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Your Excellency,

We are writing with respect to the Global Stakeholder Workshop hosted by the deep-sea mining companies DeepGreen and NORI, "To explore the Case for Sourcing Battery Metals from Ocean Nodules and Nori's Program to Assess Environmental and Social Impacts", scheduled for 5-6 February 2020 in San Diego. We understand that you may have received an invitation recently to attend this workshop.

As you may be aware, civil society organizations from around the world and others, such as the European Parliament, are increasingly calling for a moratorium on deep-sea mining for a variety reasons. All too often, proponents of deep-sea mining argue that securing carbon-neutral economic prosperity in the coming decades can only be achieved through vast additions to the global supply of metals, which must in part be delivered through mining the deep seabed. We would like to challenge these assumptions and open a dialogue on alternatives.

1. Meeting the planet's future climate-friendly technology demands does not require massive new mineral supplies

UNEP's International Resource Panel (IRP) in the Global Resources Outlook 2019[1] called for new governance mechanisms to oversee the sustainable use, reuse, recycling and supply of mineral resources for a transformational economy. The IRP emphasized the need for a transitional economy to avoid increasing pressures on planetary boundaries, resources, the climate and biodiversity. The decoupling of natural resource use and environmental impacts from economic activity and human wellbeing is an essential element in the transition to a sustainable future. Such decoupling can deliver substantial social and environmental benefits, including repair of past environmental damage, while also supporting economic growth and human wellbeing.

The IRP proposes ambitious efficiency, consumption and production policies to reduce the extraction of metals by almost 50% by 2060, compared to a business-as-usual scenario. The report cautions that planetary boundaries and the environmental impacts of extraction - not a lack of resources - will limit our economy. It highlights numerous opportunities for governments, business and society to collaborate to create and implement policies to deliver sustainable resource management.
The UNEP Panel is reinforced by SDG 12: to ensure sustainable consumption and production patterns of natural resources.

Several published studies reinforce this approach and show that seabed mining is not necessary to transition to a renewable energy economy. For example, a 2016 University of Technology Sydney report[2] concludes that even under the most ambitious scenario – a 100% renewable energy economy

[1] IRP (2019). Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya
[2] Teske, S., Florin, N., Dominish, E. and Giurco, D. (2016), Renewable Energy and Deep Sea Mining: Supply, Demand and Scenarios. Prepared by Institute for Sustainable Futures, University Technology Sydney. July 2016

globally by 2050 - there are sufficient metals from terrestrial sources to supply a renewable energy revolution. A more recent 2019 UTS report[3] focuses on substitution, efficiency, recycling and better product design to offset demand. It finds that encouraging recycling and responsible sourcing are the key strategies to promote environmental stewardship and the respect of human rights in the supply chain. Recycling is put forward as the most important strategy to reduce primary demand, coupled with responsible sourcing where supply cannot be met by recycling (see below for why the deep seabed cannot be considered a 'responsible source').

These are two among a growing chorus of voices calling for transformational change in our use of the Earth's resources in order to reverse destructive, wasteful production and consumption patterns. They challenge us to reconceive the economic models that have taken us to the ecological crisis we face today.

2. The deep sea is too vulnerable and too valuable to entertain the risks inherent in mining

The UN's first World Ocean Assessment stated that "the truly vast deep-sea realm constitutes the largest source of species and ecosystem diversity on Earth…and supports the diverse ecosystem processes and functions necessary for the Earth's natural systems to function".[4] Scientists are concerned that there will be a significant loss of biodiversity from seabed mining[5] due to i) the vulnerability of deep-sea environments to mining impacts, ii) significant gaps in ecological knowledge, iii) uncertainties around the recovery potential of deep-sea ecosystems, and iv) biodiversity 'offsets' for deep-sea species and ecosystems impacted by mining would not be possible (scientifically meaningless). Most of this loss is likely to be permanent on human timescales given the very slow rates of recovery of deep-sea ecosystems.

One of the concerns centers on the sheer scale of the mining operations. A single mining operation in the international seabed area in the eastern Pacific where DeepGreen and others have exploration contracts with the International Seabed Authority (ISA) would be expected to directly mine some 8,000-9,000 square kilometers of seabed over the course of a 30-year contract or license from the ISA. This area – the Clarion Clipperton Fracture Zone – is an area of deep abyssal plain between 4,000 and 6,000 meters depth where so-called polymetallic nodules containing cobalt, nickel, copper and manganese lie on the seafloor.[6] This area is increasingly recognized as being high in biodiversity, and that the nodule fields themselves are "hotspots of abundance and diversity for a highly vulnerable abyssal fauna".[7] At the same time, scientists recognize that many more species in the area have yet to be discovered.

Beyond the direct damage caused by the mining operation - akin to strip mining on land - sediment plumes, toxins, noise and light generated by the mining would likely impact marine life across several thousand to tens of thousands of square kilometers of seabed and well into the adjacent water column far beyond the actual mining site itself. Moreover, DeepGreen and others are considering disposing of the sediment and wastewater pumped from the ocean floor into the water column at around 1,000 meters or so depth rather than pumping it back down to the seafloor. This would

[3] Responsible minerals sourcing for renewable energy, April 2019, Prepared by Institute for Sustainable Futures, University Technology Sydney.
[4] The First Global Integrated Marine Assessment/World Ocean Assessment I, Chapter 36F. UN General Assembly 2016.
[5] Van Dover et al., (2017). Biodiversity loss from deep-sea mining. Nature Geoscience volume 10, pages 464–465(2017). See also Niner et al. Deep-Sea Mining With No Net Loss of Biodiversity—An Impossible Aim. 2018.
[6] See map of the Clarion Clipperton Fracture Zone and the 16 exploration licenses thus far granted by the ISA at https://www.isa.org.jm/contractors/exploration-areas
[7] Managing Impacts of Deep Sea Resource Exploitation, Research Highlights. MIDAS (2016), page 29. See also Antje Boetius and Matthias Haeckel. Mind the seafloor. Science 05 Jan 2018: Vol. 359, Issue 6371, pp. 34-36 DOI: 10.1126/science.aap7301

inevitably result a large-scale plume spreading in an area of the high seas that has been sparsely studied. There is no peer reviewed scientific study on the effects of such a continuous injection of sediment, wastewater and residual mined ore into the water column. The eastern Pacific is an important area for highly migratory species such as tunas, sharks, sea turtles, dolphins and whales: the impacts could be significant.

Deep seabed mining would open a whole new frontier of environmental degradation and potential extinction events across areas of the planet that are poorly studied, where many species have yet to be discovered. The deep sea has thus far remained relatively untouched by direct human impact, but it is already under stress from climate change impacts, plastics, pollution and other human induced threats. This is particularly concerning in light of the 2019 IPBES report which warned of impending mass extinctions,[8] as well as the 2019 IPCC Oceans and Cryosphere report[9]. Given the parlous state of our planet's fundamental support systems, the risk of introducing new and significant stressors on the ocean by commencing large-scale deep-sea mining projects is far too great to take on at this time. We need to be reducing stressors and conserving biodiversity rather than introducing new threats that will increase biodiversity loss.

3. A number of the claims by those seeking to mine the deep sea are unsupported by evidence

Proponents of this mining often argue that extracting metals from the deep sea will contribute to avoiding both human rights abuses in cobalt mines in the Democratic Republic of Congo and biodiversity impacts from copper and nickel mines in tropical rainforest areas. . While there are certainly major problems with some forms of terrestrial mining, the solution should be to fix these problems and improve the performance of terrestrial mining, not open up a whole new set of problems in the open ocean and deep sea. Moreover, it is highly unlikely that seabed mining of cobalt, copper and nickel would result in the widespread closure of terrestrial mines for these metals. On the contrary, it could actually exacerbate problems as terrestrial mining operations might be driven to cut costs through lowering their labour and environmental standards to compete with sea based metals.

If deep seabed mining were to start and produce metals at a lower price than terrestrial mining, it could have adverse consequences on the economies and job security of developing countries that rely on mining. The argument that deep seabed mining is better than terrestrial mining on social grounds implies that all terrestrial mining is bad and contributes little to nothing to rural communities in terms of jobs or other benefits. Circular and transformational economies, and improving the social and environmental footprint of terrestrial mining, are the optimal response - as opposed to increased pressure on the planet by opening the deep-sea to industrial scale mining pursuing the illusion of unlimited resource extraction without consequences.

4. Counter to international commitments and obligations

The launch of a new extractive activity of the nature and scale of deep seabed mining is counter to international commitments and obligations made in recent years. Under UN Agenda 2030 Sustainable Development Goal (SDG) 14 on Life Under Water - in particular Target 14.2 - all countries have committed to avoid significant adverse impacts on, strengthen the resilience of, and restore marine and coastal ecosystems. Deep-sea mining at the scale envisioned by this nascent industry would run counter to all three objectives. Moreover, under SDG12 all countries have committed to Ensure Sustainable Consumption and Production Patterns.

[8] IPBES, Global Assessment Report on Biodiversity and Ecosystem Services. 2019.
[9] IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate. 2019.

The UN Convention on the Law of the Sea (UNCLOS) Article 145 specifies the obligation for the ISA, acting through its member governments, to ensure effective protection for the marine environment from harmful effects from seabed mining, and to that end, to adopt rules, regulations and procedures for the protection and conservation of the natural resources of the seafloor beyond national jurisdiction, and the prevention of damage to the flora and fauna of the marine environment. These are fundamental requirements, yet ones that proponents of deep-sea mining often fail to mention.

Moreover, the ISA is obligated under UNCLOS to operate "for the benefit of mankind as a whole". Yet ISA contracts and the underlying relationships (for example, between the government of Nauru, NORI and DeepGreen) are not published. And the financial mechanism by which royalty payments will be made by seabed mining companies to the ISA to be disbursed to all ISA member countries is still not agreed. However, based on current formulations under discussion at the ISA, the payments may only amount to a million USD per year or less per country for each mining operation in the CCZ. The 'cost' of biodiversity loss and degradation of natural capital is likely to be high. It is therefore impossible to tell whether and to what degree (if any) deep-sea mining in the international seabed area would benefit or represent a loss to humankind as a whole.

5. Call for a moratorium

The Deep Sea Conservation Coalition (DSCC), founded in 2004, is a coalition of over 80 organizations worldwide working to protect deep-sea and open ocean ecosystems. Since 2014, we have been working on the issue of deep-sea mining. For the above reasons, we hold that there should be a moratorium on deep seabed mining; the adoption of seabed mining regulations for exploitation; and the issuing of exploitation and new exploration contracts by the ISA unless and until a set of requirements (see Annex) has been met.

For the first time in history the world has the opportunity to apply the precautionary principle at scale to a major industrial activity that has not yet begun. If you are interested in a further discussion around the issues raised in this letter, we would be keen to schedule a conversation. Feel free to contact us with any questions or suggestions. We look forward to hearing from you.

Sincerely,

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Annex: DSCC call for a moratorium

The DSCC holds that there should be a moratorium on: deep seabed mining; the adoption of seabed mining regulations for exploitation (including the "International Seabed Authority Exploitation Regulations"); and the issuing of exploitation and new exploration contracts, unless and until:

1. The environmental, social and economic risks are comprehensively understood;
2. It can be clearly demonstrated that deep seabed mining can be managed in such a way that ensures the effective protection of the marine environment and prevents loss of biodiversity;
3. Where relevant, there is a framework in place to respect the free, prior, informed consent of Indigenous peoples and to ensure consent from potentially affected communities;
4. Alternative sources for the responsible production and use of the metals also found in the deep sea have been fully explored and applied, such as reduction of demand for primary metals, a transformation to a resource efficient, closed-loop materials circular economy, and responsible terrestrial mining practices;
5. Public consultation mechanisms have been established and there is broad and informed public support for deep seabed mining, and that any deep seabed mining permitted by the International Seabed Authority fulfils the obligation to 'benefit (hu)mankind as a whole' and respects the Common Heritage of Mankind; and
6. Member States reform the structure and functioning of the International Seabed Authority to ensure a transparent, accountable, inclusive and environmentally responsible decision-making and regulatory process to achieve the above.