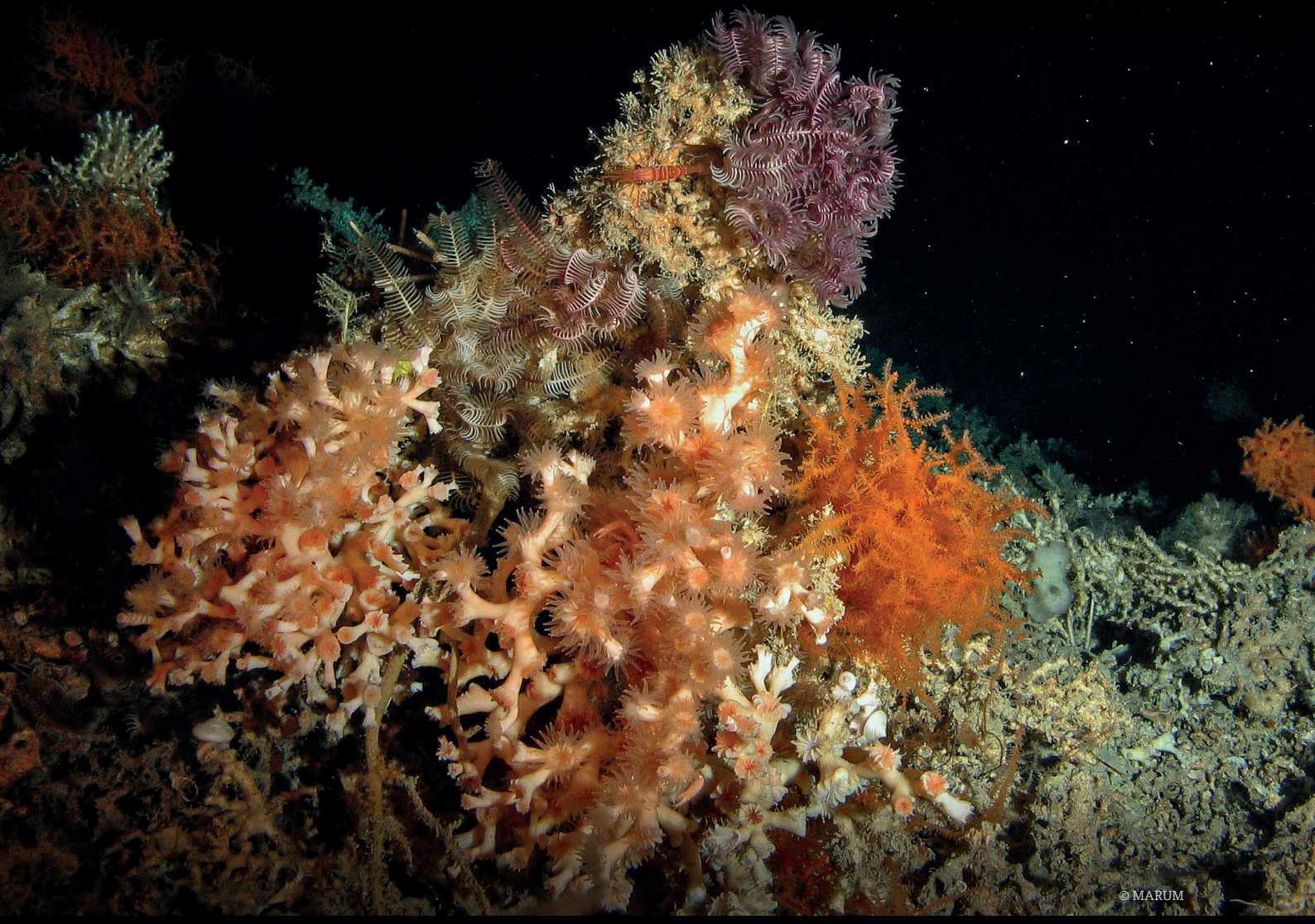
TOWARDS THE ABYSS

How the rush to deep-sea mining threatens people and our planet

Summary of key findings



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ENVIRONMENTAL JUSTICE FOUNDATION

Protecting People and Planet

Background

The deep sea remains a pristine ecosystem, largely untouched by human activity. It is enormous in size, covering two thirds of the Earth's surface and making up more than 95% of the Earth's biosphere.[1] It harbours an incredibly rich diversity of marine life, believed to be comparable only to the biodiversity of tropical rainforests.[2] The deep sea is also one of the last frontiers of scientific knowledge on Earth, as its biodiversity and the functioning of its ecosystems remain in large part a mystery to science.[3]

The deep sea has become of great interest to mineral extraction ventures, as it holds vast amounts of valuable metals and minerals like cobalt, copper and manganese which are used in wind turbines and electric car batteries. Proponents of deep-sea mining, essentially a small number of mining companies and governments with vested interests in and connections to the deep-sea mining industry, argue that mining is necessary to successfully manage the energy transition to a low-carbon economy.[4]

In July 2021, the Pacific Island nation of Nauru triggered the 'two-year rule', which gave the International Seabed Authority (ISA) two years to finalise rules and regulations for deep-sea mining, paving the way for commercial mining applications to be considered as early as mid-2023. This has prompted widespread global concern about the risk of extensive and irreversible harm to the deep-sea environment, with a growing number of scientists, policy makers, industry and civil society actors calling for a moratorium on deep-sea mining activities.

Against this background, this report examines the threat that deep-sea mining poses to our planet and to the well-being of humanity as a whole, and makes an urgent call to decision makers to stop the devastation before it even begins.

The key findings of the report are summarised in the following sections.

The deep sea harbours an incredibly rich diversity of marine life, believed to be comparable only to the biodiversity of tropical rainforests.

Anemone attached to a carbonate boulder. Aquapix and Expedition to the Deep Slope 2007, NOAA-OE, (CC BY-SA 2.0).

1. Environmental impacts of deep-sea mining

- **Independent reviews of the available scientific evidence commissioned by governments[5] and conducted by civil society organisations[6] are in agreement that deep-sea mining will cause potentially severe adverse impacts to the marine environment, its biodiversity, and ecosystems**. Significant disturbances are expected, including direct damage to the benthic fauna, habitat destruction, pollution from sediment plumes and wastewater discharge, and noise and light pollution across the water column.[7] These disturbances will result in biodiversity loss, disrupt marine ecosystem functions and food webs, and potentially impact fisheries and disrupt the oceanic carbon cycle.

- *Biodiversity loss:* If mining is allowed to proceed in the deep sea, unique species will become extinct, causing irreversible biodiversity loss.[8] Deep-seabed communities have a high proportion of species found nowhere else on earth;[9] they are highly vulnerable to disturbances, and may never be able to recover from the destruction of their habitat by mining.[10] This is all the more concerning as proposals to offset biodiversity loss from deep-sea mining are believed to be scientifically meaningless.[11]

Loss of biodiversity in the deep sea would be inevitable and could be considered to be 'forever' on human time scales.[12]

Dumbo Octopus, NOAA Office of Ocean Exploration and Research, 2019 Southeastern U.S. Deep-sea Exploration.

- *Disruption of marine ecosystem functions and food webs:* Deep-sea mining risks having a profound and long-lasting impact on marine ecosystems, transforming and impoverishing ecological communities, disrupting food webs, and ultimately impairing critical functions performed by deep-sea ecosystems for all marine life.

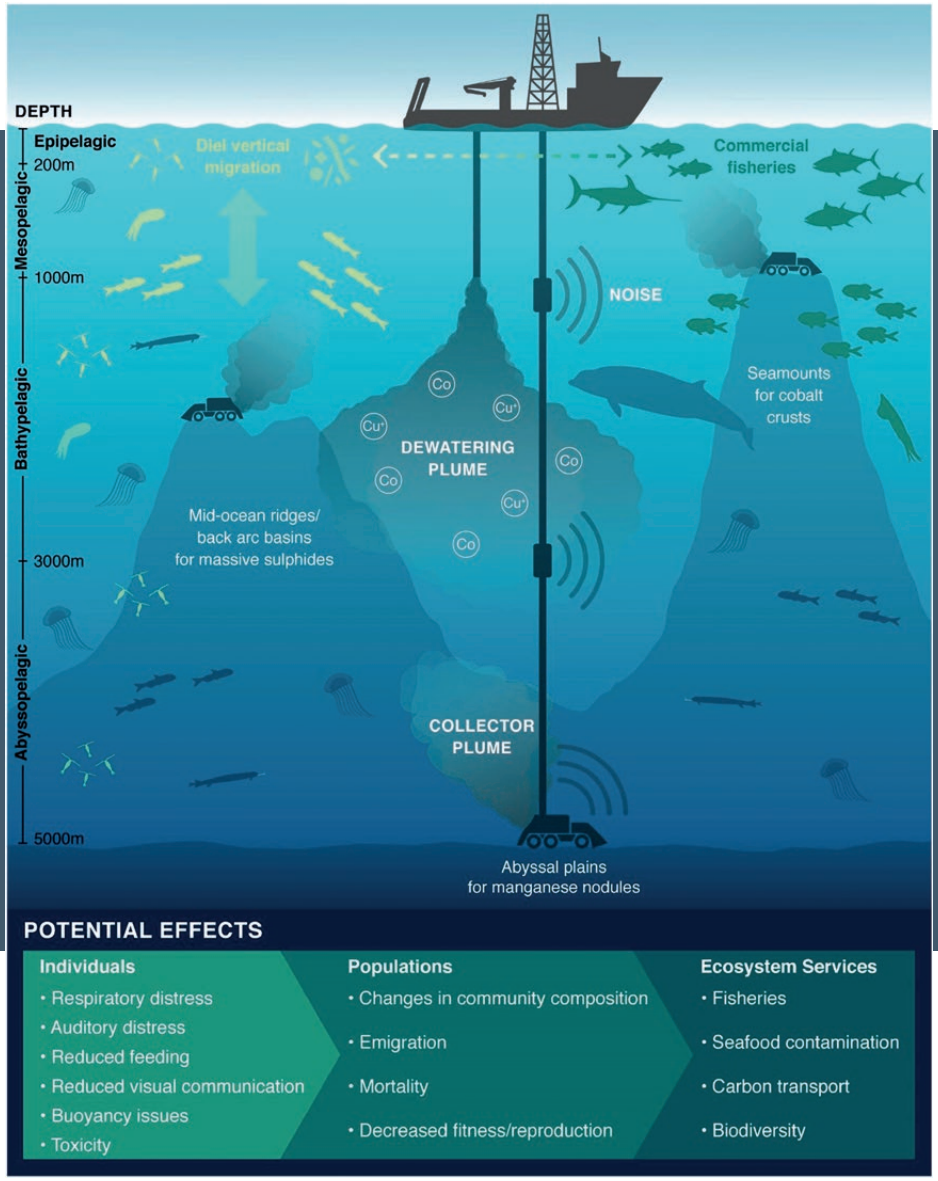
- *Impact on fisheries:* The combined effects of food web disruption, pollution from sediment plumes in the water column, and light pollution caused by deep-sea mining are predicted to impact fisheries, with a potential reduction of fish populations.[13]

- *Disruption of the oceanic carbon cycle:* Deep-sea mining is projected to stir up millions of tonnes of seafloor sediments every year,[14] effectively reinjecting carbon that had been accumulating over millions of years[15] into the oceanic carbon cycle. The impacts of deep-sea mining on the global carbon budget remain poorly understood but could be severe, in effect negating the effect of millions of years of ecological and biochemical processes in just a few years.

- While the available scientific evidence establishes a clear risk of serious adverse environmental impacts, the extent and magnitude of the damage deep-sea mining would cause to the marine environment remain unknown. Critical knowledge gaps remain that prevent fully informed, science-based decision-making. **In the absence of a solid baseline, environmental impact assessments are unreliable[16] and are likely to underestimate the extent and magnitude of environmental impacts.**

"[Deep-sea mining] may be one of the more damaging industrial impacts on the deep oceans, because of the potential for the broad spatial scale of the impacts. Impacts of nodule mining will be particularly extensive (likely 100s km² per operation)....Long-term (>centuries) and broad-scale (>1,000km²) impacts...are likely."

UK Deep Sea Mining Evidence Review[17]



Source: Source: Drazen, J. C., Smith, C. R., Gjerde, K. M., Haddock, S. H. D., Carter, G. S., Choy, C. A. et al. (2020). Midwater Ecosystems Must Be Considered When Evaluating Environmental Risks of Deep-Sea Mining. *Proceedings of the National Academy of Sciences*, 117, 17455–17460, https://doi.org/10.1073/pnas.2011914117.

2. Implications for equity and justice

- **The prospect of mining the international seabed has serious equity implications, both across humanity today and for future generations.**

"We currently have neither the knowledge nor the data required to assess whether humankind stands to lose more than we could gain if the ISA opens the deep ocean to industrial mining."

Deep Sea Conservation Coalition[18]

2.1. Would deep-sea mining be of benefit to humankind?

- The international seabed (the "Area") and its resources are defined, under the United Nations Convention on the Law of the Sea (UNCLOS), as the "common heritage of [hu]mankind".[19] Being able to accurately quantify the actual benefits from mining activities is central to implementing the common heritage principle, requiring a consideration of costs and benefits, both economic and ecological.[20]

- *Revenue generation:* There remains considerable uncertainty surrounding the economic outcomes and viability of deep-sea mining.[21] A number of factors confound attempts to accurately forecast revenues from mining activities,[22] and the compensation available for the common heritage of humankind. Studies suggest potential deep-sea mining benefits to individual ISA member countries in the region of US$ 100,000 per year in net present value.[23] This is vastly insufficient as compensation for the loss of the common heritage of present and future generations, while contributing very little to achieving the "overall development of all countries", a central aim of deep-sea mining as set out in UNCLOS.[24]

- *Damage to ecosystem services and environmental costs:* When damage to ecosystem services and environmental costs are considered, the case for deep-sea mining – in terms of the benefit to humankind as a whole – becomes increasingly untenable. There remains considerable uncertainty as to the full scale and extent of environmental impacts of mineral extraction – which is expected to cause significant damage well beyond areas approved for mining.[25] **Critically, the value of deep-sea ecosystem services is yet to be quantified, a prerequisite to estimating the benefits that intact ecosystems provide to humankind**[26] and the costs arising from their destruction and degradation. This is a significant unknown and one that may prove impossible to calculate. Beyond economics is the need to consider the intrinsic value of deep-sea ecosystems that cannot be assigned a monetary value,[27] as well as the spiritual and cultural ties that remote island nations have with the sea.[28]

- *Alternative uses:* It is necessary to consider the possible alternatives to deep-sea mining, including non-use, and the benefits that would derive from those uses to humankind. Mineral extraction is only capable of generating one-off revenue, while other sustainable uses of seabed resources may generate long-term profit.[29]

"...there is little consensus on whether [seabed mining] is likely to yield net benefits or costs".

Folkerson et al. (2019)[30]

2.2. *How will any potential benefits and costs be distributed?*

- **Deep-sea mining would likely exacerbate global inequalities, in direct conflict with the key UNCLOS principles of equitable benefit-sharing, of prioritising the needs of developing states, and of promoting international cooperation for the overall development of all countries.**[31]

- The potential profits from deep-sea mining activities are set to flow to some of the world's largest economies, and to the shareholders and investors of a handful of private-sector mining companies, located overwhelmingly in the Global North.[32] Developing states and vulnerable groups would bear the disproportionate burden of environmental risks and harm.

2.2.1. *A minority of nations and corporate interests stand to profit*

Analysis of key players:

- EJF's analysis of the exploration contracts concluded to date[33] highlights that political and economic interests in mineral extraction are concentrated among a limited number of state and non-state (private) entities.

- Of the 31 exploration contracts concluded to date, 22 have been awarded to governments or state-owned enterprises, 19 of which are held by only 7 countries (China, Russia, South Korea, France, Germany, India and Japan) (**Table 1**).

- Of these, considering only those contracts awarded to individual governments and state-owned enterprises (i.e. excluding consortia),[34] China alone accounts for nearly one quarter of contracts issued, followed by the Russian Federation and Korea, which together account for around 28% of contracts.

- China holds exploration rights to the largest area overall, accounting for 234,797 square kilometres of the international seabed, or 18% of the total area under exploration contracts to date (based on data in published contracts). Of this, 72,745 square kilometres are areas reserved for developing states – equating to 17% of the total allocated 'reserved areas' as at January 2019.[35]

ROV KIEL 6000, GEOMAR (CC BY 4.0)

- Since 2011, when the ISA issued the first contracts to non-state actors,[36] the sector has become increasingly dominated by private enterprises, who have emerged as the lead proponents of deep sea mining.[37] Currently, almost a third of the 31 exploration contracts (9 in total) are held by private (non-state) entities – exclusively for polymetallic nodule mining in the Pacific Ocean's Clarion-Clipperton Fracture Zone (CCZ). Private entities hold half of the contracts for nodule mining exploration (9 of 19 contracts), representing 45.6% of the contracted exploration area (**Table 2**).

- Private sector exploration activities are dominated by three corporations headquartered in developed nations: (1) The Metals Company[38] (TMC) (formerly DeepGreen), headquartered in Canada; (2) UK Seabed Resources Limited (UKSR), a subsidiary of US-based Lockheed Martin;[39] and (3) Belgian corporation Dredging, Environmental and Marine Engineering NV (DEME).[40]

- TMC is a lead proponent of deep-sea mining and one of the entities that stands to benefit most from opening up the international seabed to mineral extraction.[41] Several incidents point to the extent of TMC's alleged influence over the government of Nauru – sponsor of the exploration contract held by its subsidiary Nauru Offshore Resources Inc (NORI) – and the ISA as regulator.[42]

- Ocean Mineral Singapore Pte. Ltd (OMS), a subsidiary of Singapore-based Keppel Offshore and Marine, and Jamaican-registered corporation, Blue Minerals Jamaica (BMJ), a subsidiary[43] of Swiss-registered group Allseas, also each hold an exploration contract for polymetallic nodules. Allseas is also an operational partner in TMC's NORI project.[44]

Table 1: Overview of sponsoring state interests in exploration contracts (all types of mineral deposit, both private and state entities)[45]

	Sponsoring state	State or private contractor	Number of contracts	% of total contracts	Exploration area (km²)	% of total exploration area (according to published contracts)	Reserved area (km²)	% of total reserved area allocated**
1	China	State	5	16.1	234,797	17.9	72,745	17.0
2	Korea	State	3	9.7	88,000	6.7	-	-
3	Russian Federation	State	3	9.7	Not public			
4	France	State	2	6.5	85,000	6.5	-	-
5	Germany	State	2	6.5	87,230	6.7	-	-
6	India	State	2	6.5	85,000	6.5	-	-
7	Japan	State	2	6.5	78,000	6.0	-	-
8	UK	Private	2	6.5	133,539	10.2	-	-
9	Belgium	Private	1	3.2	74,990	5.7	-	-
10	Brazil	State	1	3.2	3,000	0.2	-	-
11	Cook Islands	Private	1	3.2	73,177.64	5.6	71,937	16.8
12	Jamaica	Private	1	3.2	Not public			
13	Kiribati	Private	1	3.2	74,990	5.7	74,990	17.5
14	Nauru	Private	1	3.2	74,830	5.7	74,830	17.5
15	Poland	State	1	3.2	10,000	0.8	-	-
16	Singapore	Private	1	3.2	58,280	4.4	58,280	13.6
17	Tonga	Private	1	3.2	74,713	5.7	74,713	17.5
18	Consortium *	State	1	3.2	75,000	5.7	-	-
		Total	**31**	**100.0**	**1,310,546.64**	**100.0**	**427,495**	**100.0**

* Interoceanmetal Joint Organization: Bulgaria, Cuba, Czech Republic, Poland, Russian Federation, Slovakia
** As at January 2019: ISA (2019). *Current Status of the Reserved Areas with the International Seabed Authority*. Policy Brief 01/2019. https://www.isa.org.jm/files/files/documents/statusofreservedareas-01-2019-a.pdf

Table 2: Exploration contracts for polymetallic nodules by type of contractor (state/private)[46]

Type of contractor	Exploration area (km²)	% of total exploration area	Reserved area (km²)	% of total reserved area
State	674,027	54.4	72,745	17.0
Private	564,519.64	45.6	354,750	83.0

Compliance with the requirement for 'effective control':

- UNCLOS requires that private entities possess the nationality of their sponsoring state, or be effectively controlled by the sponsoring state or their nationals.[47] If the applicant is effectively controlled by another state party or its nationals, that state party must co-sponsor the applicant.[48] In the case of applications concerning reserved areas, applicants must be sponsored and effectively controlled by a developing state.[49]

- **The ISA's interpretation of effective control is highly questionable**. In practice, the ISA has interpreted the requirement for 'effective control' based on the low threshold of 'regulatory control',[50] namely the registered location/nationality of incorporation of the applicant, rather than economic control.[51] By equating effective control with the nationality of the sponsoring state, and using the exact same evidence to determine whether either requirement is satisfied, this interpretation confounds two distinct conditions for a state to act as sponsor (possessing the state's nationality OR being effectively controlled by the state/its national),[52] rendering the requirement for effective control essentially meaningless, **possibly in direct violation of the letter and spirit of UNCLOS**.

- **The ISA has also declined to 'lift the corporate veil' to look at the controlling entity behind an applicant to determine if a co-sponsor is required for the application.[53]** In many cases, there are strong indications that effective control lies with much larger foreign entities, including corporations headquartered in Canada (TMC), Belgium (DEME) and Switzerland (Allseas). Similar questions also surround US giant Lockheed Martin's operations through its UK subsidiary, UKSR – the US is not a party to UNCLOS and would therefore be unable to act as a (co-)sponsoring state. The opaque arrangements behind the most recently approved exploration contract held by BMJ provide an insight into how corporations based in the Global North – in this case the Allseas Group – access deep-seabed resources through sponsorship by developing states.

- The ISA's reluctance to lift the corporate veil to determine the nationality of effective control has crucial implications for the allocation of reserved areas, which are specifically set aside for exploitation by developing states. Entities based in developed states appear to exert significant control over contracts held by local entities in Pacific Island nations.

- Commentators warn of the potential emergence of 'sponsoring states of convenience'.[54] A similar phenomenon ('flags of convenience') has seriously undermined enforcement of international rules and standards in the global fishing industry.[55]

- Besides raising questions of compliance with UNCLOS, **there are critical concerns around who stands to benefit from activities in these areas**, which speaks to the equitable sharing of benefits from mining activities, an issue at the very heart of the UNCLOS regime.

"Casper" octopus. NOAA Office of Ocean Exploration and Research, Hohonu Moana 2016. (CC BY-SA 2.0)

Access to reserved areas:

- A significant concern from a justice perspective is how companies based in the Global North have secured access to areas reserved for developing countries – using ostensibly local entities in predominantly small island developing states, which have in turn provided sponsorship for the ISA exploration contracts.
- EJF's analysis found that currently, private entities hold 83% of the total reserved area allocated to 'developing states' (**Table 3**).
- Canada-based TMC alone holds the exploration rights to over half (52.5%) of the reserved area allocated via local subsidiaries/partnerships. Through ostensibly local entities in Nauru, Tonga and Kiribati, TMC has gained effective access to 224,533 square kilometres of the CCZ for polymetallic nodule exploration previously reserved for developing states.
- DEME and Keppel Offshore and Marine hold the remaining reserved areas allocated to private companies.

"Given the privileges awarded to developing states, it should be scrutinized whether such partnerships do not undermine the principle of the common heritage of mankind and the objective to realize benefits for mankind as a whole."

Willaert and Singh (2021)[56]

Table 3: Exploration contracts for polymetallic nodules allocated to private contractors (by overseas entity with a significant interest in the contract or effective control)

Overseas entity with a significant interest in the contract or effective control	Country of HQ/registered location	No. of contracts	Exploration area (km²)	Reserved area (km²)	% of total reserved area allocated (as at January 2019)
The Metals Company (TMC)[57]	Canada	3	224,533	224,533	52.5
Dredging, Environmental and Marine Engineering NV (DEME)[58]	Belgium	2	148,167.64	71,937	16.8
Lockheed Martin[59]	USA	2	133,539	-	-
Keppel Offshore and Marine[60]	Singapore	1	58,280	58,280	13.6
Allseas Group[61]	Switzerland	1	Not public	Not public	Not public
	Total	**9**	**564,519.64**	**354,750**	**83.0**

2.2.2. Developing states and vulnerable groups will bear the burden of risks and harm

- *Risks to sponsoring states:* **Sponsoring states are exposed to substantial liability and financial risk – potentially being held liable for reparations in the event of environmental harm, should they fail to uphold their legal obligations as sponsoring states.** A key concern is whether sponsoring states such as Pacific island nations could be realistically expected to regulate the multinational parent companies of their sponsored contractors, considering limits on technical, financial and human resources and where they may lack effective control over these operations.

- *Impacts on vulnerable groups:* **Deep-sea mining has the potential for significant environmental harm that threatens to severely impact vulnerable groups.** Disturbance to the seabed could impair the ocean's ability to sequester carbon and limit global heating, which would have potentially devastating consequences for communities on the frontlines of the climate crisis. Local and Indigenous communities, which rely heavily on marine resources for their food security and livelihoods, will likely shoulder the major burden of deep-sea mining activities. Deep-sea mining is predicted to negatively impact fisheries, causing potential declines in fish populations. Scientists also warn of the potential for bioaccumulation of toxins in food webs, with possible risks for human consumption.[62] Mining operations further risk disrupting local cultural traditions and deep-rooted spiritual connections to the ocean.[63]

Local and Indigenous communities, which rely heavily on marine resources for their food security and livelihoods, will likely shoulder the major burden of deep-sea mining activities.

Credit: Moss (CC BY-NC 2.0)

3. Legal considerations – the need for precaution

- **The ISA has a clear mandate under UNCLOS to protect and conserve the marine environment, its biodiversity, and ecosystems.**[64]

- Under UNCLOS, the ISA Council is required to "disapprove areas for exploitation by contractors… in cases where substantial evidence indicates the risk of serious harm to the marine environment".[65] The concept of "serious harm to the marine environment" is defined in the ISA regulations as "any effect from activities…which represents a significant adverse change in the marine environment".[66]

- When exercising its powers under UNCLOS, the ISA is under an obligation to apply a precautionary approach: it must take preventive measures to safeguard the marine environment where there are "plausible indications of potential risks", even if the evidence is insufficient to fully predict the extent and magnitude of the potential negative impacts.[67]

- Substantial scientific evidence clearly establishes that deep-sea mining generates a risk of serious harm to the marine environment. However, the precise extent and magnitude of the damage likely to be caused, potentially on a global scale, by deep-sea mining remain unknown.

- **In view of the significant gaps in current scientific knowledge, the ISA is not in a position to make fully informed decisions to regulate the modalities of mining operations and must therefore, consistent with a precautionary approach, refrain from allowing deep-sea mining to proceed and take preventive measures to protect and conserve the marine environment.**

- The following measures can immediately be adopted by the ISA Council in accordance with the provisions of UNCLOS to ensure that no harm is caused to the marine environment as a result of deep-sea mining:

  (i) disapprove areas for exploitation;
  (ii) establish a specific policy directing the Legal and Technical Commission to defer issuing recommendations regarding applications for approval of a plan of work for exploration or exploitation;
  (iii) refrain from approving plans of work for exploration or exploitation; and
  (iv) ensure that any regulations provisionally adopted by the Council are adequate to effectively protect and conserve the marine environment, notably by requiring evidence that a proposed plan of work would not cause any biodiversity loss or damage to marine ecosystems.

4. The need for reform of the ISA

- **It is increasingly clear that the ISA is unfit as a regulator to achieve its dual mandate of protecting the marine environment and ensuring activities in the Area are carried out for the benefit of all of humankind.**

- *Structural issues and potential conflicts of interest:* Structural issues within the ISA have resulted in the ISA's Legal and Technical Commission (LTC) having (near) *de facto* power to make decisions on mining contracts.[68] The LTC is a non-democratically elected body – its 41 members are elected by the ISA Council[69] which is itself skewed towards mining interests[70] – that is unrepresentative of humanity as a whole and whose opaque decision-making procedures provide little to no opportunity for effective oversight or participation. Further concerns have been raised concerning the impartiality of the ISA and key ISA officials.[71]

"The [ISA] provided data identifying some of the most valuable seabed tracts, and then set aside the prized sites for the company's future use"

Eric Lipton, New York Times[72]

- *Procedural lack of transparency and accountability:* Despite making recommendations with critical implications for the future of the global commons, the LTC's decisions and procedures are highly opaque. Meetings of the LTC are conducted behind closed doors and detailed minutes are not published.[73] Key information upon which decisions are based is not made available to the public. The approval of exploration contracts, and the most recent decision to authorise test mining, have been made without the open and transparent consultation of state parties to the ISA or relevant stakeholders.[74] Despite the absence of a Scientific Committee, only around a fifth of current LTC members have a background relevant to the protection of the marine environment – a key mandate of the ISA.[75] Civil society access to recent ISA meetings has been highly restricted.[76]

5. Is deep-sea mining needed?

- Projections of increased demand for key metals in the context of the clean energy transition fail to take into account innovations in battery technologies, which are developing rapidly and will significantly impact the mix of metals and materials that will be used, and thus levels of demand, in the coming years.[77] Projections often assume continuity of the current linear model of production and give insufficient consideration to the role of recycling and recovery of metals when modelling future demand. Research has found that, even under ambitious scenarios for the clean energy transition, demand can be met from known terrestrial resources and improved metal recycling.[78]

- **There is an acute risk that deep-sea mining will create a self-fulfilling prophecy, increasing in intensity in response to demand and sidelining investment into sustainable solutions. Instead, the focus should be on reducing demand for virgin metals, improving energy efficiency and building a circular economy,** including: increasing recycling and recovery rates for key minerals, including through mandatory targets and investing in recycling infrastructure; establishing extended producer responsibility and end-of-life requirements; exploiting the potential for urban and landfill mining; extending product life cycles and introducing the right to repair; and investing in lifestyle change and public shared infrastructure to reduce individual consumption of products. Crucially, governments must take the lead to urgently establish pre-competitive, whole-of-government legislative frameworks that transform the carbon-based economies of today into circular models.

- While terrestrial mining is associated with negative environmental and social impacts, expanding mining activities into deep-sea areas of unparalleled fragility, vulnerability and biodiversity, where risks are high and impacts likely irreversible, simply cannot not be the solution.

Ain Beni Mathar Integrated Combined Cycle Thermo-Solar Power Plant. Photo: Dana Smillie / World Bank. (CC BY-NC-ND 2.0)

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Conclusions and recommendations

Sibelius Seamount, NOAA Office of Ocean Exploration and Research.

The intact natural environment – the ocean especially – is our greatest ally in the fight against biodiversity loss and the climate crisis. **Yet just as the world stands on the edge of climate breakdown, humanity is on the threshold of introducing a new destructive industry: deep-sea mining**. With the potential to become the largest mining operation in history, this disruptive practice threatens thousands of square kilometres of the last pristine wilderness on earth.

Little do we know about the deep sea, but all scientific observations gathered so far indicate that it is crucial for the health of our planet. The deep sea hosts a myriad of living organisms essential to maintaining our global food supply, supporting rich biodiversity, and locking away CO_2 for millennia.

Mining this vital part of our ocean could be catastrophic, with potentially global and irreversible implications. Deep-sea mining risks disrupting the global carbon cycle, threatens fisheries and food security, and would lead to extensive and irreparable biodiversity loss with devastating consequences for both people and planet. The promise of exploitation for the benefit of humankind will not be fulfilled. Instead, similar to the fossil fuel sector, profits will be shared among a handful of powerful actors, with the heaviest burdens falling on developing states, vulnerable communities and future generations.

Critical gaps in our understanding of the deep sea prevent fully informed, science-based decision-making. **Against this background, an ever-increasing number of scientists, non-governmental organisations, businesses, policymakers, states and state-like entities stand up and strongly oppose deep-sea mining.**

Opposition to DSM – Groups that have voiced opposition or concern over deep-sea mining

GOVERNMENTS AND PARLIAMENTARIANS

- Pacific and Oceania: Palau, Fiji, Samoa, Federated States of Micronesia ("Moratorium Alliance"), New Zealand
- Europe: France, Germany, Spain
- Latin America: Costa Rica, Chile, Panama, Ecuador
- European Commission and the European Parliament
- 250 parliamentarians from over 50 countries
- IUCN World Conservation Congress*

COMPANIES

- BMW Group
- Google
- Patagonia
- Philips
- Renault Group
- Rivian
- Samsung SDI
- Scania
- Volkswagen Group
- Volvo Group
- Microsoft

FINANCIAL INSTITUTIONS

- ABN AMRO
- BBVA
- Cooperative Bank
- Lloyds Banking Group
- NatWest (previously Royal Bank of Scotland)
- Standard Chartered Bank
- Triodos Bank
- The European Investment Bank
- Storebrand
- Credit Suisse

FISHING SECTOR

- African Confederation of Professional Artisanal Fishing Organisations (CAOPA)
- EU's Long Distance, North-western Waters and Pelagic Advisory Councils (LDAC, NWWAC and PELAC)
- International Pole and Line Foundation
- Norwegian Fisheries Association
- SATA (South Africa Tuna Association)
- SAHLLA (South African Hake Long Line Association)

SCIENTISTS AND CIVIL SOCIETY ACTORS

- 704 marine science and policy experts from over 44 countries have signed a statement calling for a pause to deep-sea mining.
- Over 400 civil society organisations from across the world have joined a DSCC initiative calling for a moratorium on deep-sea mining.

* 81 governments and government agencies from 37 countries voted in favour of the motion calling for a moratorium. 577 NGOs and civil society organisations also voted in favour.

"We believe it is not worth the risk. We ask all of you to support that deep-sea mining increases the vulnerability of the seabed and marine life. How can we in our right minds say let's go mining without knowing what the risks are?"

Surangel Whipps, Jr. President of the Republic of Palau[79]

Despite calls for precaution, the rush to develop a Mining Code with a view to allowing deep-sea mining continues, negotiated within a deeply flawed institution. The International Seabed Authority (ISA) has shown itself unfit for purpose, with troubling displays of conflict of interest and a significant lack of transparency and democratic decision-making, centred around just 41 'experts' whose recommendations can overrule the votes of democratically elected governments. To make matters worse, the triggering of the Two-Year Rule has placed additional pressure on the ISA and international community to complete a Mining Code within just 24 months.

In order to achieve zero carbon emissions, we need to scale up efforts towards the green energy transition. But to open up the deep sea to excessive and devastating commercial mining cannot be the solution; nor can it be presented as the only viable way forward. On the contrary, deep-sea mining threatens to accelerate the catastrophe we are facing today and serves only to line the pockets of mining companies.

Only national negotiators can save the deep ocean now. The world's message to them is clear - listen to the growing tide of voices calling for a stop to deep-sea mining before it begins.

"This is a golden opportunity to stop the devastation before it even begins – one we cannot afford to miss."

Steve Trent, CEO and Founder of EJF

Octocorallia: Alcyonacea, mushroom coral. Submarine Ring of Fire 2002, NOAA/OER (CC BY-SA 2.0).

EJF urges the international community to stop the rush towards any deep-sea mining activity and the international legal framework that is to govern it – the Deep Sea Mining Code.

1. Stop Deep Sea Mining.

All efforts should be made by the international community, in particular governments and corporations, to prevent mining operations in the deep sea. The depths of the ocean contain some of the most biodiverse, undisturbed, and vulnerable ecosystems on the planet. All scientific evidence gathered so far indicates that the consequences will be devastating for the deep-sea ecosystem, with immense risks for the health of the ocean as a whole and the benefits it can provide for people. Moreover, the climate emergency requires a critical examination of the potential impacts of deep-sea mining activities on the carbon cycle.

2. Scale up investment in deep-sea research with a view to protecting our ocean and climate.

Critical gaps in our understanding of the deep sea prevent fully informed, science-based decision-making. The international community should support and promote scientific research on the deep-sea environment, with a view to improving our understanding of its functioning, its rich biodiversity and the ecosystem services it provides, including its role in the carbon cycle.

3. Invest in and implement circular economy solutions.

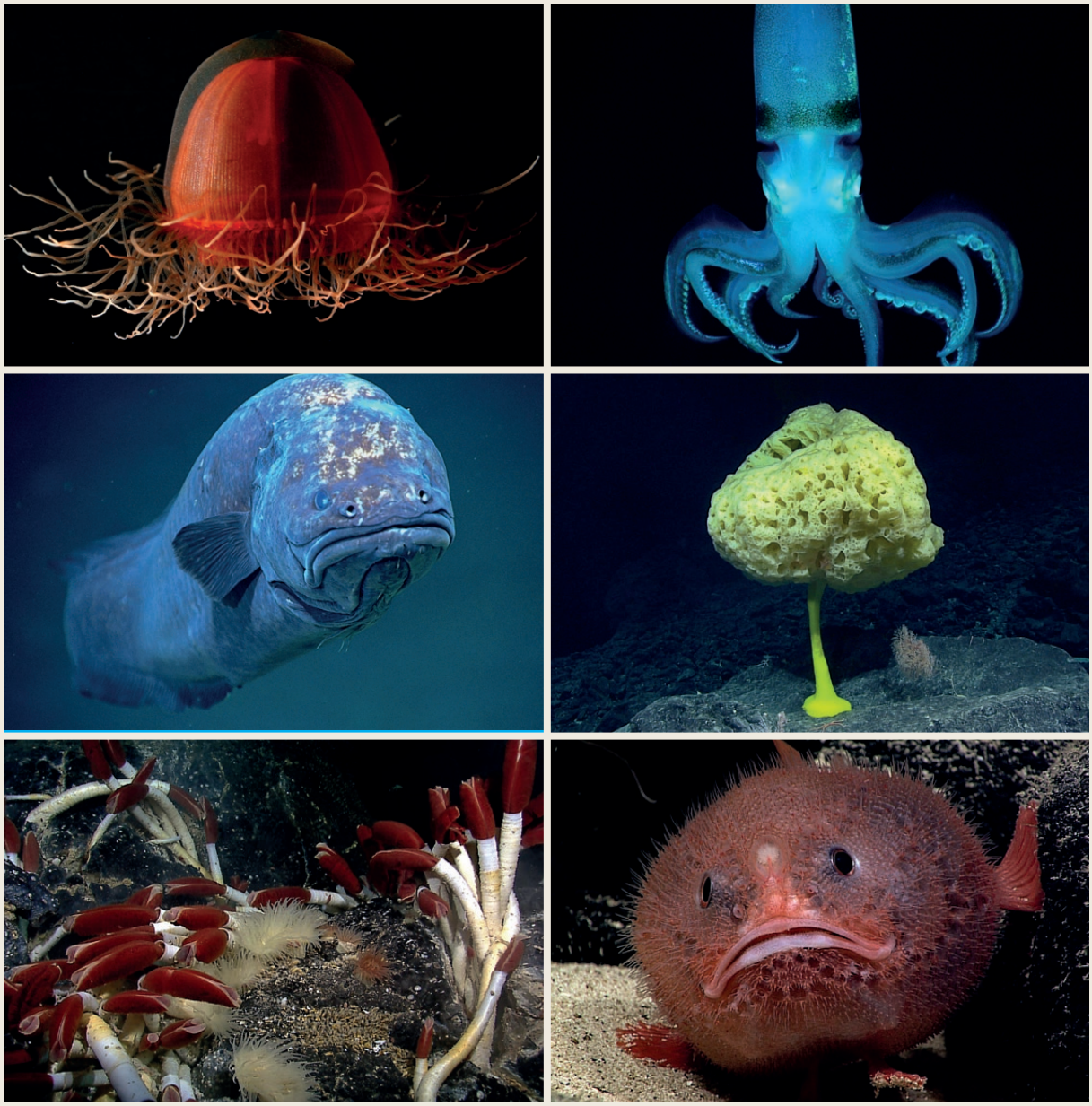
Both governments and industry must stop following the "take, make, waste" economic model, and transition urgently to a circular economy. This should include promoting and implementing large-scale electronics reuse and recycling programmes and the extension of product life cycles, and investing in energy efficiency and public shared transport systems to reduce the need for resource-intensive energy infrastructure. Investment should be upscaled into technological innovation, such as the development of less resource-intensive batteries to support the clean energy transition. The introduction of mandatory obligations for battery recycling and collection, end-of-life requirements, targets for the recovery of metals and extended producer responsibility will further reduce demand for virgin metals and align our needs with planetary boundaries.

4. Reform of the International Seabed Authority.

There is an urgent need to improve transparency and accountability of decision-making at the ISA – including through access to information and opportunities for meaningful public participation in deliberations of the Legal and Technical Commission – and to address potential conflicts of interest through an independent periodic review process. In the absence of a Scientific Committee and in light of the ISA's clear mandate to protect the marine environment, the composition of the LTC should be reformed to significantly increase expertise in marine biology and conservation. While these reforms can be implemented immediately and will help to address major shortcomings in governance observed to date, there is a need for a broader overhaul of ISA structures and procedures, including the criteria for electing members to the ISA Council and the procedure for approving applications for exploration/exploitation. Until credible, transparent and independent governance structures for managing the deep-sea commons are in place, no democratic legitimate decisions about deep-sea mining can be made in the interests of all humankind.

5. Ensure the protection of deep-sea biodiversity.

In line with Target 3 of the Kunming-Montreal Global Biodiversity Framework, governments must designate at least 30% of the ocean – including national and coastal waters and the high seas – as ecologically representative, fully or highly protected marine areas (MPAs) by 2030, and provide the resources necessary to ensure they are monitored and fully enforced. Critical in achieving this, is the need to rapidly establish a comprehensive system of MPAs in areas beyond national jurisdiction with high standards of protection for marine biodiversity and ecosystems, in the framework of the recently agreed High Seas Treaty.



Left column: 1. *Crossota sp.*, a deep red medusa, Kevin Raskoff, California State University, Monterey Bay, NOAA Ocean Exploration (CC BY-SA 2.0), 2. Ophidiiform, cusk eel, NOAA Office of Ocean Exploration and Research, 3. *Riftia* tubeworms, NOAA Okeanos Explorer Program (CC BY-SA 2.0). **Right column:** 1. Squid, NOAA Ocean Exploration (CC BY-SA 2.0), 2. *Bolosoma sp.*, glass sponge, NOAA Office of Ocean Exploration and Research, Deep-Sea Symphony: Exploring the Musicians Seamounts (CC BY-SA 2.0), 3. Sea Toad, NOAA Office of Ocean Exploration and Research, Deepwater Wonders of Wake.

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68 According to Section 3(11)(a) in the Annex of 1994 Agreement, if the LTC makes a recommendation to the Council to approve a plan of work, the plan of work is effectively considered approved after a certain period of time, unless a majority of two thirds of the members of the Council present and voting, *including a majority of members present and voting in all four chambers*, decide the application should be rejected. Given that two of the four chambers are elected on the basis of pro-mining criteria – with one chamber specifically composed of states with a direct interest in deep-sea mining activities – it is difficult to see how decisions about an application could be made impartially, which raises doubts as to whether the majority required to reject an application could ever be reached.

69 UNCLOS, Article 163(2).

70 Article 161, UNCLOS. Eight of the Council's 36 member states are elected based on criteria with a pro-mining bias, namely from state parties which are major importers of minerals of the categories derived from the Area (Group A: four members), or have made large investments in the conduct of mining activities in the Area (Group B: four members). These two groups each form one of the Council's four chambers for decision-making purposes. The criteria for electing the representatives of "special interests" of developing states (Group D: six members) also includes states which are major importers of minerals derived from the Area, and states that are potential producers of such minerals, potentially skewing the Council's composition further towards pro-mining interests. Only half of the Council's members are elected according to the principle of ensuring an equitable geographical distribution of seats in the Council. See: ISA (undated), 'The Council', accessed 7.2.2023, https://www.isa.org.jm/index.php/authority/council/members

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