



# How investors view mining's new role as a champion of decarbonization



# The mining industry, long considered a problem in environmental sustainability, is now seen as a critical part of the solution. Investors and consumers alike are beginning to recognize the industry as not only the first source of emissions in the value chain, but a necessary provider of critical raw materials needed for the global energy transition.

Consequently, many mining companies are now embracing their role as stewards of the planet by championing the lowering of greenhouse gas (GHG) emissions and reducing the carbon impact on climate change.

Perceived financial incentives are a major driver for this change in perspective. First, miners see decarbonization as a revenue opportunity—to mine and sell the necessary raw materials such as copper, lithium, cobalt and nickel that feed the growing energy transition, or by charging premium pricing

for lower-carbon products. Additionally, miners view decarbonization as a means to reduce their cost of capital via enhanced access to the growing pool of sustainability-linked funding by investors focused on environmental, social and governance (ESG) factors.

While mining companies must balance the interests of multiple stakeholders—including local communities, governments, regulators, end customers, employees and investors—equity investors often play an outsized role due to the capital-intensive nature of the business.

Moreover, investors are increasingly beating the decarbonization drum. The Accenture Global Institutional Investor Study of ESG in Mining found that, when asked in isolation, 59% of investors want miners to aggressively pursue decarbonization and be market leaders in that effort. In addition, approximately 63% of investors responded that they would be willing to divest or avoid investing in mining companies that fail to meet their decarbonization targets, with the same number equally willing should a mining firm pursue insufficient decarbonization activities.

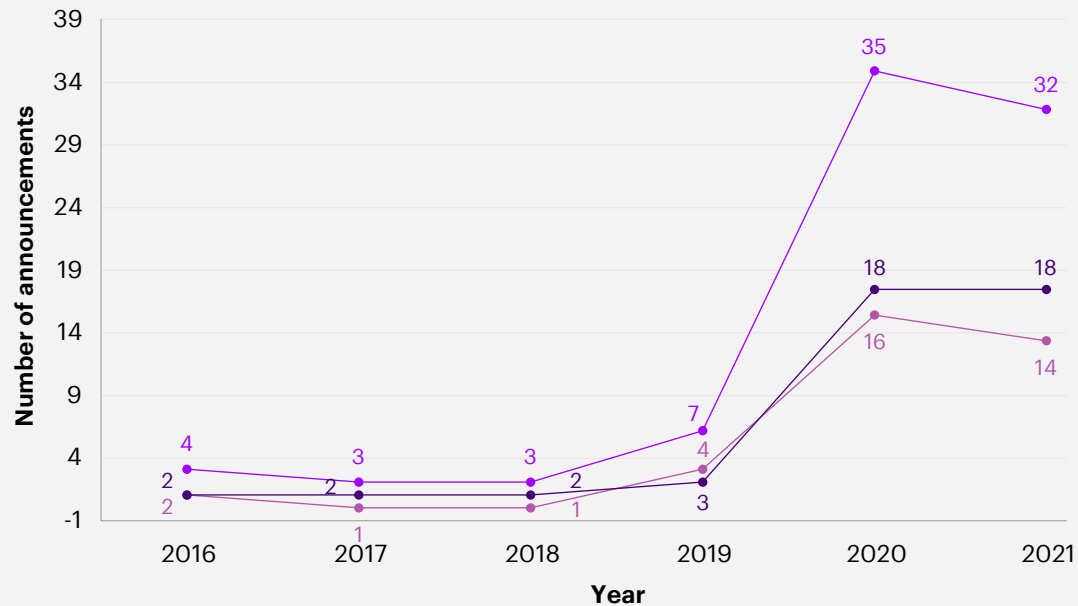
# Decarbonization announcements are becoming commonplace



The word has gotten through to miners. Sustainability, ESG, decarbonization and green are all now commonly part of the corporate vernacular. According to a UNGC-Accenture Strategy CEO Study, 72% of mining and metals CEOs agree that sustainability issues—including decarbonization—are “very important” or “important” to the future success of their businesses (compared to just 54% across all industries).<sup>1</sup>

Almost every major mining company now has programs in place to reduce carbon emissions. An S&P Global Market Intelligence analysis found that seven of the ten largest metals and mining companies by market capitalization have committed to reaching net zero for directly produced emissions (Scope 1) and indirect emissions (Scope 2), or carbon neutrality, by 2050 or earlier.<sup>2</sup> In fact, public announcements on decarbonization initiatives surged in 2020 and 2021, some involving multibillion-dollar capital programs to reduce emissions (see Figure 1).

Figure 1: Rising number of stand-alone decarbonization announcements in the mining sector



- All announcements
- Decarbonization commitment
- Progress announcements

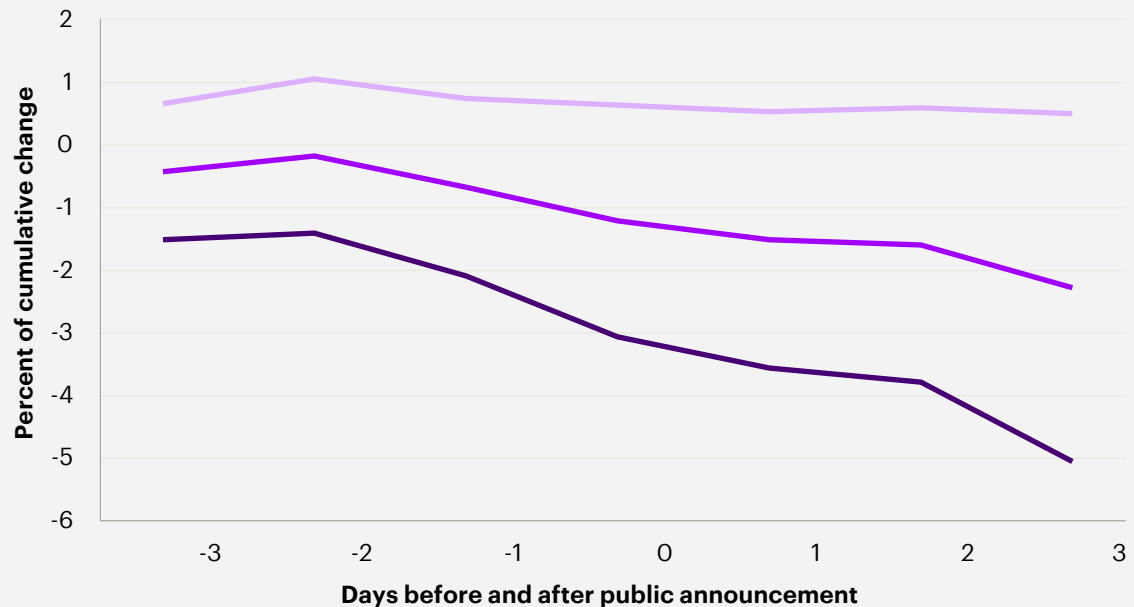
Source: Accenture Research; 2021 is year to date June 30, 2021

However, decarbonization announcements alone do not seem to translate into immediate market value for miners. Investors, ultimately, want to see action—and favorable financial results—before rewarding companies with increased valuation and investment.

Accenture researchers studied share price movements of mining companies three days before and after their decarbonization announcements (progress reports or target announcements, almost all of which are upgrades). The results showed—at best—no clear change between the cumulative average abnormal returns of companies and the broader sector or—at worst—a disappointing negative average market reaction (see Figure 2).

**To determine the reasons behind this market behavior, the Accenture Global Institutional Investor Study of ESG in Mining was conducted.**

**Figure 2: Cumulative abnormal returns for companies making decarbonization announcements**



- Upper bound (95% confidence interval)
- Cumulative average abnormal return
- Lower bound (95% confidence interval)

Source: Accenture Research

# Principal survey revelation: Investors' underlying motivation is mostly financial

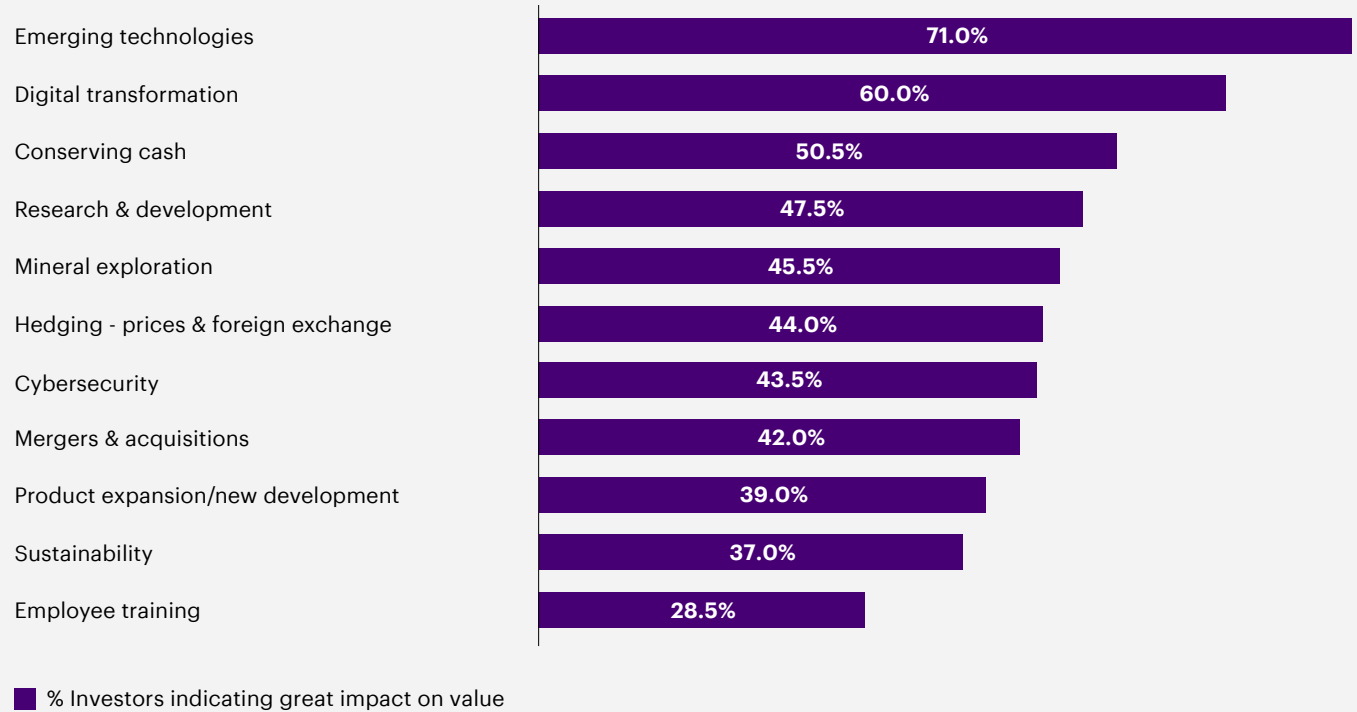


There is no denying the public pressure on mining companies to pursue sustainability, including decarbonization. However, when stacked against a list of other mining-related priorities, investors ranked sustainability initiatives second to last as a value driver (see Figure 3). Ranking highest were technology and digital transformation initiatives.

Our survey found that the potential for increased market valuation and the rise in mining firms' ability to attract green capital were the primary motivations investors cited for requiring mining companies to pursue decarbonization initiatives, chosen as "important" or "very important" by 72% and 71% of respondents respectively.

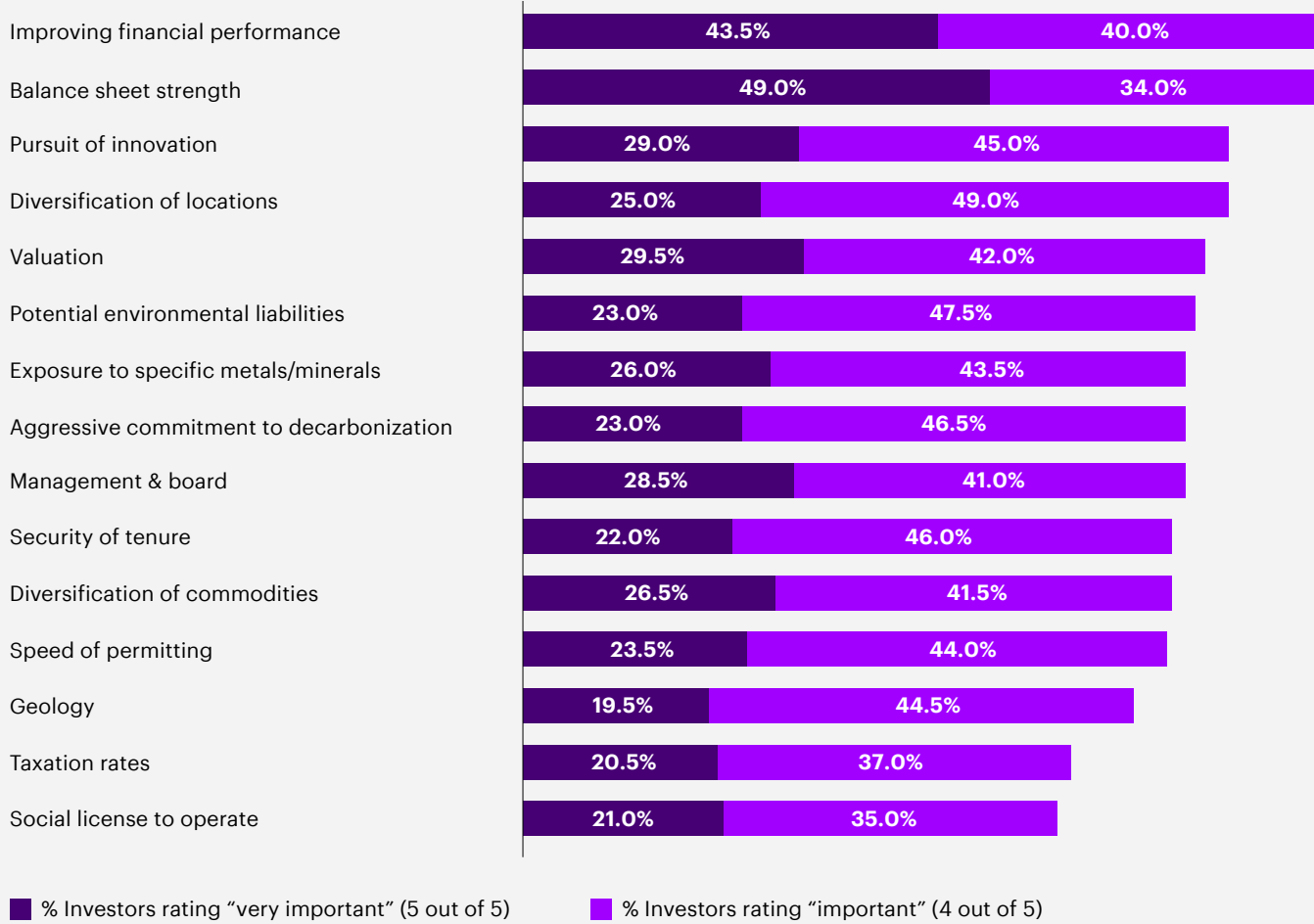
Consequently, the findings suggest a risk that investors may be less inclined to invest in mining companies with strong sustainability credentials, should the availability of green capital decline. In fact, the impact of climate change appears to be less crucial than the financial motivations in investors' minds, with the lowest number (only 57%) of respondents highlighting it as an "important" or "very important" consideration.

**Figure 3: The prioritization of initiatives to improve the valuation of mining companies**



Source: Accenture Global Institutional Investor Study of ESG in Mining

**Figure 4: The importance of criteria in driving allocation of capital**

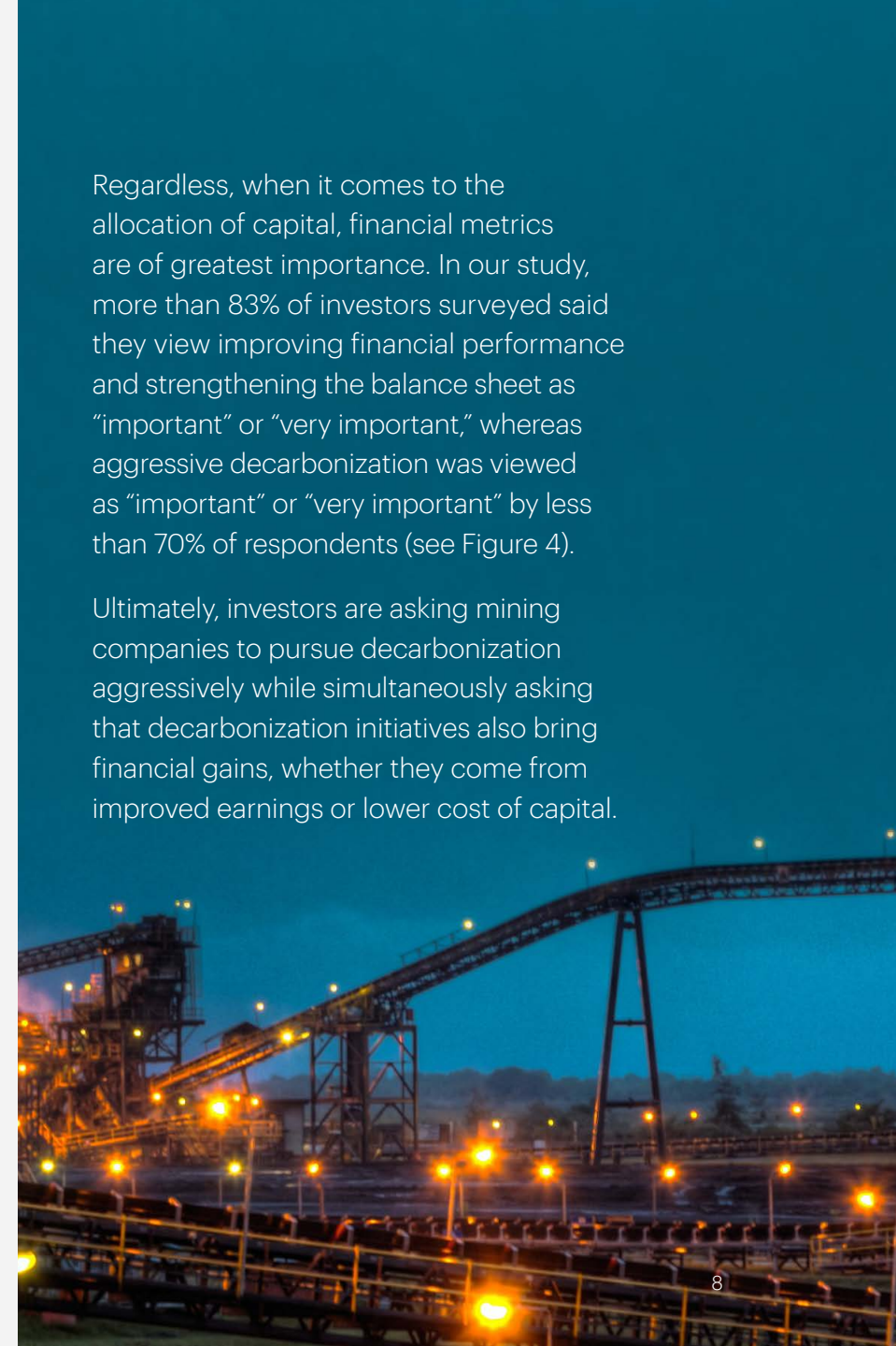


Source: Accenture Global Institutional Investor Study of ESG in Mining

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Regardless, when it comes to the allocation of capital, financial metrics are of greatest importance. In our study, more than 83% of investors surveyed said they view improving financial performance and strengthening the balance sheet as "important" or "very important," whereas aggressive decarbonization was viewed as "important" or "very important" by less than 70% of respondents (see Figure 4).

Ultimately, investors are asking mining companies to pursue decarbonization aggressively while simultaneously asking that decarbonization initiatives also bring financial gains, whether they come from improved earnings or lower cost of capital.

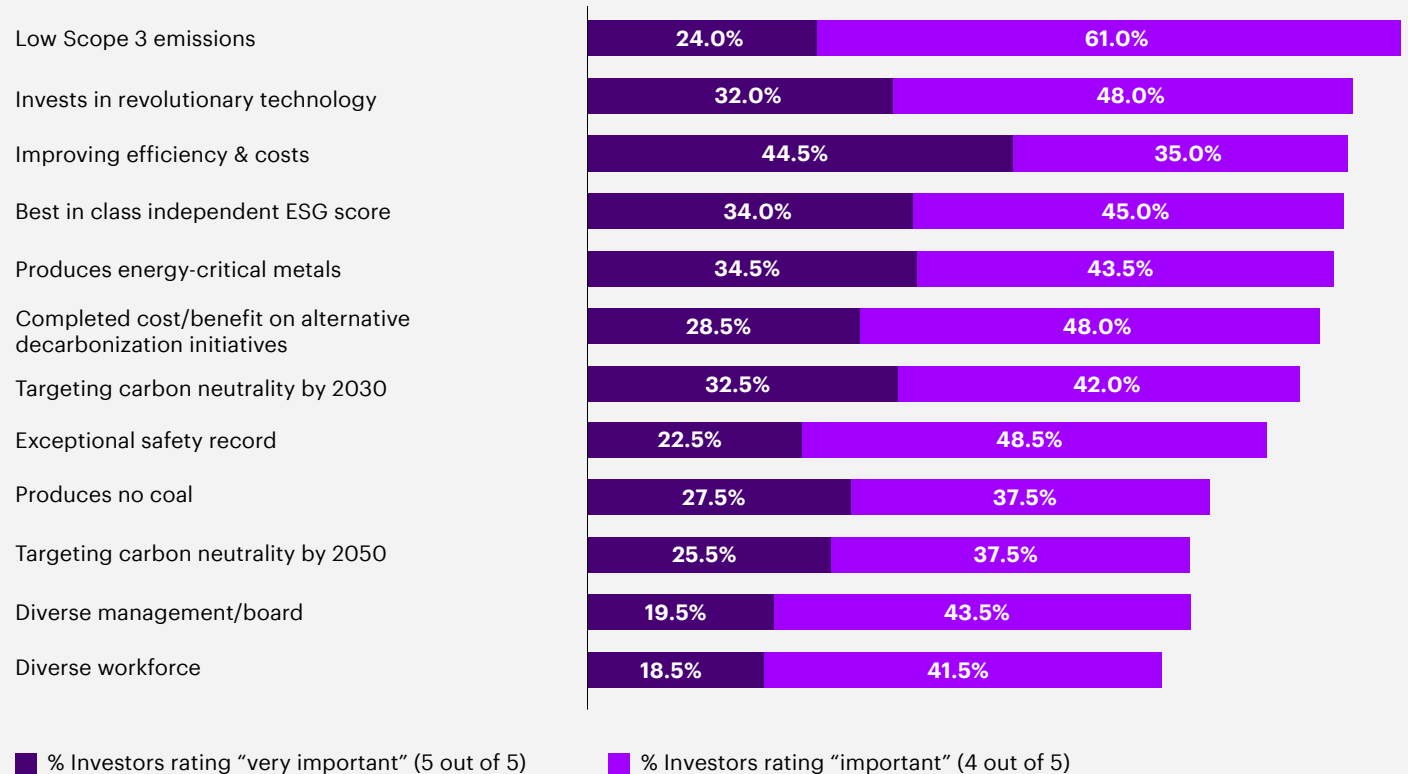




With regard to sustainability initiatives, Scope 3 emissions, which are created by the buyer of the mine products, led the field as the most important valuation driver to investors (see Figure 5). In fact, when investors were specifically asked about the importance of Scope 3 emissions, they outranked Scope 1 and 2 emissions in importance by a factor of nearly four—even when Scope 3 emissions were not necessarily significant (see Figure 6).

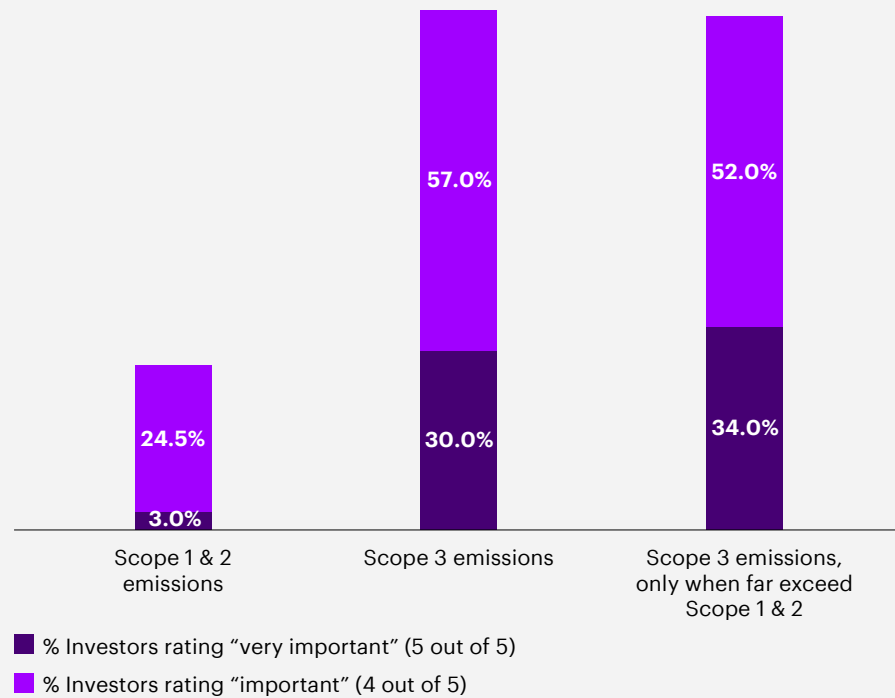
**Low Scope 3 emissions were the most important valuation driver to investors.**

**Figure 5: Attributes that would drive a significant valuation premium for investors**



Source: Accenture Global Institutional Investor Study of ESG in Mining

**Figure 6: The importance of emissions categories to investors**



Source: Accenture Global Institutional Investor Study of ESG in Mining

The mining and metals industries are responsible for approximately 8% of global emissions, with the vast majority related to downstream metal production.<sup>3</sup>

The challenge for miners is that they have far less control over emissions from downstream producers. Accordingly, miners have been understandably reluctant to announce Scope 3 targets.



# Decarbonization initiatives that can enhance shareholder value

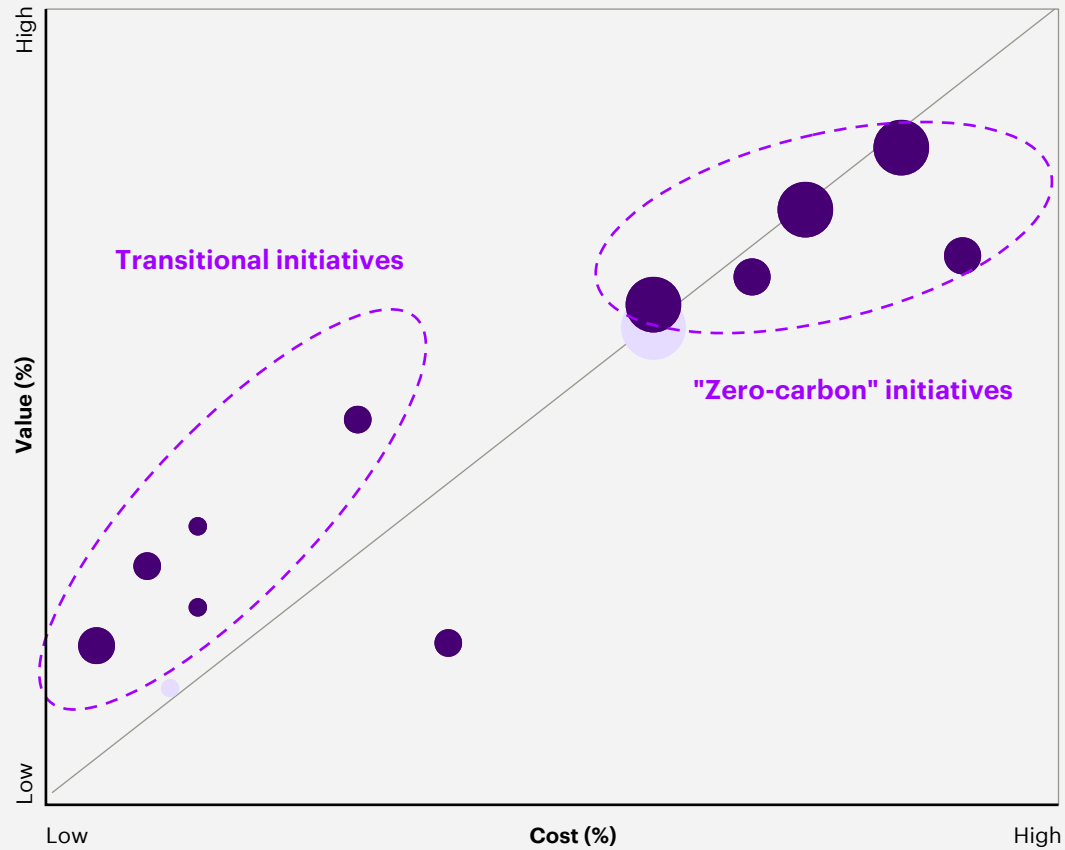


**As previously noted, our survey indicates that investors view emerging technologies and digital transformation as offering the best opportunities to achieve value.**

Advanced technologies such as data analytics, artificial intelligence (AI) and blockchain will likely drive operational efficiencies that enhance revenues and earnings. Importantly, these technologies will also be instrumental in achieving decarbonization and reporting on decarbonization performance. Consequently, it is reasonable to expect that digital transformation projects will be well-received by investors, as well as other stakeholders.

Accenture researchers have developed simple cost-value maps—similar to carbon abatement curves—that can guide mining companies toward allocating capital to the most economically efficient and effective decarbonization initiatives that offer the greatest opportunity to return shareholder value. The maps vary widely depending on commodities mined, location and the mining and processing methods employed (see Figures 7 and 8).

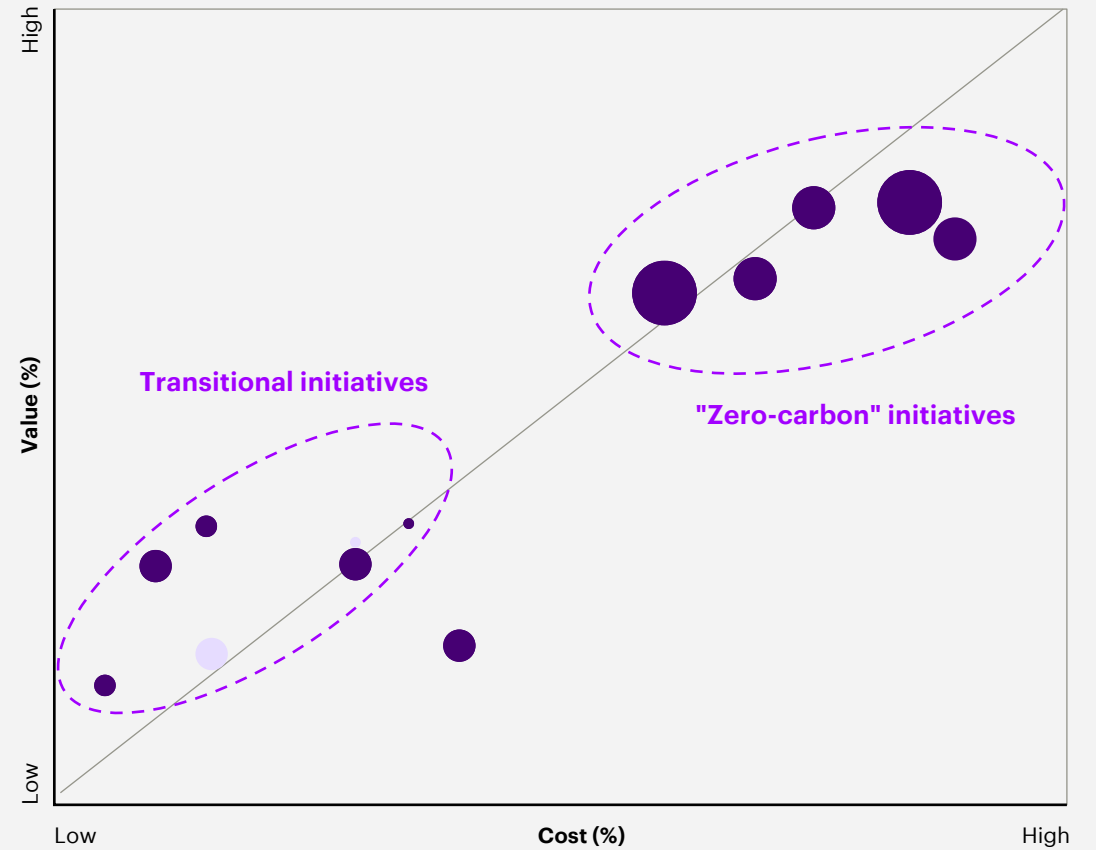
**Figure 7: Cost-value map of decarbonization initiatives**  
 —Australian (Pilbara) iron ore example



Scope 1 & 2 initiatives    
  Scope 3 initiatives  
 Note: Bubble size indicates carbon footprint reduction potential (including Scope 3)

Source: Accenture Research

**Figure 8: Cost-value map of decarbonization initiatives**  
 —Chile copper example



Scope 1 & 2 initiatives    
  Scope 3 initiatives  
 Note: Bubble size indicates carbon footprint reduction potential (including Scope 3)

Source: Accenture Research

## There are several approaches mining companies can take to improve efficiency and reduce carbon output, including shorter-term, transitional initiatives and longer-horizon initiatives to eliminate GHG emissions.

### Shorter-term initiatives:



Leveraging data analytics, along with AI and machine learning, to improve efficiencies that enhance profitability while reducing carbon footprint



Adopting blockchain initiatives to measure, report and audit carbon emissions through the entire value chain



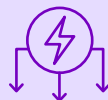
Automating operations to reduce energy consumption by regulating and optimizing machinery speeds and movement



Deploying a trolley assist that reduces diesel fuel consumption by enabling trucks and trains to use on-site electricity—ideally generated using renewable energy



Implementing an internal carbon price to aid in day-to-day decision-making



Employing less power-intensive equipment and switching to biofuels

### Longer-horizon initiatives:



Replacing on-site fossil fuel power generation with renewable sources of electricity



Adopting hydrogen fuel cell technology to power machinery and haulage (assuming green hydrogen)



Re-fleeting with electric vehicles (assuming renewable electricity generation)

The solutions with limited value enhancement include divestiture of coal mining assets and carbon capture, utilization and storage (CCUS).

With either approach, digital transformation is key. Net-zero solutions supported by digital technologies can provide cost-effective ways of achieving emissions reductions across sectors and jurisdictions. Looking at Europe, for example, recent Accenture research reveals

that pursuing strategic short-term and next-horizon opportunities will allow European companies to not only position themselves to achieve the ambitious target of 55% emissions reduction by 2030 but also unlock around €28 billion in business value across six sectors—chemicals, cement, iron and steel, battery, pharma and data centers—by 2025.<sup>4</sup>



**And how should mining companies proceed?  
The most prudent approach appears to be for them to develop near-term initiatives that provide quick wins to gain investors' trust and confidence before they tackle the big decarbonization challenges, which may have greater impact but also come with greater risk.**

# Addressing Scope 3 emissions



## **Investors, along with other stakeholders, are sending a clear message that mining companies should focus their decarbonization initiatives on Scope 3 emissions.**

Since mining's direct production of GHG emissions is relatively small, helping downstream parties reduce emissions can have a much larger impact and, by quantifying and monetizing the solutions, generate financial returns that drive higher shareholder value.

Mining companies are actively pursuing a number of avenues to address Scope 3 emissions, such as innovation joint ventures and R&D partnerships with downstream companies that are devising new low-carbon processes and products. However, in the case of bulk materials like iron ore, focusing on beneficiation and grade control (e.g., blast movement monitoring) can have a greater material impact on Scope 3 emissions, at least until the steelmaking process has been fully decarbonized.

For example, our analysis has found that improving a relatively low-grade 58% iron ore product by just 0.5% more iron (Fe) could reduce downstream steel mill emissions by an estimated 0.75% per unit of hot metal or steel produced. Given that downstream Scope 3 emissions for lower-grade iron ore products can exceed 100 times the iron ore of miner's Scope 1 and 2 emissions, this modest but significant emissions reduction could represent more than the combined Scope 1 and 2 emissions produced directly by the iron ore mining company!

Moreover, while higher-grade products already realize premium prices, carbon pricing has the opportunity to widen this premium further as buyers seek to avoid carbon taxes and other penalties. In the same example above, where a 58% Fe iron ore product is beneficiated to a 58.5% Fe product, the price premium differential could widen by more than US\$1/tonne (from an estimated US\$5/tonne to US\$6/tonne—approximately a 20% price premium) should steel mills be subject to a US\$100/tonne carbon price.

Central to earning these price premiums is accurate, auditable carbon tracking that starts at the mine and extends along the entire downstream value chain. As more and more mining companies adopt such practices, we can envision a day when metal and mineral prices will be quoted based on their global carbon footprint or sustainability score. For example, based on a US\$100/tonne carbon price, a steel producer might be willing to pay a premium of US\$3/tonne for zero-carbon 58% Fe iron ore, or a US\$3.16/tonne premium for zero-carbon 66% Fe "green" iron ore. However, this is entirely dependent on the buyer being motivated to purchase such green mine products, which may entail carbon taxes or end-consumer pressures.

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# Making decarbonization environmentally and financially rewarding



**The mining industry has reached a unique juncture where its former image as environmental villain is being shed and replaced as champion of sustainability, principally through decarbonization and its crucial role in providing the raw materials necessary to facilitate the energy transition. Many miners are embracing their new role and enthusiastically pursuing decarbonization initiatives, but they must do so strategically if they are to balance the interests and priorities of their various stakeholders.**

Sustainability and profitability are not mutually exclusive ideals. As highlighted in our report, [Shaping the Sustainable Organization](#), Accenture, in collaboration with the World Economic Forum, has found that companies across all sectors with a stronger “Sustainability DNA” achieve, on average, a 21% increase in both EBITDA (earnings before interest, taxes, depreciation and amortization) and environmental and societal impact. Decarbonization may be only one aspect of sustainability, but similarly optimal management practices in decarbonization can enhance value in the mining sector.

Investors, hardly the only stakeholder to whom miners answer, have signaled their willingness to reward companies for achieving decarbonization goals and reducing GHG emissions. However, they will only grant these rewards provided they do not impact earnings and free cash flow.



**The findings from our study suggest that investors see the greatest opportunities when miners focus on technology, digital transformation and efficiency initiatives that can reduce all emissions (Scope 1, 2 and 3); improve financial results; aid in reliable carbon emissions measurement and tracking; and enable the monetization of decarbonization success all down the value chain.**

Moreover, these initiatives lay the groundwork to enable miners to leverage their in-house human ingenuity to de-risk the greater decarbonization challenges ahead of them. The result is more than a boost in environmental sustainability—it is a source for long-term financial and valuation sustainability.

### **About the study**

The Accenture Global Institutional Investor Study of ESG in Mining surveyed decision-makers at 200 public and private institutional investment firms with mining assets in their portfolio valued at approximately US\$847 billion in June 2021. The firms were primarily based in Australia, Canada, Hong Kong, New Zealand, Singapore, South Africa, the United Kingdom and the United States. The purpose of the study was to understand the impact of environmental, social and governance (ESG) factors on investment decisions.

This study was conducted in 2021, prior to Russia's invasion of Ukraine in February 2022. There is risk that investor sentiment to ESG initiatives may have changed as a result of the invasion, however, we still believe the study's results accurately reflect investors' opinions.

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## Sources

All data points in this report are from the Accenture Global Institutional Investor Study of ESG in Mining except as indicated below.

1. Peter Lacy and Jessica Long, "[UNGC – Accenture Strategy CEO Study on Sustainability \(2019\)](#)" (Accenture)
2. Taylor Kuykendall, "[Path to net-zero: Seeing climate opportunity, miners target emissions cuts](#)" (S&P Global Market Intelligence)
3. Hannah Ritchie and Max Roser, "[Emissions by Sector](#)" (Our World in Data)
4. Jean-Marc Ollagnier, Sytze Dijkstra and Lasse Kari, "[European industries can grow with green](#)" (Accenture)

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