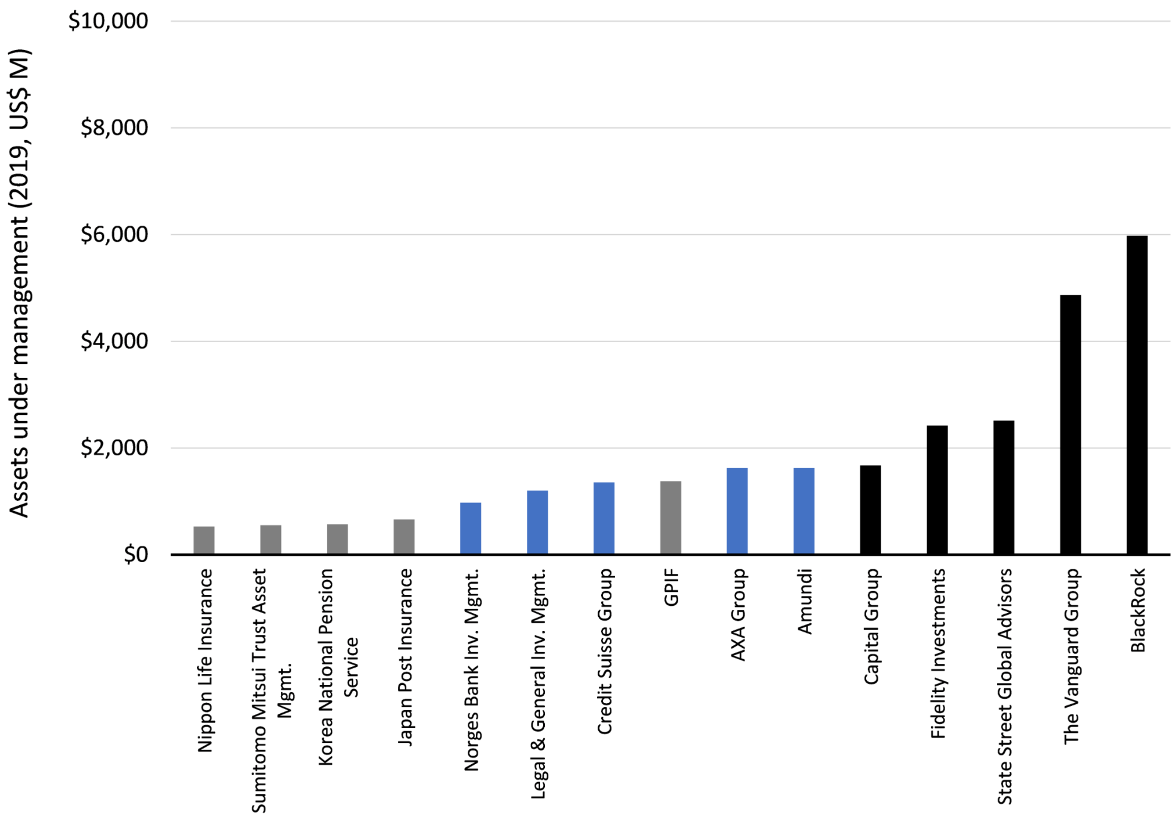
Generalist institutional investors hold most of the shares of companies listed in countries where many major mining companies are found, such as the US, Canada, and the United Kingdom, (Fig. 4).



(Figure 4: Institutional investors have a significant footprint in the largest companies listed in the US, Canada, and the United Kingdom. Source: *OECD 2019 in __ESG and Responsible Institutional Investing Around the World by CFA Institute Research Foundation__ - Pedro Matos*)

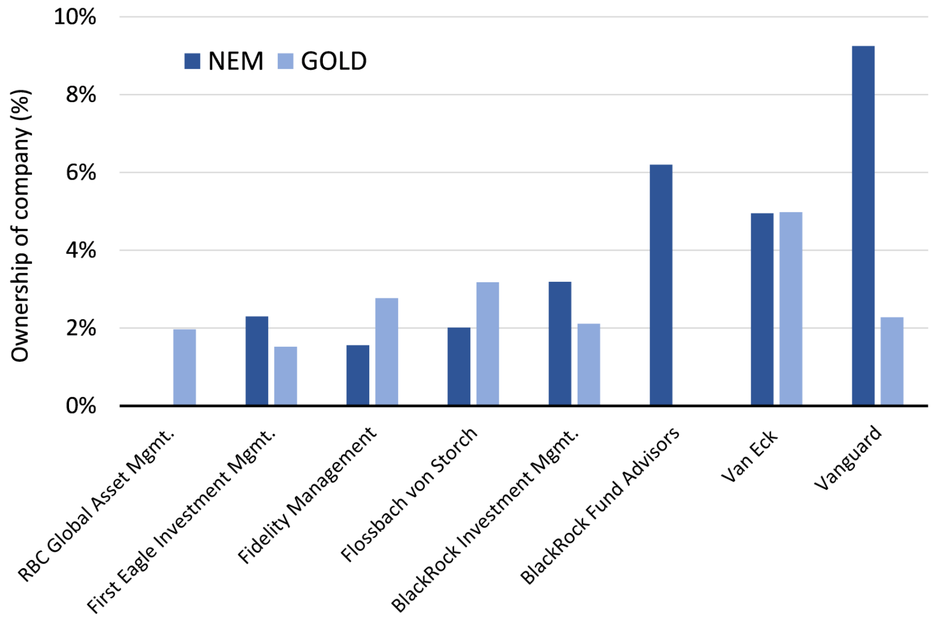
Institutional investors from the US and Europe, who have about US$28 trillion in assets under management (AUM), have been increasingly signing up to the Principles of Responsible Investment (PRI) convened by the Secretary-General of the United Nations in 2005, (Fig. 5).

The PRI reflects the growing relevance of ESG issues among institutional funds' investment practices. For instance, BlackRock (~US$6 T in AUM) has been looking at its investment through an ESG lens for over a decade.



(Figure 5: Assets under management for institutional shareholders that signed up to the Principles of Responsible Investment [PRI]. Source: *Bloomberg*)

BlackRock and other PRI signatories like Vanguard and Fidelity, are also some of Newmont and Barrick Gold's major shareholders, (Fig. 6), and therefore, have become key stakeholders for the senior gold producers.



(Figure 6: Newmont Corp. [NEM.NYSE, NGT.T] and Barrick Gold [GOLD.NYSE, ABX.T] institutional shareholders. Source: *money.cnn.com*)

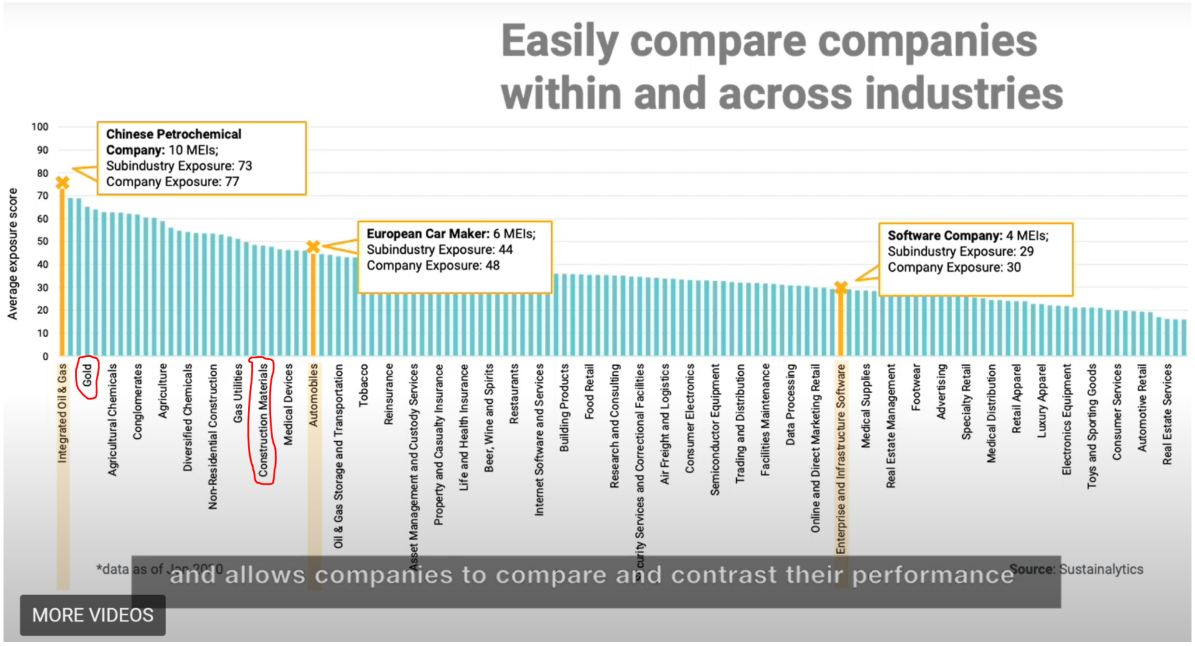
What are ESG principles?

After achieving several critical financial metrics, major gold producers are now faced with imposing ESG principles on their corporate offices and operating assets, (Table 1).

Environmental	Social	Governance
• Climate change and carbon emissions • Natural resource use and energy and water management • Pollution and waste • Ecodesign and innovation	• Workforce health and safety, diversity, and training • Customer and product responsibility • Community relations and charitable activities	• Shareholder rights • Composition of boards of directors (independence and diversity) • Management compensation policy • Fraud and bribery

(Table 1: Key issues underlying Environmental, Social, and Governance [ESG] policies. Source: *OECD 2019 in ESG and Responsible Institutional Investing Around the World by CFA Institute Research Foundation - Pedro Matos*)

Although the quantification of ESG criteria has yet to be formalized across the industry, consultants and environmental foundations that calculate ESG-linked scores concede that the mining industry, and gold mining, in particular, is currently a high-risk sector, (Fig. 7).



(Figure 7: ESG exposure scores [the higher, the worse] for a variety of industries, showing high levels of exposure for the gold industry. Source: *Sustainalytics*)

The inferior performance of the gold sector in the rankings is due to several factors:

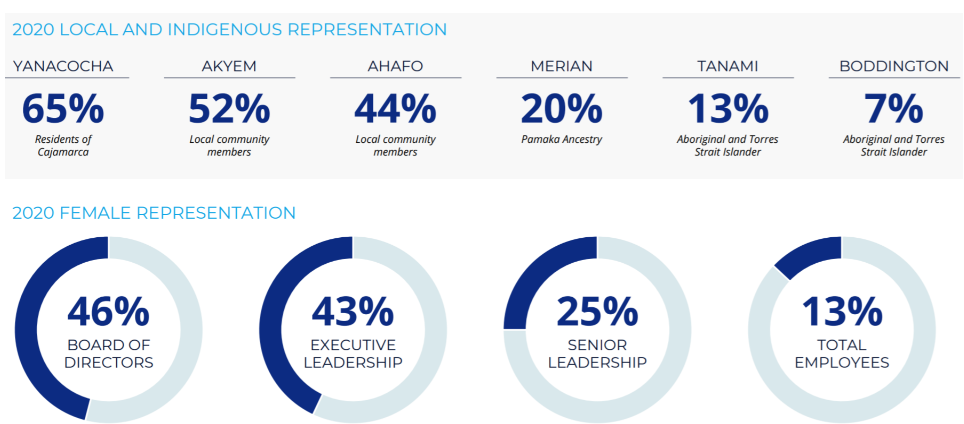
- **Environmental**
    - use of diesel to operate trucks
    - use of heavy fuel oil to operate power plants
    - grid power from coal, (Fig. 8), or gas-powered plants
    - water use and treatment in remote regions
    - generation of waste rock from high strip open pits and tailings from milling facilities
    - downstream impact of smelting and refining to achieve a saleable product

(Figure 8: The Valmy coal-fired power plant in Nevada may be shut down by the end of 2021. Source: *powermag.com*)

- **Social**
    - high occupational risk of open pit and underground mining
    - low workforce diversity
    - issues surrounding the social license to operate, especially in remote or disadvantaged communities, (Fig. 9)

(Figure 9: Protestors against the development of the Minas Conga copper-gold project in northern Peru from 2011 that successfully shut down the project. Source: *Reuters - Enrique Castro-Mendivil*)

- **Governance**
    - lack of diversity in boards of directors and executive management teams, especially among the large producers, although some are working hard to change the status quo, (Fig. 10)
    - corruption

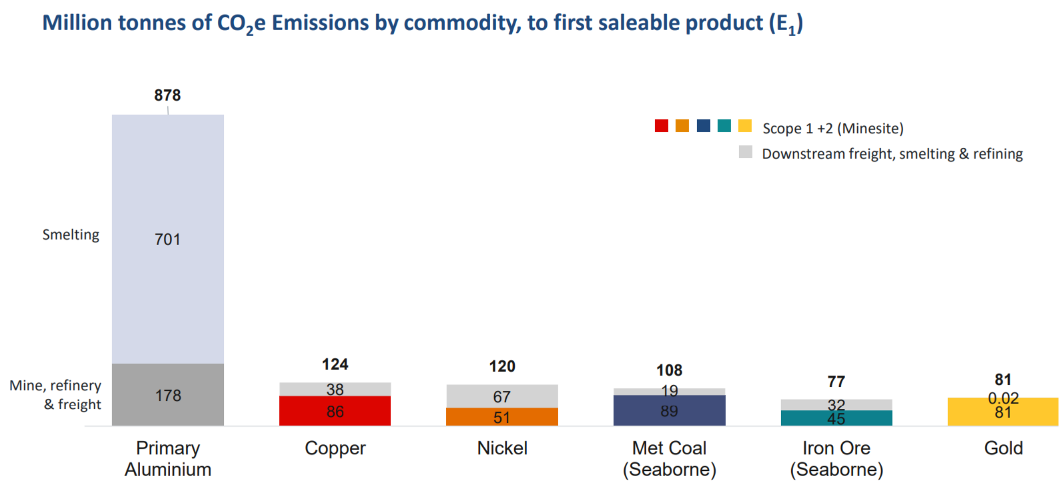


(Figure 10: More female representation in Newmont's Board of Directors and Executive Leadership, but less so on the front line. Source: *Newmont Corp.*)

I want to focus on the "E" of the ESG standards, or the environmental impact, related to gold mining versus other commodities because it is the easiest to quantify.

Gold-mining-linked carbon dioxide emissions at the mine site are noticeably on the high end (>80 Mt CO2eq), followed by coal and copper, (Fig. 11). However, since emissions are measured throughout the life of a commodity, from the mine site to a saleable refined product, the total also includes freight, smelting, and refining offsite.

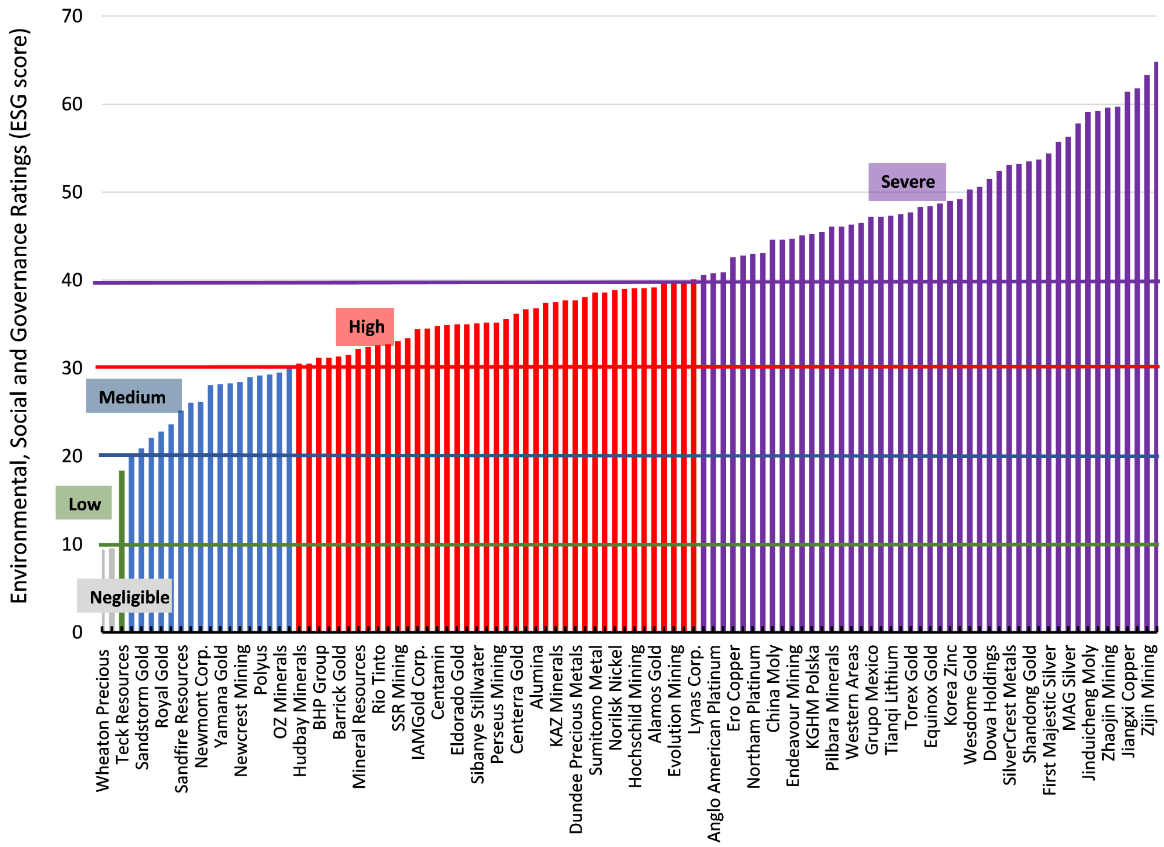
Once that is considered, emissions for gold are actually the lowest, because the yellow metal does not require extra processing. Yet, commodities like copper and nickel, which are integral for reducing greenhouse gas emissions, can offset their footprint, whereas gold can't.



(Figure 11: Commodities' carbon footprint [Mt of CO2 emissions] related to their first saleable products, which expands from the mine site to the downstream refining facilities. Source: *Skarn Associates*)

After reviewing the ESG risk of gold producers, those with assets dependent on power from coal-fired plants do not fare well, specifically Chinese miners such as Zijin Mining (ZIJMY.OTC, 2899.HKE, 601899.SSE), (Fig. 12).

On the other hand, royalty and streaming companies like Wheaton Precious Metals (WPM.T, WPM.NYSE), score the best, but only because the carbon footprint of the assets that underpin their royalties are not accounted for. I think this will change.



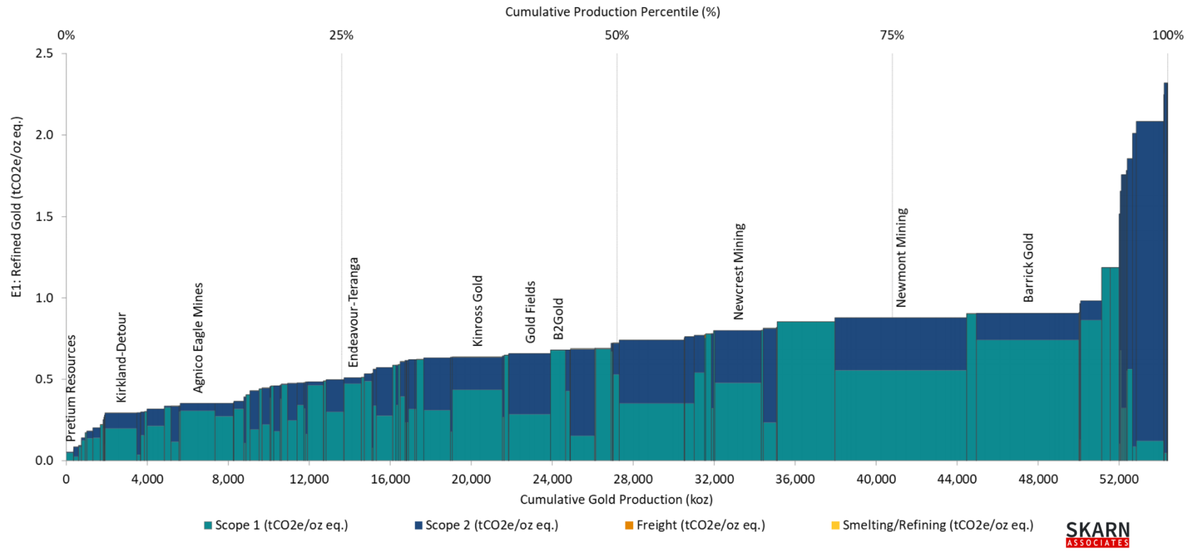
(Figure 12: ESG scores of gold-focused producers illustrate the high footprint of Chinese producers versus streaming and royalty companies, which have the lowest implied footprint. Source: *Sustainalytics*)

By isolating the environmental impact of a portfolio of assets as proxied for by its carbon footprint and comparing it to a peer group of gold producers, the worst performers are still Chinese companies, plus those with assets in South Africa, as both are heavily dependent on coal-fired power plants, (Fig. 13).

Newmont and Barrick Gold also fall in the highest quartile as their Nevada assets are high polluters that rely on coal and natural gas to treat the 'Carlin-style' refractory gold ore.

At the other end of the spectrum, Agnico Eagle Mines' (AEM.T, AEM.NYSE) assets in Quebec, Ontario, and Finland rely on hydropower, supporting its low carbon footprint.

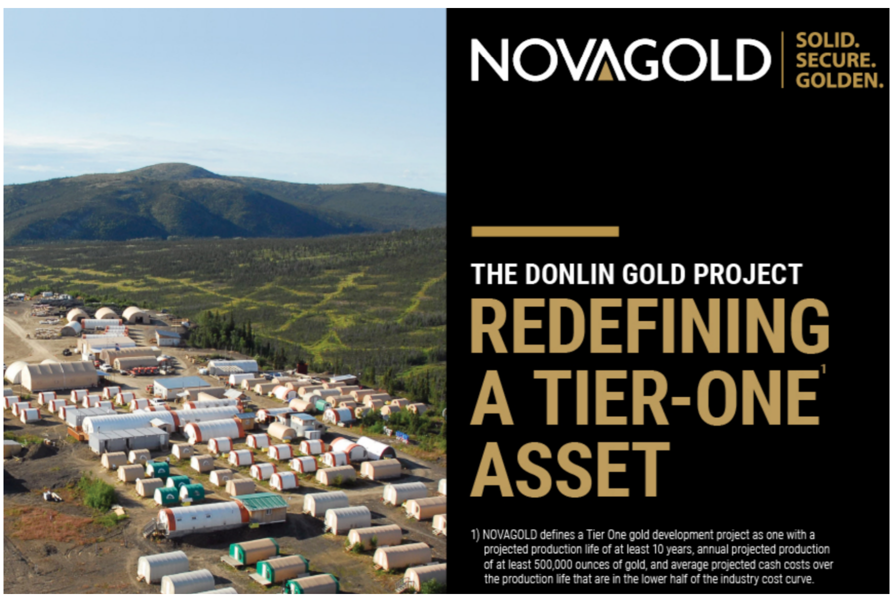
Others are making important efforts to reduce their emissions. For example, Newcrest Mining (NCM.ASX, NCM.T), which is in the third quartile, is looking to sign a 15-year agreement for wind-sourced renewable energy to power its large Cadia underground gold-copper complex in New South Wales, Australia.



(Figure 13: Carbon footprint [Mt of CO2 emissions] of producing gold companies. Source: *Skarn Associates*)

Will these companies risk adding assets with high carbon footprints via acquisitions if they are trying to attract generalist investors with ESG-linked investment filters?

Specifically, does Barrick Gold pull the trigger and acquire Novagold (NG.T, NG.NYSE) to consolidate the remote Tier One Donlin Creek gold deposit in Alaska, (Fig. 14), if the project cannot be connected to the local Anchorage/Fairbanks power grid, which is a blend of natural gas and hydropower, to power its 227-megawatt requirements?



(Figure 14: Redefining a Tier-One asset, but maybe not the way they intended. Source: *Novagold*)

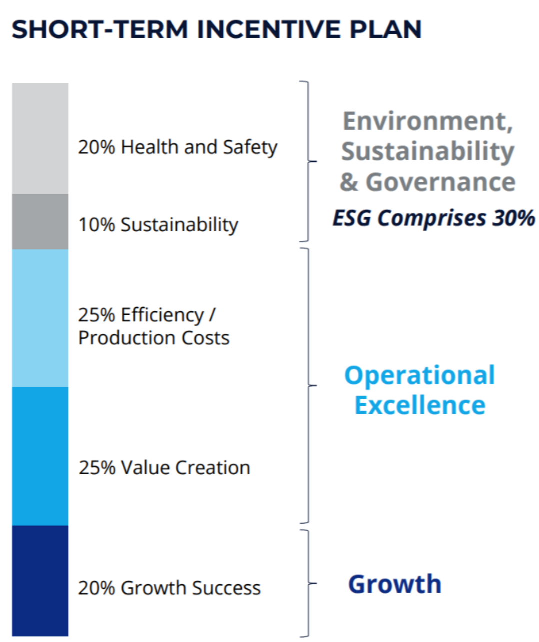
Is Sabina Gold & Silver's (SBB.T, SGSVF.OTC) Back River gold project in central Nunavut an M&A target if it intends to power the processing facility and underground mine with 8 - 3-megawatt diesel generators?

On the flip side, is Pretium Resources' (PVG.T, PVG.NYSE) Brucejack underground gold mine, which falls on the bottom part of the list given its high grade and metallurgical recovery with hydro-power-connected grid power, (Fig. 15), a legitimate "greener" alternative that finally attracts an M&A bid?

(Figure 15: The 35-mile-long, 138 kV overhead transmission line that conveys hydroelectric power to the Brucejack Mine in northern British Columbia. Source: *Rokstad*)

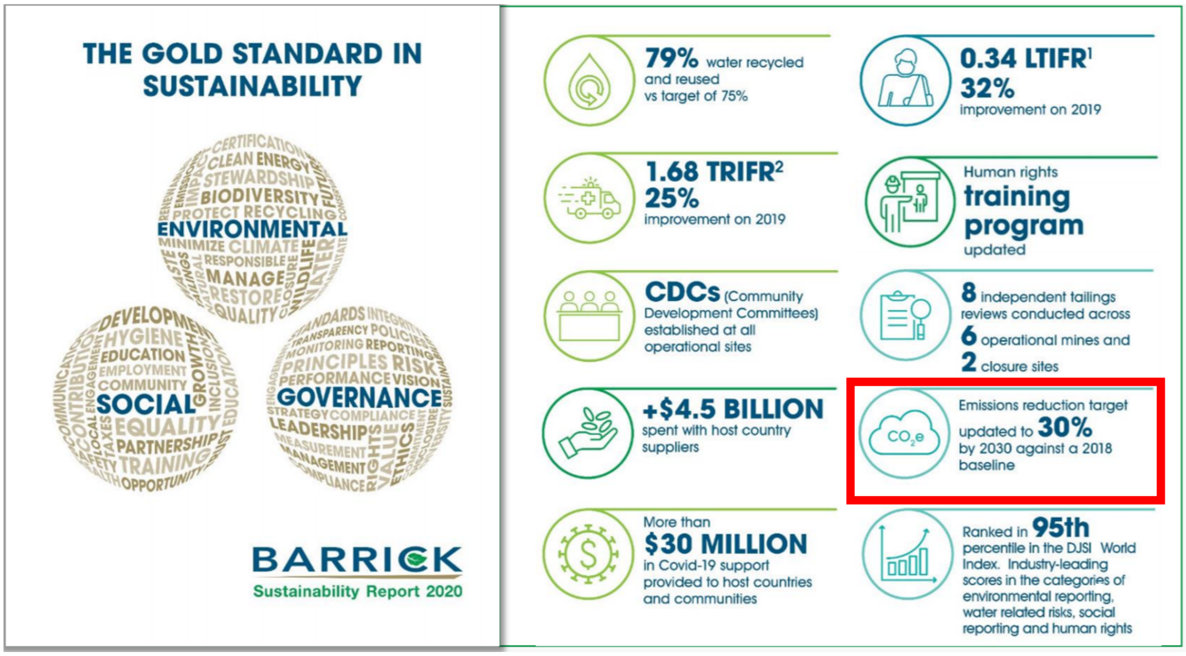
Summary

Although ESG issues have only lately come to the forefront of the investing criteria of major institutional equity funds based in the US and Europe, most majors have been implementing environmental and social policies for over a decade, emphasizing health and safety along with sustainability in their incentive plans, (Fig. 16). Governance, however, is more of a recent phenomenon.



(Figure 16: ESG policies comprise about 30% of Newmont's short-term incentive plan for executives. Source: *Newmont Corp.*)

So far, the environmental impact of mining or its carbon footprint has not been systematically quantified, (Fig. 17), and we are still in the initial stages of understanding its impacts on water usage and contamination.

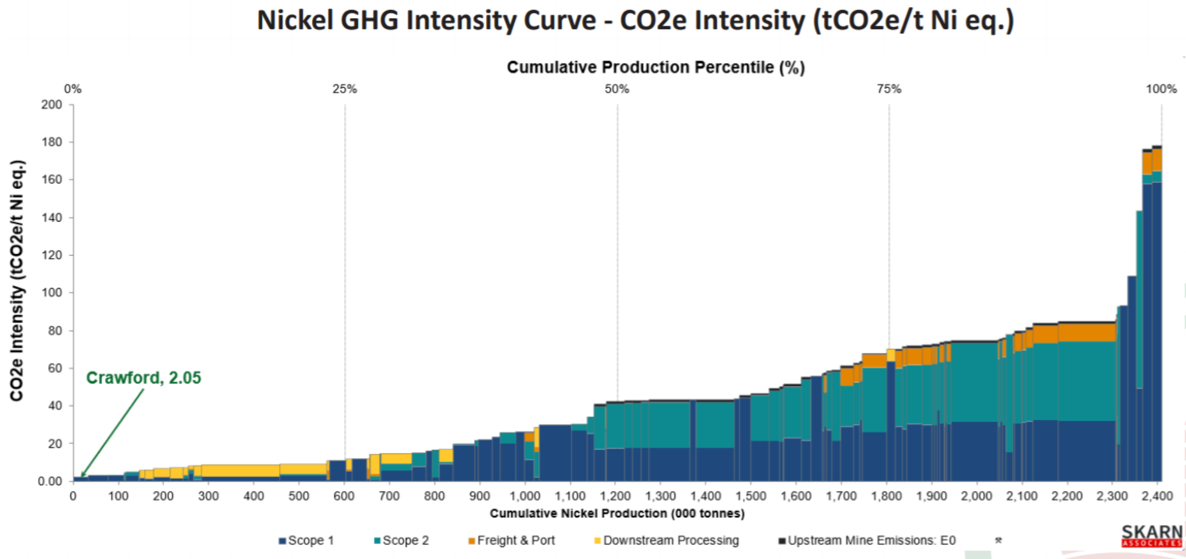


(Figure 17: Is an internally generated report card good enough? Source: *Barrick Gold*)

Regardless, the large funds' increasingly rigorous ESG standards when investing in all sectors of the economy, including mining, will inevitably trickle down to the mid-tiers and juniors, especially those seeking to be acquired by the bigger fish.

Consequently, higher-carbon-footprint projects, such as large remote assets that are over-reliant on fossil fuels for power generation, may have a harder time attracting bids from suitors due to their higher carbon footprint. They will also face a higher cost of capital if/when they seek financing from alternative sources, such as the lender of last resort or private equity and M&A bids from other non-western suitors like Chinese state-owned-entities.

In the near future, we may start seeing more graphics documenting ESG compliance versus a peer group in companies' presentations, (Fig. 18), as they seek to favor M&A suitors over retail investors.



(Figure 18: Cumulative forecast nickel production and its carbon footprint. Source: *Canada Nickel and Skarn Associates*)

Investing on the basis of ESG criteria is about focusing on the future, and this approach will drive investment decisions going forward by major generalist funds and the companies they invest in, leading to a trickle down impact on smaller companies. Therefore, it is key to add this check box to your list of considerations when investing in the mining sector.

That’s the way I see it,

Joe Mazumdar

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