

Mining for a Sustainable Future: Why the Philippine Mining Sector Must Measure, Track, and Reduce Carbon Emissions

Mining and its Key Role in Decarbonization

The world continues to move towards decarbonization, and many stakeholders see the mining sector as an important sector to tackle the challenges of not just addressing the issues but also taking an active role in the conversation and figuring out low-carbon solutions that provide positive impacts for the environment, society, and the economy.

Decarbonization in Mining, especially in the Philippines, however, is a relatively new topic of discussion and is currently driven by regulatory compliance. However, there are positive impacts for companies in this field to pursue directions to reduce their carbon emissions output to gain better enterprise-wide value.

This article aims to provide insights on why Philippine mining companies should tackle decarbonization in its operations and value chain, what to look for in terms of regulatory guidance, and what can be done to either start or enhance their efforts on decarbonization.

Carbon Emissions and the Global Mining Sector

The global mining sector continues to greatly contribute to the effort by producing important components that power up renewable energy systems, transport, and low-carbon infrastructure. However, it also is a significant source of negative environmental impacts, such as greenhouse gas emissions (GHG).

Mineral extraction, which includes essential ores such as gold, nickel, and copper, accounts for up to eight percent of global carbon emissions based on a report by CDP, 70 to 90 percent of which come from value chain or Scope 3 emissions.

As mining is deemed an important driver of the Philippine economy, this challenge is also emerging in the mining sector in the country.

Two events that have consistently made this point within the past year in the Mining Sector in the Philippines include workshops from the Philippine Extractive Industries Transparency Initiative (PH-EITI), and the Mining Philippines

2025: International Conference and Exhibition by the Chamber of Mines of the Philippines (COMP) last October 2025. On the latter, no less than President Ferdinand Marcos, Jr. emphasized the important role of the mining sector in the ongoing energy transition revolution brought about by the need to combat climate change, including the role of mining in the development of low-carbon technologies such as batteries for electric vehicles and components of renewable energy systems. However, it is worth noting that the mining sector can also contribute to decarbonization by investing in its own carbon footprint reduction.

Regulations on Carbon Emissions Reduction for the Mining Sector in the Philippines

Though not as publicly acknowledged in the overall Philippine landscape on carbon emissions management, the mining sector in the Philippines is bound by both national and international regulations on greenhouse gas accounting, monitoring, and reduction measures. The table below summarizes such regulations.

Regulation/Standard	Provisions/Description
2020 PMRC IRR	The Philippine Mineral Reporting Code of 2020 (as amended) requires mining companies to submit their data on greenhouse gas emissions.
DENR DAO 2025-10	Integration of the UN SDGs into the formulation and implementation of the Social Development and Management Program (SMDP) planning also includes actions related to decarbonization under SDGs 12 (Responsible Consumption and Production) and 13 (Climate Action)
Implementation Plan of the Philippines NDC to the Paris Climate Agreement (2020-2030)	The Philippines commits to a projected greenhouse gas (GHG) emissions reduction and avoidance of 75%, for 2020 to 2030, of which 2.71% is unconditional and 72.29% is conditional.
BSP Circular 1187	Projects subjected under the Sustainable Finance Taxonomy Guidelines require the reporting of impacts related to decarbonization as part of processing for bonds, loans, or any financial instruments related to green and sustainability-related projects.
SEC Memorandum Circular 16-2025	Publicly-listed companies (PLCs) and large non-listed entities (LNLs) will be required to disclose sustainability-related metrics across all operations and value chain as part of the Philippine government’s adoption of the IFRS Sustainability Standards S1 (General Sustainability) and S2 (Climate Change). This will replace current regulations on sustainability reporting that only covers PLCs and their respective operations. NRI notes that similar requirements are now in place in Australia, Japan, and China.
TSM Climate Change Protocol	Requires actions for disclosure related to enterprise/corporate-wide, and facility-wide carbon emissions management which includes actions taken to address carbon emissions and eventual decarbonization
EITI 2023 Standard, Requirement 3.4	“Companies are encouraged to disclose greenhouse gas (GHG) emissions in alignment with existing leading disclosure standards. Where feasible, the multi-stakeholder group is encouraged to request disaggregated disclosures.”
EU Carbon Border Adjustment Mechanism (CBAM)	Carbon-intensive goods such as cement, steel, aluminum, fertilizer, electricity, and hydrogen will be imposed with tariffs in the same manner as carbon-related matters under the EU Emissions Trading Scheme (ETS).

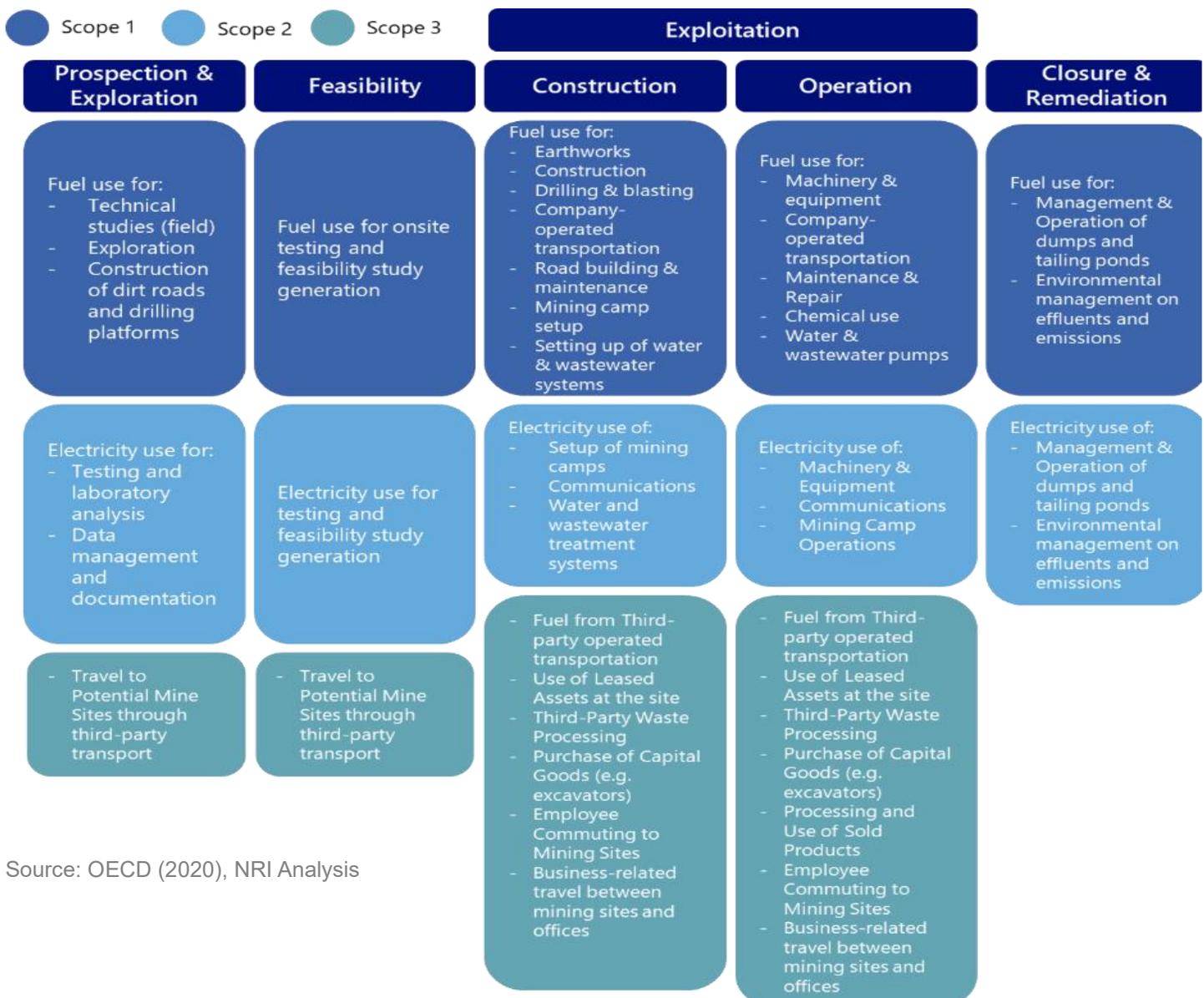
Source: NRI

Mining companies, regardless of size, are now expected to, at some point, address the said regulations. This may also be dependent on further changes in regulation set by agencies such as the Department of Finance (DOF), Department of Trade and Industry (DTI), and the Department of Environment and Natural Resources (DENR), as well as international regulatory bodies.

Philippine mining companies are highly encouraged to look at these regulations not just for regulatory compliance, but as starter points to identify, assess, manage, and act upon carbon emission sources within its operations and value chain. These would certainly provide companies with the means to better look at which part of the overall mining process could they target first and prepare for those that would require more time to address.

Imagining Carbon Emission Alignments Across the Value Chain

Carbon emissions are present and observed throughout the mining value chain, from exploration and feasibility studies through construction, operation, and closure. To fully understand where these are, a value chain analysis aligns closely with all regulatory requirements for sustainability disclosure should be considered, such as the one shown below



Source: OECD (2020), NRI Analysis

From the diagram, you can see that:

- Exploration activities generate emissions through fuel use and testing
- Construction embeds emissions and costs through infrastructure and equipment choices that can persist for decades
- Operations generate sustained emissions through fuel and energy consumption
- Closure and remediation create long-term environmental and financial liabilities that must be provisioned and managed.
- Scope 3 sources, especially on Processing of Sold Products (e.g., minerals) need to be considered

It is highly noted that Scope 3 (value chain) emissions are the largest contributor to mining's carbon footprint, yet they are often overlooked because they occur outside the mine site. For Philippine nickel operations, Scope 3 sources include downstream processing, third-party transportation, purchased goods and services, capital goods, and employee travel.

Looking at carbon emissions from these points of view can lead to better understanding of where the mining firm can focus on, and

eventually form up decisions related to capital allocation, transition planning, and asset management resilience.

Potential Positive Impacts of GHG Reporting and Reduction to Philippine Mining Companies

Having this kind of perspective established would therefore lead to more resilient operations for Philippine companies, despite the challenges that may potentially be experienced in such things as data collection and effective stakeholder engagement. These include:

- Emerging policy directions such as potential adoption of carbon pricing, emissions caps, and climate accountability legislation that may lead to emerging risks that may affect enterprise value
- More robust responses to policy shifts without disruption and to maintain strategic flexibility
- Reduction of risks linked to greenwashing and emphasizes faithful representation, materiality, and accountability in sustainability disclosures

For mining companies, this means that emissions disclosures should really be

supported by credible information that is mapped, calculated and reported, with clear methodologies, and having effective governance.

How NRI can help Philippine Mining Companies

NRI Manila Branch developed a six-step process on emissions management for companies in the Philippines that provides a practical roadmap aligned with regulatory requirements. This phased approach allows mining companies in the Philippines to build knowledge and capability progressively, focusing first on credible baselines and consistent tracking before moving toward targets and reductions.

1	2
Determine impacted business areas	Define Boundaries
Determine which areas of the business are impacted by requirements for GHG emissions management	Determine which specific parts of business operations and supply chain are significant enough to be included for greenhouse gas reporting

3	4
Identify and classify carbon emission scopes	Monitor, Measure and Report Emissions
Identify which processes can be measured by the identified parts of operations, and classify them into their respective carbon emission scopes	Measure carbon emissions and report accordingly

5	6
Set Targets When Appropriate	Create strategies to achieve set targets
Set the appropriate targets and metrics to reduce carbon emissions.	Create a plan to decarbonize if possible, from emissions reduction to participation in carbon credits trading

About the Contributor



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Jonas is an Associate Member (AICD) of the Institute of Corporate Directors Philippines, and Vice Chairperson of the ICD Sustainability Committee. He also serves as a member of the Scientific Consultative Panel of the Philippine Sustainability Reporting Committee.

He is a co founder and co-host of the Sustainarumble! Podcast, the first podcast in the Philippines that tackles issues on

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