THE OCEAN FOUNDATION

Deep Seabed Mining (DSM) Risk and Liability Considerations

I. Introduction

A nation may support deep seabed mining **(DSM)** in its Exclusive Economic Zone **(EEZ)** and on the seabed in the high seas **(the Area)**. All potential DSM in the Area is governed by the International Seabed Authority **(ISA)**. Negotiations toward regulations for commercial exploitation of the seafloor in the Area ("exploitation regulations") are ongoing. The Metals Company, Inc. (**TMC**), sponsored by country of Nauru, is driving an increased pace at the ISA. There are potential risks, to supporting, sponsoring, or allowing DSM within either the EEZ or the Area. For more and for references, see full report.

II. Market and Technology Considerations

Rapid decarbonization of our energy system is necessary. However, by the time seabed minerals could come to market, innovations in battery technology and in recycling may have rendered seabed minerals unnecessary. Technology is evolving rapidly in the battery and electrification sector (many batteries have already moved away from nickel and cobalt, and there is no relevant lithium found in materials being pursued) and minerals demand models vary widely. A metals study commissioned by the ISA found that the exhaustion of key minerals is not on the horizon in the near future. Metals have never been extracted at commercial scale from nodules and, for processing, TMC is relying on equipment that has been neither manufactured nor tested and has been unable to finalize a processing partnership.

III. Exclusion of DSM from Sustainable Blue Economy & Blue Economy Funding

DSM is explicitly excluded from many definitions of a blue economy. The United Nations Environment Programme Finance Initiative (UNEP FI) released a 2022 report finding that "there is no foreseeable way in which the financing of deep-sea mining activities can be viewed as consistent with the Sustainable Blue Economy Finance Principles." Public funding for the energy transition and the blue economy may explicitly preclude DSM, and financial institutions are evaluating whether DSM runs contrary to their ESG commitments, including the International Finance Corporation Performance Standards. Banks that have pledged to avoid deep-sea mining financing include Credit Suisse, Lloyds, NatWest, Standard Chartered, ABN Amro, BBVA, and Storebrand.

IV. Compensation and Liability Considerations

A state many consider sponsoring DSM activities for economic development, portfolio diversification, and professional training. A contractor could offer to pay a sponsoring state fees or royalties. However, there are many scenarios in which a sponsoring state could be held liable for damages caused by DSM activities.

If liability is incurred, any injured party would likely seek recourse (money) from all potentially liable parties, especially if the contractor is insolvent. The DSM liability regime is in flux: 8 reports and a synthesis were commissioned by the ISA in 2017. Liability issues remain largely unresolved and were the topic of much debate at the most recent sessions of the International Seabed Authority (ISA 27-III and 28-I) where questions regarding transfer of rights and effective control of import to sponsoring states were discussed.

Faced with liability, a sponsoring state would likely argue that it has adopted laws and regulations and is insulated from liability. The standard of liability for a sponsoring state under the UN Convention of the Law of the Sea **(UNCLOS)** is negligence. Those seeking recourse would likely argue that a sponsoring state has not met the standard of diligence or that its laws are not sufficient (especially in a rapidly changing space). A sponsoring state's actual enforcement (or non-enforcement) of its laws could also come under scrutiny.

Claims could be filed under other existing and future rules of international law, per UNCLOS Art. 304 and "developing States … can be held liable for environmental harm caused by their sponsored entity." Particular liabilities could result from sediment plumes or noise that carried into another state's EEZ. DSM could affect the environment and the tourism and fishing industries, both which rely on a healthy ocean ecosystem.

V. Partnership and Reputational Considerations

TMC's success is predicated on obtaining regulatory approval to mine; the company continually assures investors approval is forthcoming. CEO Gerard Barron said on Nov. 16 2022, "There is no legal basis for a moratorium so we are not worried about that." This does not reflect current ISA negotiations. In fact, there are various legal bases for a moratorium or ban on seabed mining. France has called for an outright global ban on DSM; fourteen countries have called for DSM to be stopped. Many countries have said they will not approve a plan of work to mine without finishing DSM exploitation regulations. The legal bases for not rushing to finalize the regulations, not approving a mining license without proper regulations, for a moratorium, and even for a ban are under discussion at the ISA.

TMC's technology is unproven and its projections are based on a model for royalty and benefit sharing which has been challenged, including by a proposal by the African Group. The ISA has been scrutinized for unethical practices and sharing confidential information with TMC, adding financial and litigation risk.

The organizational chart for various prospective DSM companies including TMC, DeepGreen, TOML, Deep Sea Mining Finance (DSMF), and Nautilus overlaps; intertwined funding raises questions of investor sanctions and financial crimes. The U.S. Securities Exchange Commission (SEC) is currently investigating whether "TMC siphoned US$ 43 million in cash and stock to undisclosed insiders by overpaying for [TOML]." When Nautilus went bankrupt, it left Papua New Guinea with a loss of about $120m.

There is ongoing class action litigation against TMC alleging that TMC and/or personnel made false or misleading statements and a 2023 lawsuit alleging breach of good faith. TMC's stock price fell upon going public because much of the original investment pulled out. On December 5, 2022 TMC received a notice of delisting from the US stock market because it traded under $1 for more than 30 days. After recovering briefly, TMC received another delisting notice in April 2023 (pending as of writing).

VI. Environmental Considerations

The deep ocean is a major active sink and reservoir of heat and CO_2: harming the deep ocean may make our climate worse. A study published May 2023 analyzed more than 100,000 records of animals in the CCZ and found ~90% of species from the records were unknown to science. Plumes from DSM could travel hundreds or thousands of kilometers and affect the entire midwater food web, up to commercially important fish. Noise from DSM would affect many animals including those that use sonar for communication, including whales, which provide significant tourism revenue. Deep water corals are also at risk, as are marine genetic resources. Deep ocean nodules and vents provide habitat for animals in the deep ocean.

Claims that DSM would alleviate the problems of terrestrial mining are heavily contested. There is little evidence DSM would lead to the closure of problematic mines. An ISA study found that DSM would not cause overproduction of minerals. DSM could end up exacerbating the problems of terrestrial mining by driving down prices and pushing problematic mines to further cut corners.

VII. Social License Considerations & Emerging Liabilities

As more stakeholders are made aware of DSM, uncertainties and potential liabilities are emerging: would carbon released from the seabed need to be counted, or paid for? DSM and human rights were raised at COP27, addressed in peer reviewed papers, and evaluated by one or more UN Special Rapporteurs.