

**BETH WILLIAMSON**

 Head of Sustainable  
Equity Team Research

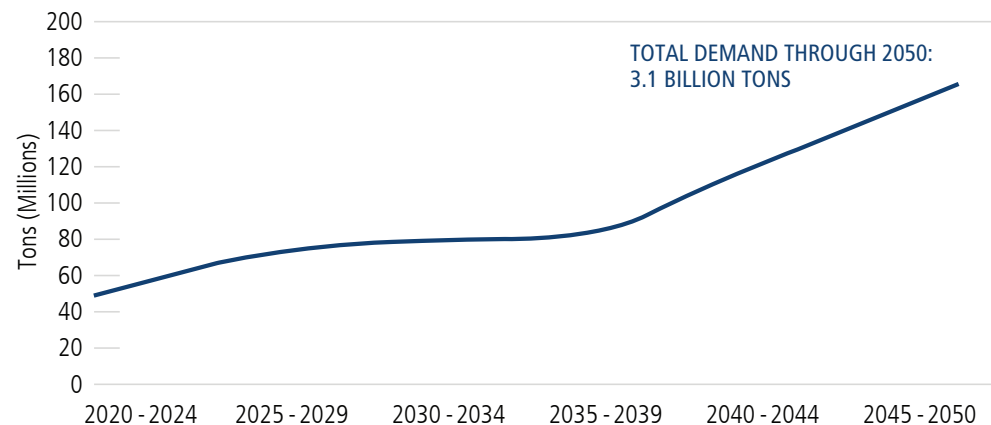
There are opportunities for investors to participate in the growth of more “sustainable” mining while mitigating ecological and societal risks.

## ESG Perspectives: Mining Industry Opportunities Emerge as Demand Grows for Essential Minerals for Decarbonization

There is an underappreciated risk to the energy transition: the supply of clean energy depends on mined natural resources that are steeped in ecologic, geopolitical and governance challenges. A recent World Bank report estimates that over three billion tons of minerals are required to match the energy production and storage demands of a “2-degree future” by 2050.\*

The goal of the 2-degree scenario (2DS) is to curb the rise in average global temperatures to 2 degrees Celsius by 2050. Surprising to some, it is not the quantity of minerals that jeopardizes this 2DS goal. Instead, the risks to the energy transition are the environmental, social and governance impacts of the mining industry itself.

### PROJECTED ANNUAL AVERAGE DEMAND OF MINERALS UP TO 2050 UNDER THE 2° CELSIUS SCENARIO



World Bank Group, “Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition,” Climate-Smart Mining Facility, Kristen Hund, Daniele La Porta, Thao P. Fabregas, Tim Laing, John Drexhage.

The nature of mining requires the removal of earth to extract minerals where the reserves are located. Metals that are likely to see demand growth because of their energy transition importance tend to be concentrated in areas vulnerable to the effects of climate change and human rights violations. As such, mining companies have high exposure to health and human safety incidents, community unrest and environmental liabilities.

For these reasons, the Calamos Sustainable Equities team includes a risk-based exclusionary screen that curbs our investments in mine operators and extractors. Our screen states:

*We do not invest in metals and mining companies. By nature, the mining industry has enormous ecological impacts. Mining requires access to large volumes of water and generates large volumes of waste. Proper management of waste is often difficult, creating numerous liabilities in the form of spills and releases, surface water runoff and contamination. Mining is also labor intensive and takes place in challenging environments, often in countries with varying safety standards.*

▀ We believe we have a fiduciary responsibility to our shareholders to avoid investments in high-risk industries with low probable returns.

The Calamos Sustainable Equities Team understands that the world cannot reach its climate goals without access to rare earth minerals. And yet, we believe we have a fiduciary responsibility to our shareholders to avoid investments in high-risk industries with low probable returns. This dilemma is not lost on us.

We believe the shift to renewable energy and low-carbon technologies cannot come at the expense of the very environment we are trying to conserve. Moreover, the only way to mitigate the above-mentioned risks while ensuring the long-term financial success of the mining industry is for the mining companies to address their “dirty” profiles head-on.

Mining companies recognize the need to “green” their images, and they see the green transition as a new lifeline to their otherwise deteriorating fossil-fuel-dependent industry. To this end, technological developments have increased automation.

This automation has reduced health and safety incidents because workers are required to enter hazardous mining shafts less often and therefore, are less exposed to noxious materials. In addition, advancements in exploration and drilling equipment have led to increased precision, thereby reducing unneeded excavation. Research and development efforts are beginning to identify new extraction methods that use less harmful chemicals and ways for minerals to be extracted from existing waste streams. Finally, fleet modernization through the use of hydrogen power, renewable energy and energy efficiency improvements can lower the industry’s environmental footprint. Unfortunately, these gains are limited in scope and are not yet the norm.

There are opportunities for investors to participate in the growth of more “sustainable” mining while mitigating ecological and societal risks. Companies that are providing products and services to the mining industry to help automate and reduce the “environmental” cost of production with low-carbon solutions come to mind. Our mission is to identify and evaluate such opportunities for investors. We hold some of these types of companies in our portfolios.

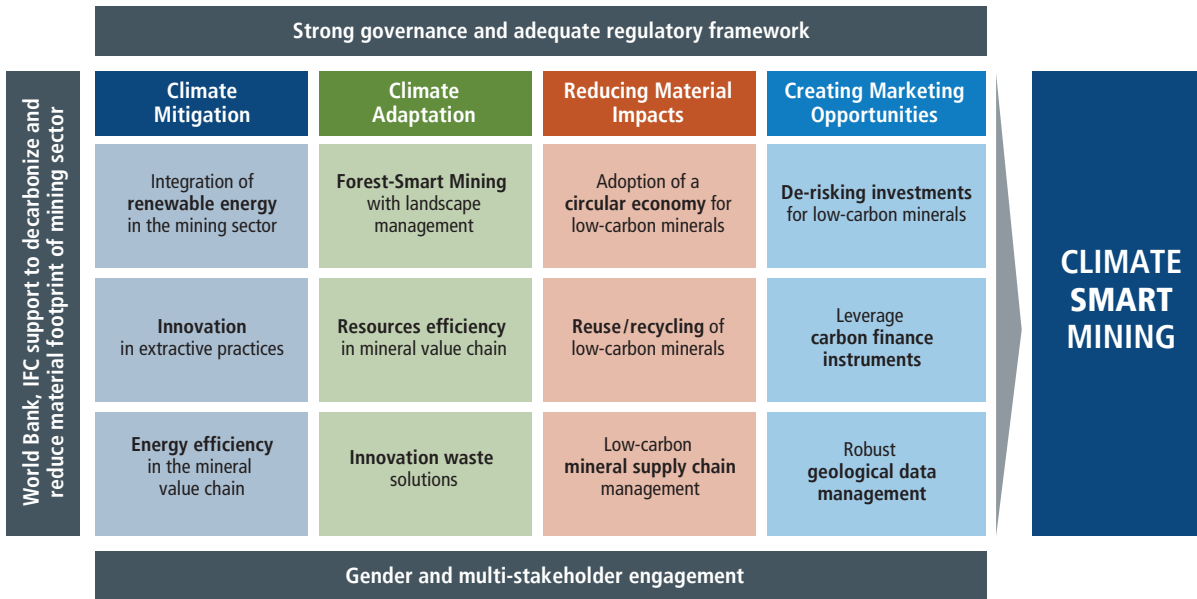
The mining industry is taking active steps to improve its environmental record, but this will be a very long transformation process. Mining companies will need to continue improving their ESG credentials across their operations and supply chains to implement meaningful change.

There are many industry organizations that mine operators and extractors can, and should, participate in to ensure the best practices are met, if not exceeded (see sidebar). One of the most important is the World Bank’s Climate-Smart Mining initiative. Developed to align with the Sustainable Development Goals and the Paris Agreement, the Climate-Smart Mining Initiative is designed to help resource-rich developing countries benefit from the increasing demand for minerals and metals while ensuring the mining sector is managed in a way that minimizes its environmental, social and governance risks.

## ORGANIZATIONS WORKING TO ENSURE BETTER MINING PRACTICES

- » IRMA: The Initiative for Responsible Mining Assurance
- » ICMM: The International Council on Mining & Metals
- » EITI: The standard by the Extractive Industry Transparency Initiative
- » IFC Guidelines for Mining: The International Finance Cooperation’s Environmental, Health, and Safety Guidelines
- » ARM: The Alliance for Responsible Mining
- » OECD Guidance for Meaningful Stakeholder Engagement in the Extractive Sector
- » World Bank: Climate Smart Mining

## A CLOSER LOOK: THE WORLD BANK'S CLIMATE SMART MINING INITIATIVE



World Bank Group, "Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition," Climate-Smart Mining Facility, Kristen Hund, Daniele La Porta, Thao P. Fabregas, Tim Laing, John Drexhage.

Outside of the mining industry, the Calamos Sustainable Equities team analyzes the end-user's supply chain logistics as well as a company's conflict minerals policy. We seek companies that pursue diversified sources of rare earth minerals, have strong auditing capabilities in place and that are actively implementing life-cycle design to develop products that use fewer mineral inputs, and those that are researching alternative raw materials and end-of-life recycling initiatives that can limit the need for virgin minerals.

**For more information about our team, experience, and investment strategies, please visit: [www.calamos.com/sustainable](http://www.calamos.com/sustainable).**

### THE CALAMOS SUSTAINABLE EQUITY STRATEGIES: OUR PHILOSOPHY

More than 20 years ago, our team developed one of the first sustainable/ESG research platforms, and our proprietary process pre-dates many of the largest ESG third-party research providers. We believe a well-diversified portfolio of high-quality stocks can produce above-average market returns with lower volatility over the long term. We seek to achieve above-average returns with lower volatility by focusing on companies that generate higher returns on capital, possess better growth prospects, and hold sustainable competitive advantages over their peers.

We believe companies with strong ESG characteristics are better equipped to adapt to change, to evolve, and to avoid unnecessary liabilities contributing to investor return potential and risk reduction—integrating ESG analysis with traditional financial analysis produces better financial and societal results.

## ABOUT THE AUTHOR



**Beth Williamson**  
***Vice President, Head of Sustainable Equity Team Research***

Beth Williamson joined Calamos Investments in 2021 and contributes more than 15 years of ESG investment experience. Prior to joining Calamos, Beth worked for a multi-billion-dollar asset management firm, rising to the position of Director of ESG with responsibilities for developing and implementing ESG research methodologies, overseeing corporate engagement efforts and the firm's ESG materiality framework. Previously, she was a Sustainability Analyst for Portfolio 21 Investments. She began her career as a Shareholder Advocate at Green Century Capital Management. Beth earned a BS degree in Environmental Science from the University of Vermont and an MS degree in Sustainable International Development from Brandies University.

\*World Bank Group, "Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition," Climate-Smart Mining Facility, Kristen Hund, Daniele La Porta, Thao P. Fabregas, Tim Laing, John Drexhage.

Opinions, estimates, forecasts, and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. The views and strategies described may not be appropriate for all investors. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as, recommendations.

Calamos Advisors LLC is a federally registered investment advisor. Form ADV Part 2A, which provides background information about the firm and its business practices, is available upon written request to: Calamos Advisors LLC, 2020 Calamos Court, Naperville, IL 60563-2787, Attn: Compliance Officer

NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE

**CALAMOS**<sup>®</sup>  
INVESTMENTS

Calamos Advisors LLC  
2020 Calamos Court | Naperville, IL 60563-2787  
Tel: 800.582.6959 | calamos.com | caminfo@calamos.com  
© 2022 Calamos Investments LLC. All Rights Reserved.  
Calamos<sup>®</sup> and Calamos Investments<sup>®</sup> are registered  
trademarks of Calamos Investments LLC.

ESGMINCOM 18949 0422