SEAS AT RISK

THE UNSUSTAINABILITY OF DEEP-SEA MINING

UNEARTHING THREATS TO THE UN SUSTAINABLE DEVELOPMENT GOALS

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While civil society, governments and United Nations agencies are striving to advance the UN Sustainable Development Goals (SDGs) during the Sustainable Ocean Decade (2021-2030), deep-sea mining could seriously undermine progress towards them and compromise planetary life-support systems.

Deep-sea mining refers to the extraction of minerals from the deep sea, i.e. the area of the ocean below 200 metres in depth. It mostly targets metal deposits in seamounts, hydrothermal vents and abyssal plains, where copper, manganese, nickel, cobalt, gold, silver, zinc, rare earth elements and other metals can be found. Scientists warn that deep-sea mining would lead to large-scale and irreversible biodiversity loss, caused by ecosystem fragmentation and destruction, noise and light pollution, wastewater, and sediment plumes that would spread for large areas beyond mining sites.

Although there are fast developments in battery technology and metal recycling, and a focus on the transition to circularity, the pressure on supply chains – especially since the COVID-19 pandemic and the war in Ukraine – has increased countries' interest in deep-sea mining, both in their national waters and in the high seas.

The latter is regulated by the International Seabed Authority (ISA), which could oversee the first deep-sea mining operations as early as 2023 – a highly controversial move amid growing global criticism of this practice, with some calling for an outright ban and others for a moratorium or precautionary pause unless and until certain conditions around environmental protection, good governance and social licence can be met.

To date, 13 states have taken positions against deep-sea mining in international waters, as well as the European Commission, the European Parliament, the International Union for Conservation of Nature (IUCN), the EU fisheries sector, large corporations, banks and financial institutions, and hundreds of parliamentarians, scientists and civil society organisations from around the world.

This policy brief by Seas At Risk presents the (negative) relation between the prospects of advancing deep-sea mining with the achievement of key SDGs during the remainder of the decade, and beyond.

SDGS 1 (NO POVERTY) & 10 (REDUCED INEQUALITIES)

In 1982, the UN Convention on the Law of the Sea – the "Constitution of the Sea" – established that the seafloor beyond national jurisdiction is the "common heritage of [hu]mankind" and ruled that any use of that common heritage should also be for the benefit of humankind as a whole and for the "overall development of all countries". Rather than benefiting humankind, for example by reducing poverty (SDG 1), deep-sea mining would generate substantial profits for a small set of companies exploiting the seabed, while an irreparable legacy of destruction is left for future generations.

It has been calculated that each mining operation in the Clarion Clipperton Zone, an area the size of the European Union in the Pacific Ocean, would have an annual net revenue of around 1.5 billion euro. However, royalty schemes proposed by the ISA would mean that only crumbs of the profits made from deep-sea mining would be shared among states. Ultimately, as the ISA's African Group concluded, countries would on average receive **less than 100,000 euro per year** – an amount that would not even cover the average cost of **one ambulance**.

In addition to large profits for mining companies, part of the revenue would be channelled to the ISA itself, to cover its expenditure. This is a clear conflict of interest (see also SDG 16). Regardless of how revenue would be distributed, the damage that would be done in terms of biodiversity loss and destruction of deep-sea ecosystems are too high a price to pay.

Deep-sea mining companies have already shown disregard for the economies of low-income countries. For example, after Papua New Guinea invested over 100 million euro into Canadian deep-sea miners Nautilus the company went bankrupt, never returning public funds in a country where 85.7% of the population lives in poverty. Small sponsoring states would themselves be exposed to bankruptcy as they could be held liable for substantial costs for damage caused by the activities of their seabed mining contractors on the marine environment, on resources such as fisheries, and even on people and property.

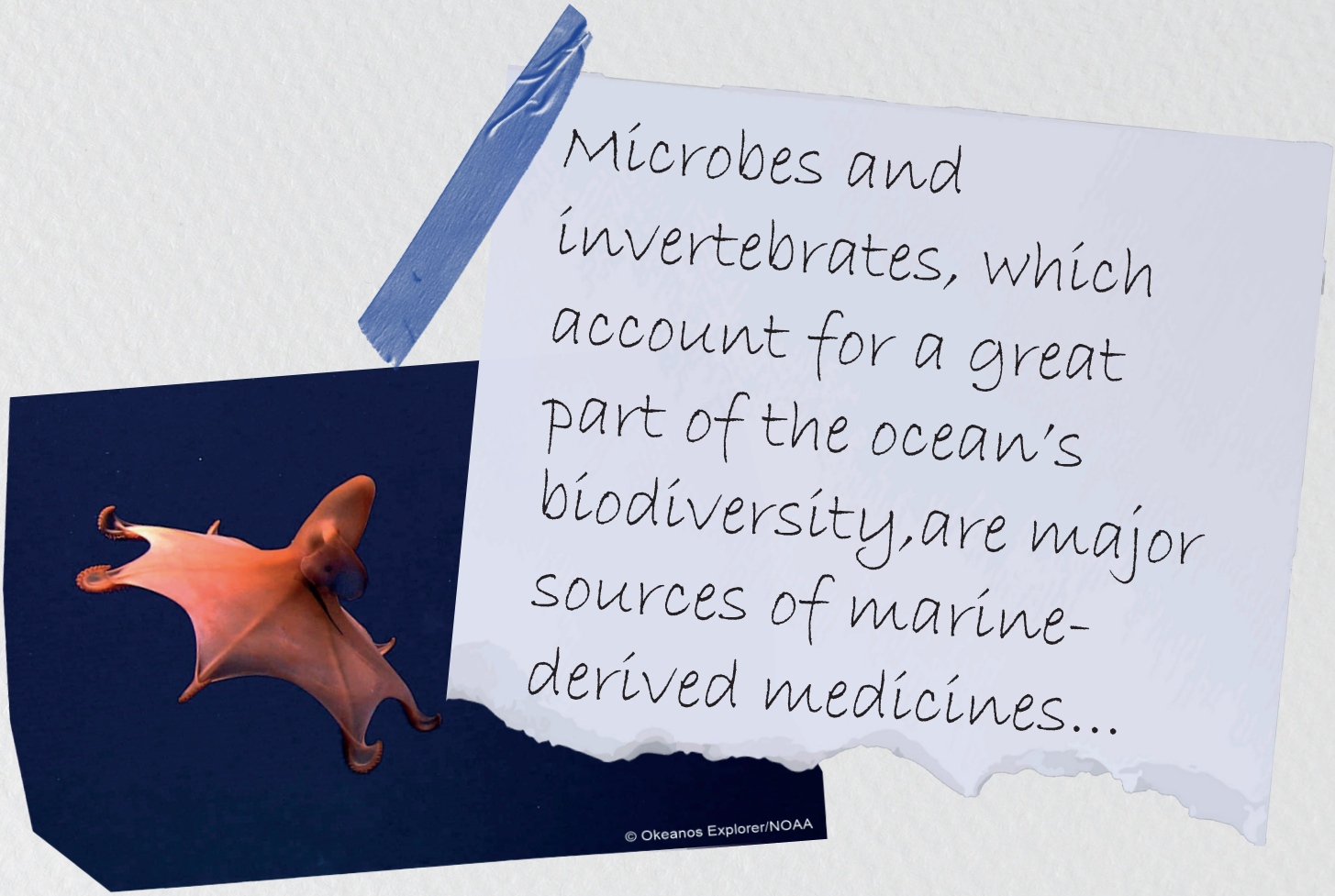
Source: Centre for Research Architecture at Goldsmiths, University of London. See: http://theminingcompany.org.uk/financialcommons/index.html

SDG 3 (GOOD HEALTH AND WELL-BEING)

By destroying and driving deep-sea species to extinction, deep-sea mining would prevent the discovery of new medicines associated with life forms present only in the deep ocean. Microbes and invertebrates, which account for a great part of the ocean's biodiversity, are major sources of marine-derived medicines and have already yielded dozens of new pharmaceutical drugs to treat cancer and other diseases.

For example, the test for COVID-19 was developed using an enzyme isolated from a microbe found in deep-water hydrothermal vents now targeted for sulphide mining. Other COVID-fighting chemicals have been found in sea sponges and marine bacteria. Destroying such species and ecosystems before we even get to discover and understand them could prevent future medical breakthroughs.

At the same time, deep-sea mining can have a negative multiplying effect on global health by compromising the seabed's integrity and thus affecting its capacity to transport carbon from the atmosphere into deep-ocean water masses, trap carbon, promote healthy fish populations and detoxify a diversity of compounds. Unhealthy oceans lead to an unhealthy planet (see SDG 14).



SDG 8 (DECENT WORK AND ECONOMIC GROWTH) AND 12 (RESPONSIBLE CONSUMPTION AND PRODUCTION)

Deep-sea mining's profits and economic viability depend on 'growth scenarios' that predict a doubling, tripling, quadrupling or even more demand for metals by 2050 or 2060. Deep-sea mining would, at best, only meet a tiny fraction of global demand for metals (8% of global cobalt production by 2050, and much less for other metals), while destroying large swathes of the seabed and adding to the negative environmental impact of mines on land. This is one reason some of the biggest potential clients of deep-sea minerals (including electric vehicle manufacturers BMW, Renault, Scania, Volvo and Volkswagen) have already stated they will not use metals from the seabed in their production chains.

By spreading the idea that ramping up global mineral supplies is the only solution to global supply chain problems, deep-sea mining feeds the belief in **perpetual growth** that would bring about increased greenhouse gas emissions in absolute terms, compromise decarbonisation policies and lead to greater demand for dirty energy sources. At the same time, increased extraction of primary metals from land and the deep sea has a ripple effect, undermining recycling and slowing the transition toward circularity with its employment opportunities and economic gains.

Rather than contributing to the creation of local jobs in sustainable and resilient economies, deep-sea mining would add little to GDP and have a limited impact on employment instead of preserving the ocean's biodiversity and its food webs for the benefit of local communities. As the UN Environment Programme Finance Initiative has stated, "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." Similarly, the European Investment Bank explicitly listed deep-sea mining as "Bank-wide excluded activities", considering it "unacceptable in climate and environmental terms".

SDG 13 (CLIMATE ACTION)

As planetary boundaries are being crossed one after another, deep seabed protection is increasingly critical to achieve the SDGs, as deep-sea mining would disrupt the climate-regulating function of the deep-sea ecosystem. The ocean – our planet's main carbon sink – locks away 25% of all carbon we emit (some 2 billion tonnes per year) and 93% of the heat trapped by greenhouse gas emissions.

Deep-sea mining would bring us closer to climate chaos by interfering with the planet's carbon pump, disturbing hydrothermal vents that play a key role in regulating climate and ocean geochemistry, and affecting carbon-fixing organisms such as phytoplankton.

SDGS 14 (LIFE BELOW WATER) AND 15 (LIFE ON LAND)

Over 700 scientists have warned that damage from deep-sea mining would irrevocably harm deep seabed ecologies and impose pressure without precedent on the planet's largest and least studied ecosystems before we fully understand them. Deep-sea mining could bring about large-scale irreversible biodiversity loss, causing many habitat-dependent life forms – such as those in nodule fields that take millions of years to form – to never recover.

This stands at odds with target 14.2 of the SDG that commits states to "sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience and take action for their restoration, to achieve healthy and productive oceans".

Each individual operation in abyssal plains for polymetallic nodules is expected to effectively mine between 8,000 and 9,000 square kilometers of seabed over the course of a minimum 30-year contract period. If multiple mining operations happen simultaneously, the impact would be felt across vast areas. Damage would be caused by destruction of surfaces on which flora and bacterial species settle, sediment plumes that spread over large distances, noise, vibrations, lights and toxic residues. Mining operations would be non-stop, 24 hours a day and year-round, and would last for decades using remotely controlled underwater vehicles and risers. In turn, such destruction could impact other human activities, from small-scale fisheries to medical research.

While deep-sea mining enthusiasts have often argued that it would have less social and environmental impact than poorly regulated terrestrial mining, such statements have no scientific basis and make no sense as deep-sea mining was never intended as a replacement for land-based mining, but rather as an addition to it. Unlimited extraction on land and in the deep sea would increase areas impacted by mining and allow unprecedented environmental consequences. With an additional competitor on the market, it is also expected that mining companies on land will be persuaded to lower further their social and environmental standards.

SDG 16 (PEACE, JUSTICE AND STRONG INSTITUTIONS)

For over a century, mining on land has helped sustain the so-called "resource curse", fueling and prolonging wars, instigating political instability, increasing the vulnerability of countries, and undermining the quality of governance. Deep-sea mining is in many ways reproducing such patterns by failing to address corruption, failing to develop transparent institutions, failing to ensure inclusive decision-making and access to information, and failing to strengthen participation.

Deep-sea mining companies have applied neocolonial approaches to convince officials in small island countries to become state sponsors for their seabed mining licenses in the Pacific, as private companies cannot apply for licenses without the support of a state. In exchange for promised token benefits, these countries will ultimately be responsible for damage caused by the activities of seabed mining contractors on the marine environment and resources such as fisheries. In the high seas, nearly a third of exploration contracts involve private companies: the case of Papua New Guinea and Nautilus serves as a grim reminder of the prospects for low- and middle-income countries.

An illustrative example of such practices is the tiny island country Nauru's use of the "two-year rule" in June 2021, under the guidance of the US-listed and Canadian-registered The Metals Company. The move is intended to force the ISA to fast-track the adoption of regulations for deep-sea mining or, if they are not finalised within two years, mining operations can be allowed to go ahead anyway.

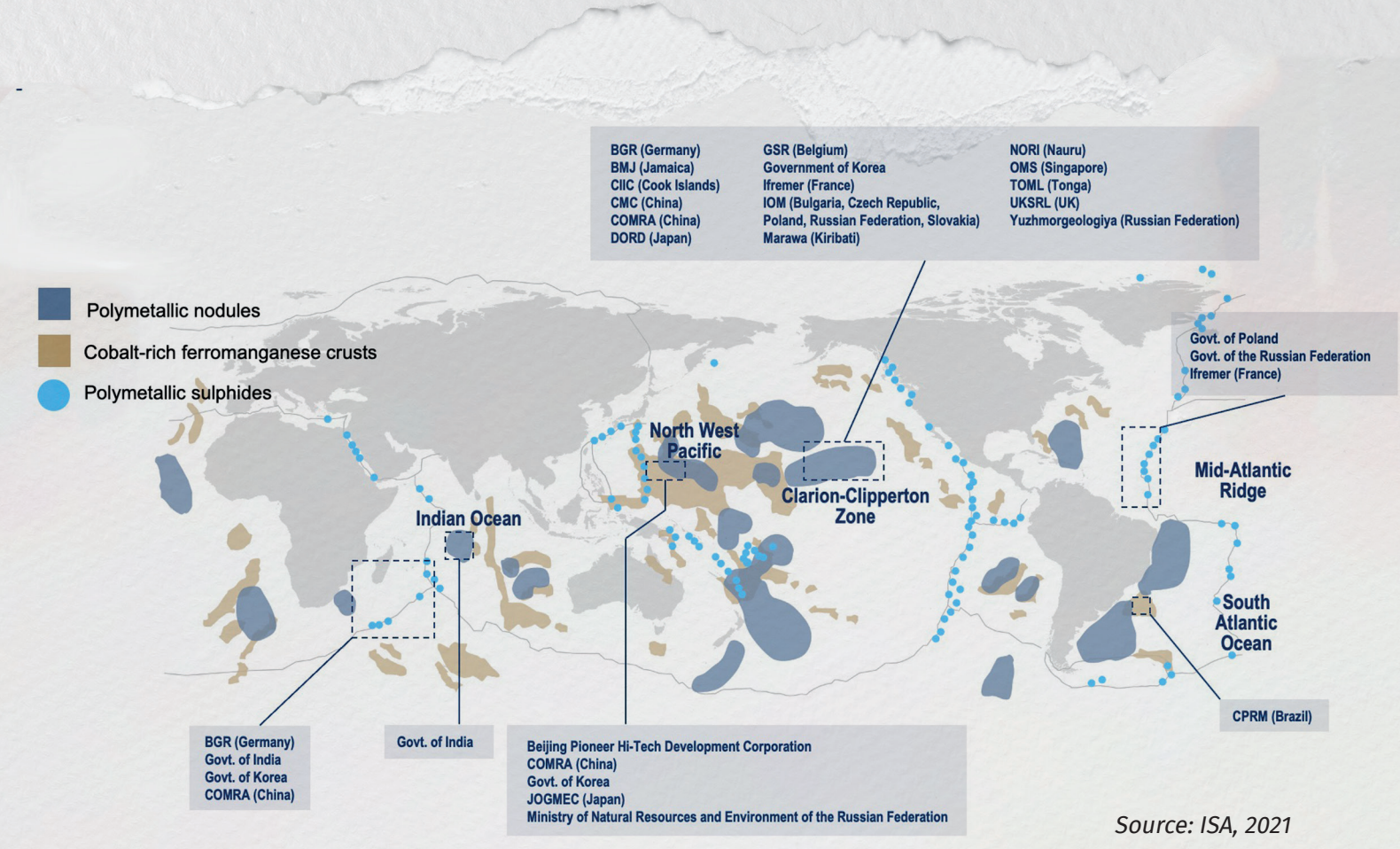
With its revolving doors, conflicts of interest, secretive meetings, leaks of confidential data to mining companies, and unwarranted luxurious spending, the governance and practices of the ISA are at odds with SDG 16. The ISA has made repeated efforts to ward off civil society from its doings, including reducing access for civil society organisations and journalists. Despite formal calls by the ISA Assembly for increased transparency, the ISA's Legal and Technical Commission (LTC) – responsible for evaluating mining applications, supervising mining activities, and developing environmental management plans – continues to meet behind closed doors. Contracts and annual reports on contractor activities are deemed confidential and kept away from ISA members and the public.

In terms of gender balance, current governance structures at the ISA have prevented women from accessing powerful decision-making positions. For instance, among its LTC experts, only three out of the 30 positions were filled by women between 2017 and 2022, while for the next five years women will occupy only six of the posts – not a promising outcome for SDG 5 on gender equality.

Even though the ISA has the dual mandate of protecting deep-sea ecosystems and regulating deep-sea economic activities, its Secretariat has consistently advanced its strong pro-mining position by supporting companies' interests to the detriment of people and planet. This could be due to a substantial conflict of interest at play: the ISA profits financially each time it grants a license for deep-sea exploration or mining. The ISA has so far refused to formally discuss the numerous calls for a moratorium on deep-sea mining despite mounting international pressure.

States that sponsor mining licenses are disproportionately represented on the ISA Council and their citizens comprise a significant portion of the LTC, effectively allowing them to negotiate advantageous rules for themselves. Additionally, LTC members and representatives from mining companies are allowed to participate in delegations of their sponsoring states, speaking on their behalf. 'Independent' LTC experts have strong ties to mining contractors and interests, and the body has little environmental expertise or financial means to conduct independent scientific monitoring.

EXPLORATION FOR MINERALS IN THE HIGH SEAS:



Source: ISA, 2021

TAKEAWAYS

Giving away the "common heritage of [hu]mankind" to a small set of speculative companies in exchange for the destruction of the ocean floor and the compromising of planetary life-support systems contradicts the letter and spirit of the SDGs. In the face of growing calls from countries, parliamentarians, scientists and businesses from all over the world to pause and address the irreversible consequences of deep-sea mining, here are some ways the EU and Member States can stop deep-sea mining from undermining further progress towards the SDGs, based on an earlier report by Seas At Risk, 'At a crossroads: Europe's role in deep-sea mining':

1. Support a moratorium, ban or pause on deep-sea mining in European waters/continental shelves, following the example of the 2021 ban by Australia's Northern Territory.

2. Protect the deep sea in line with the nature recovery and protection commitments of the EU Biodiversity Strategy, and the Leaders' Pledge for Nature.

3. As a member of the ISA, advocate for a moratorium, precautionary pause or ban of deep-sea mining in international waters, prevent the granting of mining contracts, and ensure mining regulations are not adopted until scientific gaps are filled and risks properly assessed and understood.

4. Ensure that relevant specific trade and sectoral regulations include a ban on the import and use of raw materials or manufactured goods that have been obtained from or produced with deep-sea minerals.

5. Set binding EU and national 'material footprint' reduction targets for metals and mainstream them into all related EU and national policies and strategies, including the EU Critical Raw Materials Act.

6. Stop funding the development of deep-sea mining technology, and instead support the development of new policies and technologies that can significantly reduce demand for primary metals from land and the deep sea, as well as fundamental research into the role and functioning of deep-sea ecosystems.

7. Aim for "growth without economic growth", as recommended by the European Environmental Agency (EEA), and consider recent reports by the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) that raise the alarm about negative consequences of society's current trajectory and the need to bring about transformative change.

8. Initiate a deep institutional reform of the ISA addressing its lack of transparency and accountability, undemocratic processes, and inadequate public participation and gender balance, while reinforcing its deep-sea protection mandate by establishing truly independent and adequately resourced environmental and scientific committees, enhancing environmental competence.

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