



Comment on The Metal Company's Consolidated Application for Deep Seabed Mining Exploration License and Commercial Recovery Permit

Office for Coastal Management, National Ocean Service,
National Oceanic Atmospheric Administration, US
Department of Commerce

Beia Spiller and Max Fawcett

**Public Comment
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Office for Coastal Management
National Ocean Service
National Oceanic Atmospheric Administration
Department of Commerce
1305 East West Highway
Silver Spring, MD 20910
Attn: Neil A. Jacobs, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

Re: NOAA-NOS-2026-1751 [Federal Register Docket No: 2026-16869]; Public Comments on "Deep Seabed Mining: Notice of Receipt of Consolidated Application for Deep Seabed Mining Exploration License and Commercial Recovery Permit"

Dear Dr. Jacobs:

On behalf of Resources for the Future (RFF), I am pleased to share the accompanying comments to the National Oceanic Atmospheric Administration (NOAA) on the matter of The Metal Company USA, LLC's (TMC) Consolidated Application for Deep Seabed Mining Exploration License and Commercial Recovery Permit. RFF is an independent, nonprofit research institution in Washington, DC. Its mission is to improve environmental, energy, and natural resource decisions through impartial economic research and policy engagement. RFF is committed to being the most widely trusted source of research insights and policy solutions leading to a healthy environment and a thriving economy. While RFF researchers are encouraged to offer their expertise to inform policy decisions, the views expressed here are those of the individual authors and may differ from those of other RFF experts, its officers, or its directors. RFF does not take positions on specific policy proposals.

In this comment, Dr. Spiller and Mr. Fawcett review the consequences that approval of TMC's application will have internationally, particularly given the likelihood that an approval will be perceived as a unilateral U.S. action outside of the cooperative process led by the International Seabed Authority (ISA) under the United Nations Convention on the Law of the Sea (UNCLOS). As these scholars present through both recent analogies to land mining and through consideration of these multilateral conventions around seas, that perception could encourage other countries, including China, to abandon the frameworks and mine regardless of internationally agreed-upon rules. Those responses would severely hamper the mineral-security advantage sought by the United States along with weakening environmental governance and economic benefit-sharing.

If you have any questions or would like additional information, please contact Beia Spiller at bspiller@rff.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Carlos Martín", followed by a horizontal line.

Carlos Martín, Vice President for Research and Policy Engagement

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Summary

The broader strategic costs of authorizing The Metals Company (TMC) USA, LLC to mine unilaterally in international waters are relevant to NOAA's evaluation of the application. Approval could weaken the cooperative process led by the International Seabed Authority (ISA) by encouraging member states of the United Nations Convention on the Law of the Sea (UNCLOS) either to abandon the cooperative framework or to authorize or undertake mining before internationally agreed rules are finalized while remaining UNCLOS parties and participating in ISA negotiations. Either pathway could erode the coordinated governance needed to protect the marine environment and share benefits. In this comment, we argue that if unilateral action by the United States to move forward with mining in the deep sea causes an erosion of the ISA process, it is likely to create a global loss of trust in the US as a collaborative partner. This resulting loss of trust could undermine US mineral-security objectives, including cooperation with African producer countries in terrestrial mineral investments, and other allied governments through plurilateral agreements such as the Forum on Resource Geostrategic Engagement (FORGE).

Background

Improving mineral security—the ability to ensure reliable access to needed minerals at affordable prices—has been an explicit federal goal for many years (see, e.g., Executive Order 13817, 2017). Because domestic extraction and processing can be costly, resource-constrained, and slow to develop, federal strategy has paired efforts to expand domestic capacity with investments in allied nations (Spiller et al. 2026a). Cooperation with international partners is therefore not peripheral to US mineral security; it is one of its central tools.

Improving mineral security has been an explicit federal goal for many years (see, e.g., Executive Order 13817, 2017). Two complementary approaches can advance this goal: expanding domestic mineral extraction and investing in allied nations. Current and past administrations have pursued both approaches, and each remains part of federal mineral strategy.

Pursuing both strategies simultaneously is beneficial because expanding the domestic supply chain is challenging, may be more expensive than production elsewhere, may be constrained by the availability or quality of mineral resources, and can take longer than comparable investments abroad (Spiller et al. 2026a). Investing both domestically and in partner countries can therefore provide shorter-term supply security through overseas projects while establishing domestic capacity for the longer term.

US Investments and Strategic Competition in Africa

To that end, over the past two years, the government has begun to make significant investments and collaborative agreements for future investments overseas in terrestrial mining, with a particular focus in Africa, including in the Democratic Republic of the Congo (DRC), Zambia, and Nigeria; see Table 1. These investments have targeted geographies that have an abundance of specific minerals that are deemed to be of high value for economic and national security, including copper and cobalt.

Table 1: Select Examples of Recent U.S. Investments in African Minerals-Related Projects

Country	Agency Involved	Funding Amount	Project type
DRC	US International Development Finance Corporation	\$1.5 billion ¹	Copper and cobalt mines (Kamoto Copper Company and Mutanda Mining)
DRC (Lulaba province)	US Trade and Development Agency	USTDA will fund the pre-feasibility study ²	Copper and cobalt refinery
DRC and Zambia	US Trade and Development Agency	\$3 million grant	Hydropower expansion project to supply electricity for mining projects ³
Zambia (North-Western province)	US Trade and Development Agency	\$1.4 Million	Expansion of a copper/cobalt mine ⁴
Nigeria	US State Department	N/A ⁵	Mineral investment framework

Notably, China currently dominates the cobalt supply chain through refining capacity; thus, US investments in African cobalt refineries are a strategic action for achieving security in the cobalt supply chain. Yet at the same time as the United States seeks to make investments in Africa, China has also expanded its investments in the region. For example, Chinese companies have made new inroads in lithium processing in Nigeria, with four companies investing over \$1.3 billion between 2023 and 2025.⁶ This implies that African nations view both US and Chinese companies as two potential sources of foreign investors that can help maximize the value of their resources.

¹ [dfc.gov/sites/default/files/media/documents/Board_PIS_-_CMC_508.pdf](https://www.dfc.gov/sites/default/files/media/documents/Board_PIS_-_CMC_508.pdf)

² The amount provided for the feasibility study has not been disclosed. Though USTDA is not funding the building of the refinery itself, the agency expects the project to create opportunities for US companies to supply equipment for processing and technical expertise if construction moves forward. See [here](#).

³ See [here](#)

⁴ See [here](#).

⁵ The framework is an agreement to collaborate on expanding the mineral supply chain in Nigeria. Following the agreement, Nigeria signed commercial partnerships with three US companies. See [here](#).

⁶ [Nigeria targets mineral value chain with new US investment pact](#)

Multilateral Frameworks and Their Benefits

Approval of TMC's application could undermine the cooperative framework through which most countries expect areas such as the Clarion-Clipperton Zone (CCZ) to be governed. It would place US-authorized mining in international waters outside the multilateral process led by the International Seabed Authority (ISA)—the United Nations-mandated body developing internationally agreed rules for deep-sea mining under the United Nations Convention on the Law of the Sea (UNCLOS), which the United States has not joined. The central question for the US government is therefore not only whether one project proceeds, but whether unilateral action would weaken the cooperation needed to govern shared seabed resources.

One public benefit of deep-sea mining under UNCLOS will be the development of a benefit-sharing arrangement through which revenue from deep-sea mining would be distributed among member states, with particular attention to developing nations, because the minerals are deemed the “common heritage of humankind.” While details of any such arrangement are still pending negotiations, even landlocked countries, including Zambia, could therefore receive compensation if deep-sea mining proceeded under an agreed ISA framework. Countries operating outside that framework, however, would not be required to participate in benefit sharing. Though, the United States is considering whether benefit sharing should be part of its strategy when mining in the deep sea.⁷

Responses and Effects of US Unilateral Action

Because the CCZ is a shared resource whose efficient and environmentally responsible use depends on coordination (Ostrom 1990), the consequences of unilateral mining can be examined through lessons from economic theory. Before internationally agreed rules are finalized, each nation holding an exploration contract may have an individual incentive to authorize or undertake mining: an early mover could secure access to high quality seabed areas and, if it has sufficient processing capacity, capture a substantial share of the minerals market. Yet if multiple countries proceed before agreement, the collective outcome would be worse, including the absence of agreed environmental rules or coordinated leasing and the resulting risks of environmental damage, piracy, and other harms. This is a classic prisoner's dilemma⁸: coordination produces the optimal global outcome, but proceeding first may appear optimal for each contract-holding nation.

US authorization of mining in the CCZ could activate this incentive by signaling that waiting for the ISA process to finalize carries a strategic cost. Although the United States is not a party to UNCLOS and therefore would not technically be defecting from that agreement, most countries regard these resources as the common heritage of humankind and could view US mining as an equivalent unilateral act. UNCLOS member states could respond either by abandoning the cooperative framework or by remaining parties and continuing ISA negotiations while nonetheless authorizing or undertaking mining before negotiations are finalized. If enough states follow either path, the cooperative framework could erode in practice.

China currently holds more ISA exploration contracts than any other member state—five in total.⁹ If Chinese companies decide to quickly begin extraction (prior to ISA negotiations being finalized) due to TMC's entry into the deep-sea mining market, it would strengthen China's position in the markets for minerals contained in polymetallic nodules. This could reduce or eliminate the mineral-security benefits the United States seeks from approving TMC's application. Moreover, given China's strength and know-how in processing, and ability and proven willingness to subsidize processing capacity, it could likely develop nodule-processing capacity quickly even if it does not currently possess it.

⁷ See Executive Order 14285, 2025.

⁸ See Rapoport and Chammah 1965.

⁹ **Exploration Contracts - International Seabed Authority**

Consequences for US Mineral Security

The United States could be left worse off strategically if more countries either abandon the ISA process or begin mining before the ISA produces agreed-upon rules. Either response could weaken environmental governance and benefit sharing while creating an opening for countries with more exploration contracts, processing capacity, or state-supported investment to move faster than US firms.

Beyond these direct mineral-security effects, perceived US unilateralism could impose reputational costs in two settings where cooperation is essential: direct US-backed terrestrial mining investments in Africa, which require support from host governments and communities, and plurilateral agreements among allied nations.

The same cooperation problem appears in terrestrial mineral strategy. Although many U.S.-backed mining projects in Africa are direct investments rather than formally cooperative ventures, they still depend on cooperation from host governments and communities for licensing, permitting, infrastructure access, project security, and durable public acceptance. A rush to develop deep-sea sources of manganese, cobalt, and nickel could depress market prices for these minerals, reducing income and employment in mining-dependent communities in countries such as the DRC and Zambia (Debert et al. 2026). If those countries also receive no compensation through an international benefit-sharing framework—unless one is subsequently developed by the US federal government—they may view U.S. deep-sea policy as imposing economic costs while bypassing shared benefits. That perception could make African governments and communities less willing to approve, support, or sustain US-backed projects, increasing their political risk. Thus, unilateral action in one minerals arena could weaken the cooperation required for direct US investments to succeed in another.

These effects would not be automatic or uniform. Nevertheless, when hosting governments weigh competing foreign bids and projects depend on community acceptance, such perceptions could make US proposals less politically attractive at the margin—even when their commercial terms remain competitive. This mechanism matters. The Brookings Institution identifies support from African governments and citizens as one of its **four key recommendations** for strengthening US influence in Africa’s critical-minerals sector, arguing that such support can make US investment more attractive and reduce political risk for private investors.¹⁰

Mrima Hill in Kenya illustrates the type of competitive setting in which even a modest reputational disadvantage could matter. The site is a **substantial rare earth and niobium deposit**, and the Kenyan government is considering **two American companies among six bidders** from several countries.¹¹ Because the deposit is environmentally and culturally sensitive and a previous license was invalidated over environmental concerns, political legitimacy and social acceptance are likely to influence both project selection and viability. This example does not establish that approval of TMC’s application would cause US firms to lose contracts. It does show, however, why avoidable reputational costs could weaken US competitiveness in close contests where governments and communities evaluate bidders on more than commercial terms.

Consequences for Plurilateral Minerals Agreements

The United States is also seeking to counter Chinese dominance through multilateral cooperation. The Forum on Resource Geostrategic Engagement (FORGE), for example, is a Washington-led plurilateral coalition intended to coordinate investment, trade, and pricing policies among allied nations and help create a stable,

¹⁰ **Toward a US-Africa critical minerals investment strategy: Tools, priorities, and trade-offs | Brookings**

¹¹ **Kenya's Mrima Hill Rare Earth Project Advances Government Tender as US\$62 Billion Valuation Faces Investor Scrutiny**

secure minerals market less dependent on China. The success of any FORGE policy will depend substantially on members viewing one another as trusted partners committed to coordinated action.

One policy under consideration within FORGE is a price floor, potentially implemented through coordinated tariffs. Such a policy would support investment by protecting producers against Chinese firms' capacity to flood markets with low-priced minerals because of their cost advantages and ability to absorb losses through state subsidies (see Toman 2026 for a fuller discussion of FORGE and its pricing policies).

However, in the setting of a plurilateral agreement, a coordinated tariff across nations only works if all nations uphold the tariff agreement. Yet these tariffs involve a tradeoff for each nation because they increase the cost of materials and consumer goods. Each nation therefore has an incentive to drop the tariff to access cheaper imported minerals while continuing to benefit from secure supply and investment generated by the agreement. Again, there is a prisoner's dilemma. If all countries "cheat" by dropping the tariff, the status quo is upheld and nobody is better off, even though each country individually has an incentive to defect. In a repeated prisoner's dilemma, cooperation can be sustained when parties expect future interaction and defection triggers future costs, including retaliation and reputational harm (Axelrod 1984). Strong and durable coalition ties can therefore reduce each nation's incentive to abandon the tariff agreement.

This concern is consistent with our earlier analysis of plurilateral critical-minerals agreements, which identifies maintaining alignment among international government partners over time as a core design challenge (Spiller et al. 2026b). If the United States is viewed as a disruptor of cooperative minerals frameworks—such as global governance of deep-sea minerals—that perception could weaken the trust and coalition durability needed to sustain coordinated tariffs or other costly commitments under FORGE.

Conclusion

Approving TMC's application could thus produce effects well beyond a single mining project. By acting outside the ISA-led process, the United States could strengthen other countries' incentives to authorize or undertake deep-sea mining before internationally agreed-upon rules are finalized.

This creates two challenges for the United States. First, China holds more ISA exploration contracts than any other country and has demonstrated the capacity to expand mineral processing. If US authorization prompts Chinese companies to begin mining before ISA negotiations are finalized, China could enter at greater scale and reduce or eliminate the mineral-security advantage the United States seeks from authorizing TMC's project.

Second, because the United States would have taken the initial unilateral step, other countries could view it as responsible for triggering broader erosion of the ISA-led process. That perception could reduce trust in the United States as a cooperative partner, making it harder to secure host-country support for terrestrial mineral investments and to sustain costly commitments through allied initiatives such as FORGE.

The application may therefore undermine US mineral-security goals through two distinct channels: by increasing competition in deep-sea mineral markets and by weakening the international cooperation needed for terrestrial investments and allied mineral initiatives.

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