
WEBINARS
SCIAENA
"Why we should not mine the deep sea"
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Running order…

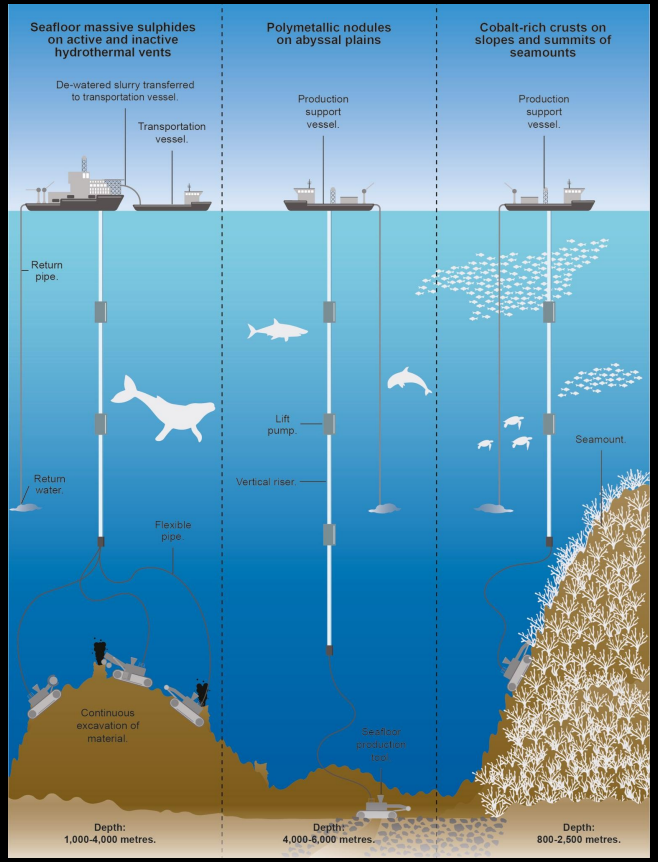
Kathryn Miller - risks & impacts

David Santillo - governance & regulation

Kevin Brigden - demand & alternatives

An Lambrechts - campaigns & communications

Q & A



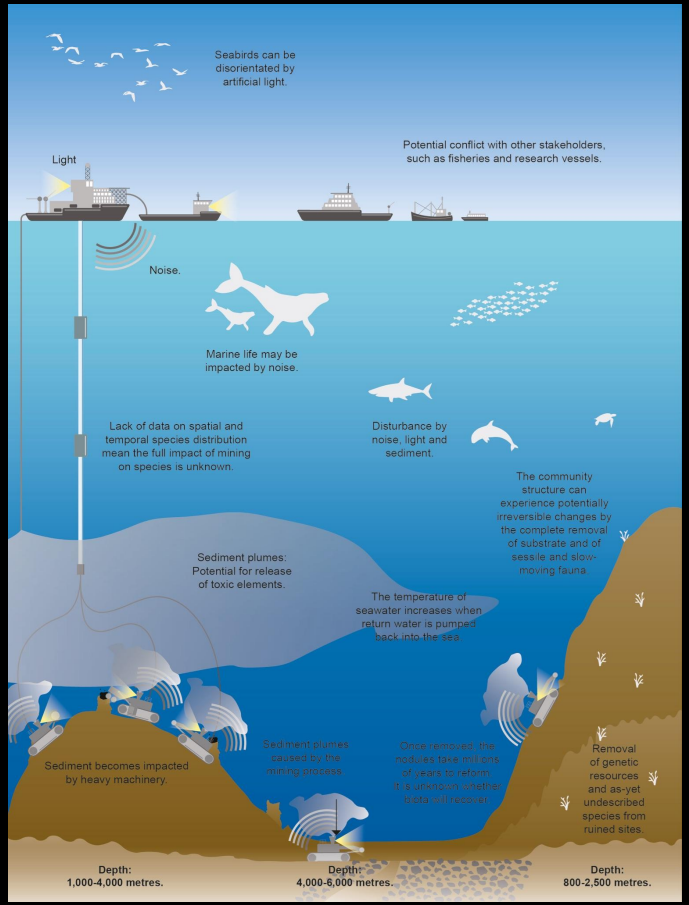
What and where are deep-sea minerals?

- Seafloor massive sulfides
- Polymetallic nodules
- Cobalt crusts

Who wants to start mining? Why? When?

What machinery would be needed?

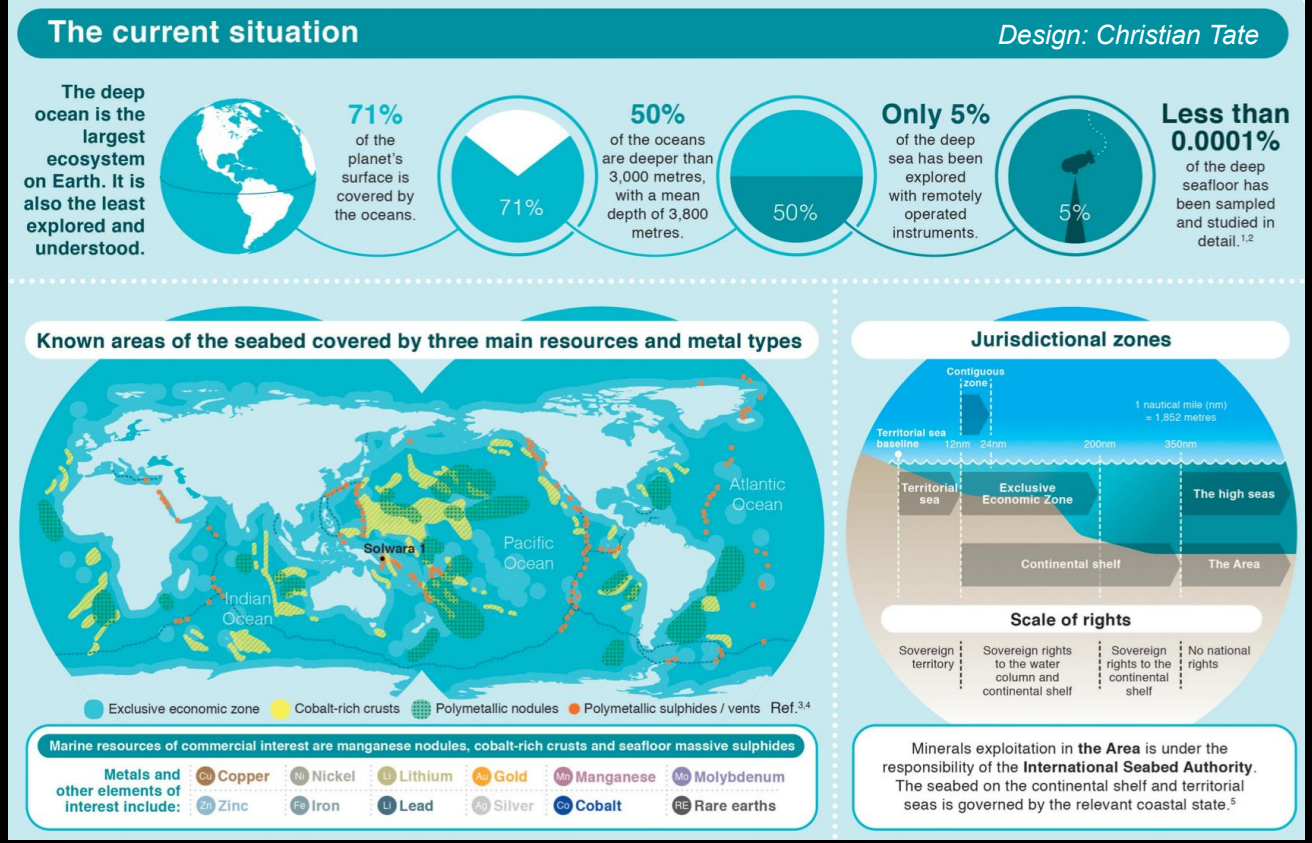
Miller et al. (2018) doi: 10.3389/fmars.2017.00418



What are the environmental concerns?

- Habitat removal and species loss
- Baseline species data and monitoring
- Connectivity – local and regional
- Sediment plumes
- Noise and light pollution
- Climate change and carbon sequestration

Miller et al. (2018) doi: 10.3389/fmars.2017.00418



Seabed Mining and Approaches to Governance of the Deep Seabed (Thompson *et al*. 2018, https://doi.org/10.3389/fmars.2018.00480)

Studies describing alternative policy approaches and actionable recommendations

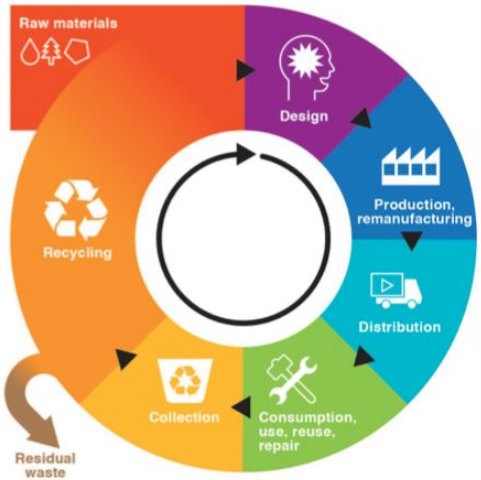
Design: Christian Tate

- Implement a harmonised and coherent international ocean agency for monitoring, research, governance and protection of the seabed.
- Establish a global network of large-scale marine protected areas.
- Place mining in the context of the United Nations Sustainable Development goals with careful interpretation of the "benefit of humankind".[12,13]
- Inform the global community of the costs and impacts of seabed mining.
- Undertake compulsory social cost–benefit analyses.
- Full transparency of all regulatory, monitoring and management processes.
- Researchers have called for the International Seabed Authority to suspend issuing exploration licences to allow time to gather baseline data.[14]

Examples from the literature detailing potential mitigation measures

- Impose areas of no development set aside within a mining company's permitted exploitation area.
- Install technology to minimise dispersal of sediment plumes and tailings, noise, light and heat.[3]
- Establish pilot mines and enforce independent assessment of impacts.[15]
- Formulate tight regulations to prevent "serious harm" to ecosystems, including collecting robust data.[16]
- Set up an independent body with the power to halt mining activities.[17]
- Prohibit all seabed mining when the social and environmental costs are evaluated to exceed any benefits.
- Establish a fund, paid for by the mining industry, to cover research, monitoring and disaster compensation.[18]

The circular economy



Implementation of a circular economy:

Improves reuse and recycling rates for metals;
Extends product life-spans and limit obsolescence;
Addresses overconsumption of technology.

A review of proposed governance mechanisms, NOT a manifesto for mining

The International Seabed Authority, established under the UN Convention on the Law of the Sea (UNCLOS, signed 1982, effective from 1994)

Article 136: "*The Area and its resources are the common heritage of mankind.*"...

…but what does this mean in practice, and over which time horizons?

Article 145: sets obligations to protect the marine environment, including preventing *"interference with the ecological balance of the marine environment"* …as well as… "*the prevention of damage to the flora and fauna of the marine environment."*

Article 194: requires measures to prevent, reduce and control pollution of the marine environment, including those necessary *"to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life."*

…how could mining the seabed ever be consistent with these obligations?

Seabed regulator accused of deciding deep sea's future 'behind closed doors'

The ISA, obliged to frame industry rules by 2023, drops reporting service and is accused of lacking transparency in plans for mining

Podcast: The race to mine the deep sea

An Ocean Rebellion protest in Rotterdam against the exploitation of the seabed, with the deep-sea mining vessel Hidden Gem in the background. Photograph: Sipa US/Alamy

The UN-affiliated organisation that oversees deep-sea mining, a controversial new industry, has been accused of failings of transparency after an independent body responsible for reporting on negotiations was kicked out.

INTERNATIONAL SEABED AUTHORITY

ISA's Legal & Technical Committee still meets behind closed doors

…and all the time, the "two-year-rule" clock is ticking…

OSPAR COMMISSION

OSPAR technical report on current understanding of deep seabed mining resources, technology, potential impacts and regulation along with the current global demand for minerals

OSPAR working group on DSM (currently awaiting legal advice on jurisdiction)

LC&P

LONDON CONVENTION AND PROTOCOL

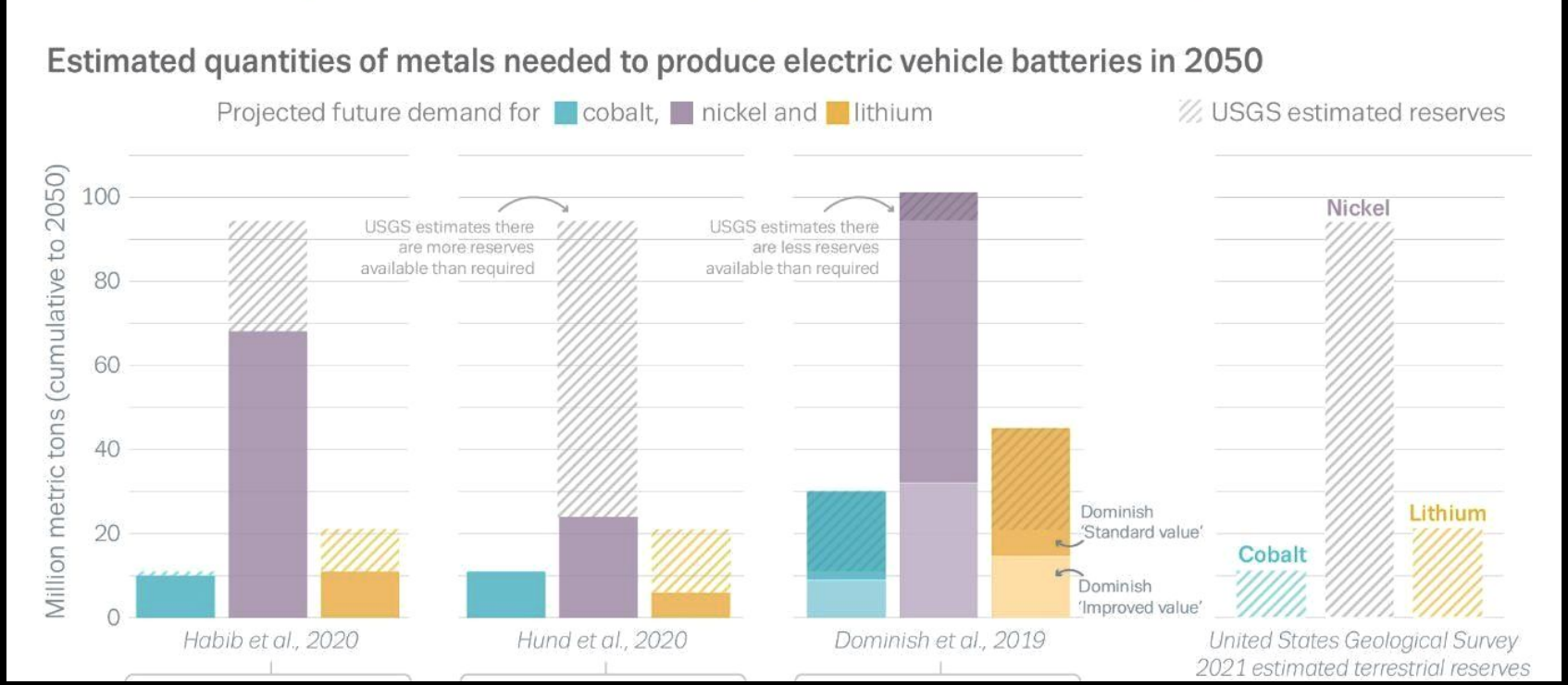
London Convention & Protocol technical dialogue with ISA

If the answer is deep sea mining,
aren't we asking the wrong question?

Deep-sea minerals: metals for renewable energy generation and storage

Electric vehicle batteries

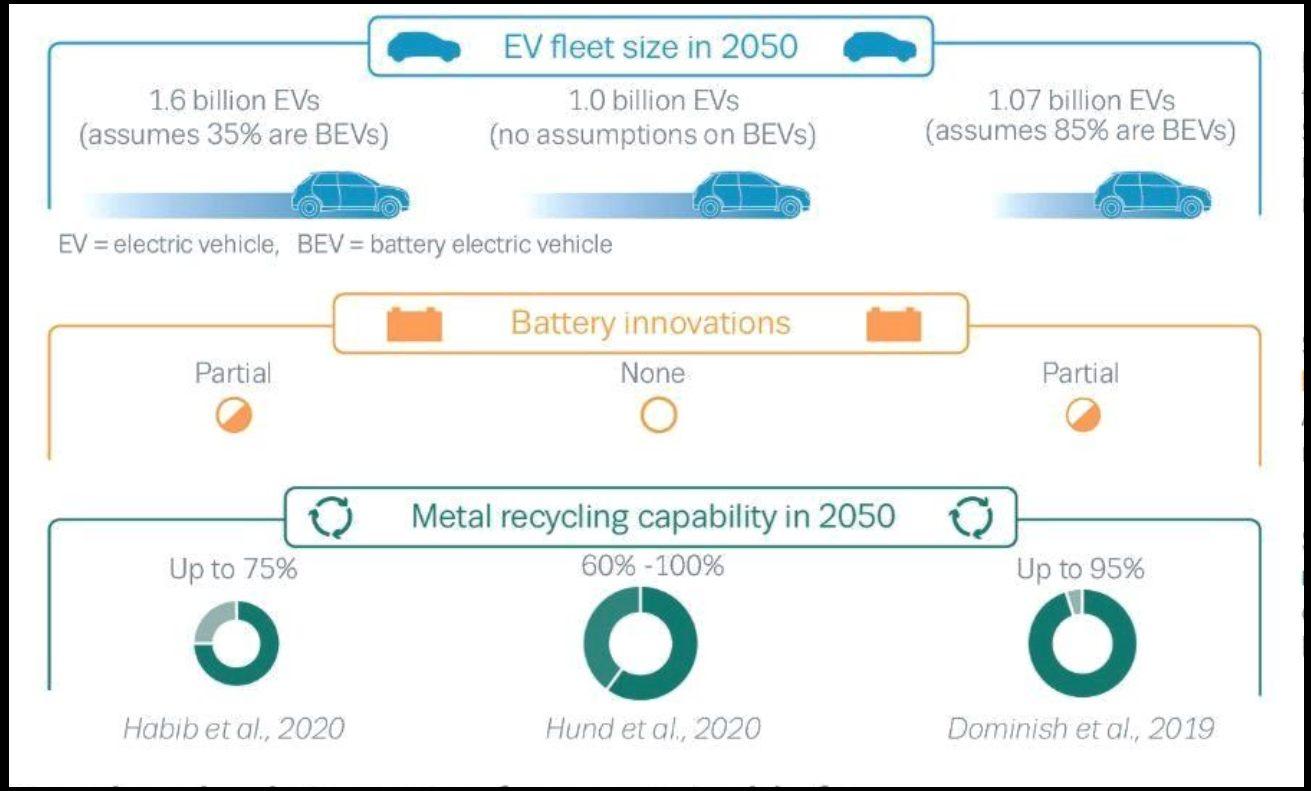
NMC (111,523,622,811)	**N**ickel, **M**anganese, **C**obalt
NCA	**N**ickel, **C**obalt, **A**luminium
	Copper for connectors, wiring



Habib et al. 2020. Critical metals for electromobility: Global demand scenarios for passenger vehicles, 2015–2050. doi: 10.1016/j.resconrec.2019.104603
Hund et al. 2020.Minerals for Climate Action: the Mineral Intensity of the Clean Energy Transition, World Bank Group
Dominish et al. 2019. Responsible Minerals Sourcing for Renewable Energy, Earthworks

Miller et al. (2021) doi: 10.3389/fmars.2021.706161

Multiple assumptions and uncertainties underpin models used to estimate future metal demand



Improvements

public transport
vehicle sharing
behaviour change

	Nickel	Cobalt
NMC	✔	✔
LMNO (eg SVOLT)	✔	X
LFP (eg Tesla)	X	X
Li-S (in development)	X	X

EU batteries regulation (draft)
95% recycling by 2030
for cobalt, nickel, copper

Miller et al. (2021) doi: 10.3389/fmars.2021.706161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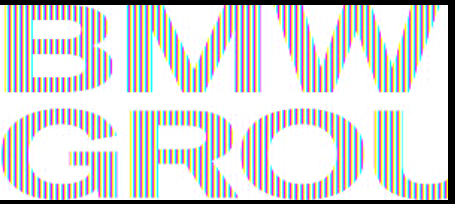
The DSCC holds that there should be a moratorium on: deep seabed mining; the adoption of seabed mining regulations for exploitation (including the "International Seabed Authority Exploitation Regulations"); and the issuing of exploitation and new exploration contracts, unless and until:

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.

deepsea conservationcoalition

http://www.savethehighseas.org/wp-content/uploads/2019/08/DSCC-Position-Statement-on-Deep-Seabed-Mining_July2019.pdf



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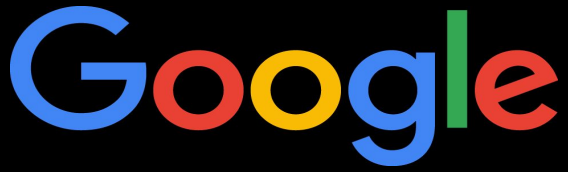

Thank you

Questions
(& hopefully some answers)