



SEAS AT RISK

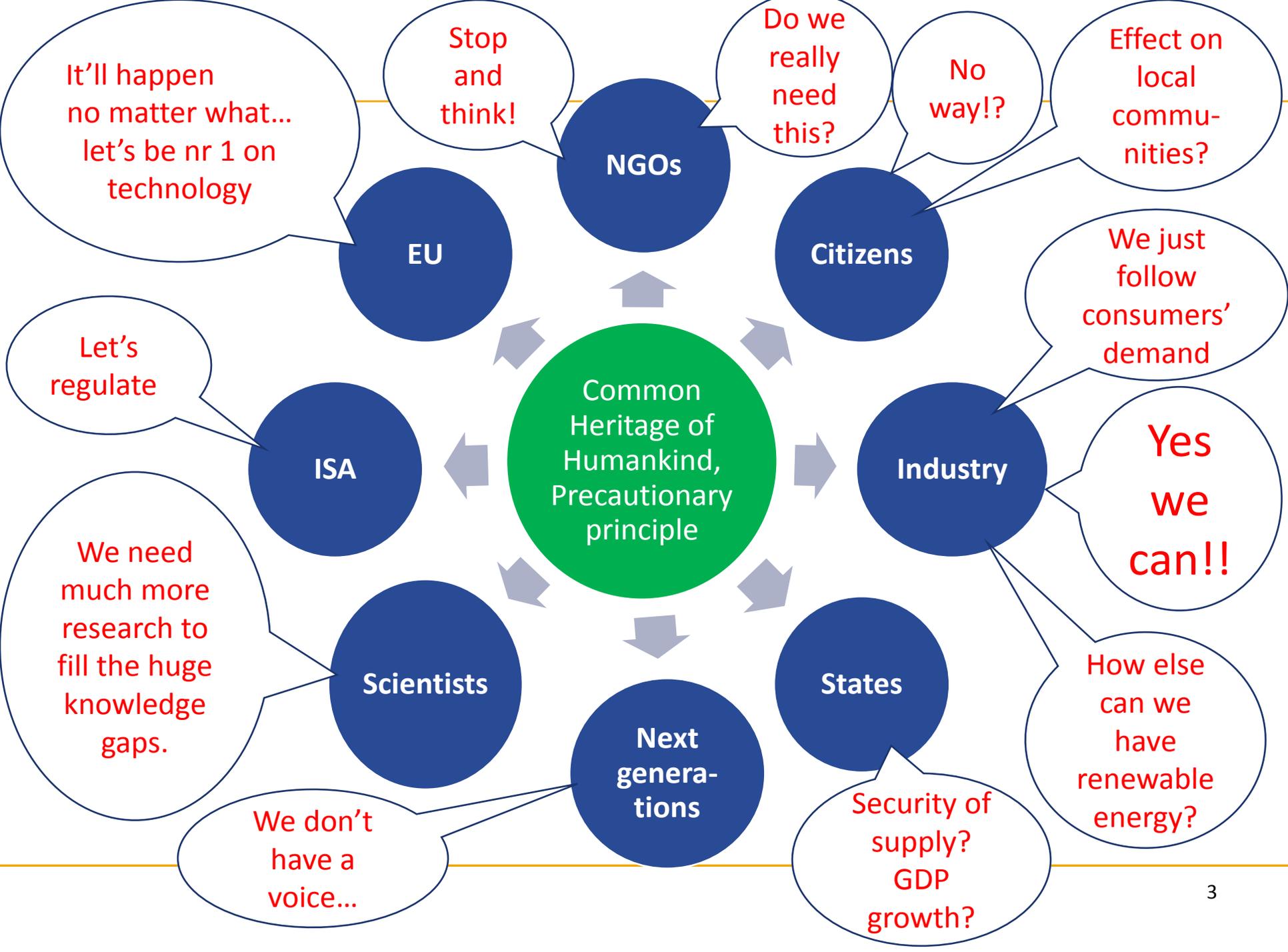
for the protection and restoration of the marine environment

How Belgium can become the prime custodian of the deep sea

Ann Dom, deputy director

Deep sea mining – Contributing to the elaboration of a
Belgian policy, Brussels, 5th June 2018



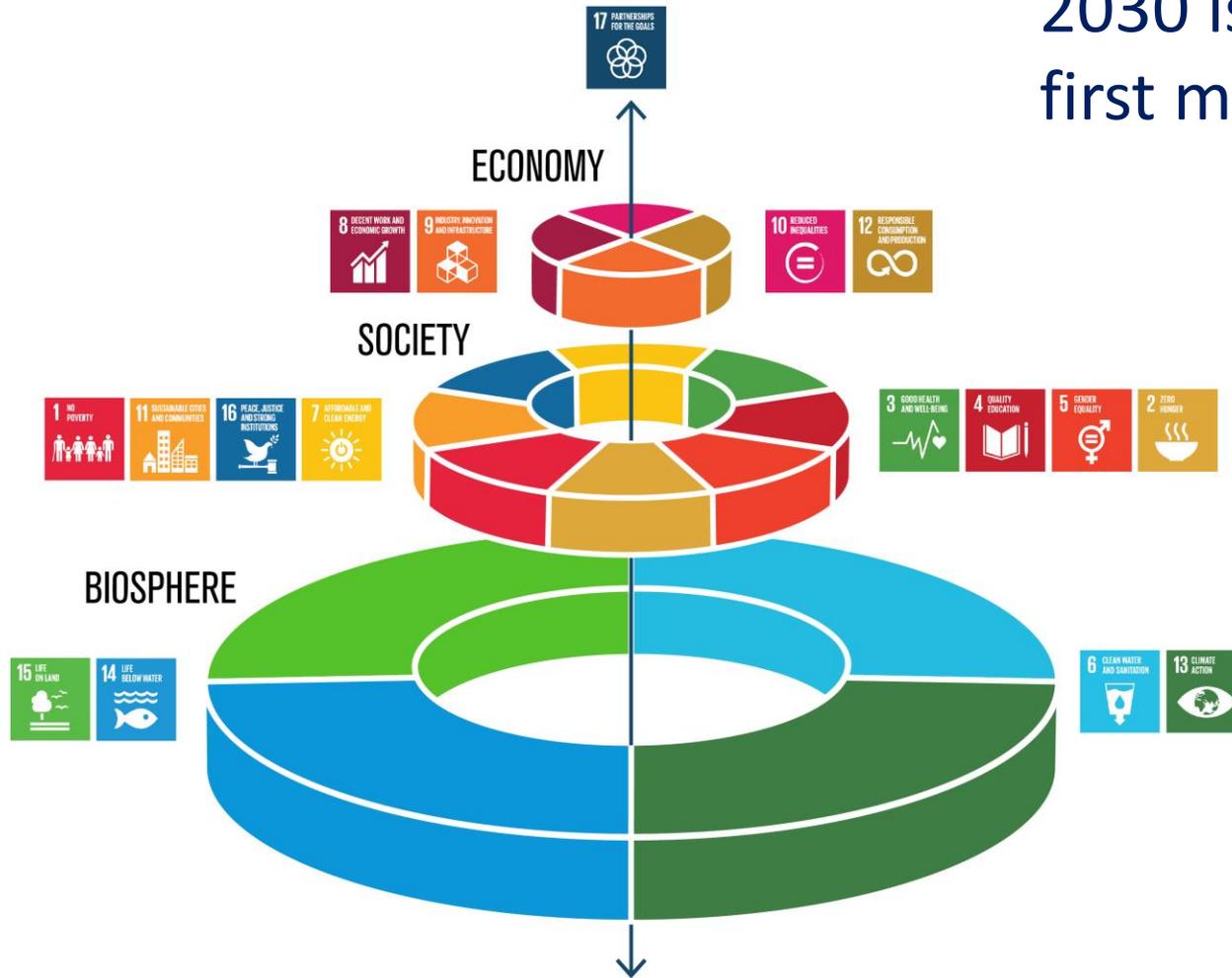


Our future world view...

"In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society."

7th Environment Action Programme

2030 is the first milestone



Graphics by Jerker Lokrantz/Åzote

The deep sea: a life sustaining ecosystem

“This truly vast deep-sea realm constitutes the largest source of species and ecosystem diversity on Earth...evidence that the richness and diversity of organisms in the deep sea exceeds all other known biomes... and supports the diverse ecosystem processes and functions necessary for the Earth’s natural systems to function”

UN 1st World Ocean Assessment 2016

Our approach: promote sustainable consumption and production as alternative to deep sea mining

- Focus on EU and Member States + link to international/ International Seabed Authority via Deep Sea Conservation Coalition
- Advocate systemic change, framing deep sea mining debate in light of sustainable development goals – SDG 14 and SDG 12
- Work with our members + other national NGOs in EU countries that promote deep sea mining (Germany, Poland, Belgium, France, United Kingdom, Portugal)
- Raise awareness - policy makers, NGOs, citizens, finance institutions
- Promote broad public debate about the need (or not) for deep sea mining and its alternatives
- Activities:
 - EU: Blue Growth, raw materials strategy, international ocean governance
 - ISA: input to consultations
 - Member States: Letters to governments and meetings with ministries
 - Conferences: Brussels (2016) and Lisbon (2017)
 - NGO members: Petition, websites, coalitions, briefings, position papers

Questions that could help underpin Belgium's position

- Is deep sea mining needed to achieve Agenda 2030 and the SDGs?
- Is it essential to allow us to 'live well within the limits of the planet' by 2050?
- Is it in line with Belgium's strategy on sustainable development?
- What is the benefit to humankind as a whole (the common heritage of mankind) that would justify the loss of biodiversity in the Area?
- Are there more sustainable alternatives? What is the potential of sustainable consumption and production (circular economy) in reducing growth in demand for minerals?
- Is the International Seabed Authority capable of governing the deep sea resources and ensuring protection of the deep sea?
- Do we know enough to make science-based decisions?
- How can we apply the precautionary principle?
- What role can Belgium play as sponsoring state and member of the ISA?

Why we are worried

- Environmental risks: irreversible loss of biodiversity, disturbance by light and noise, vast areas impacted by sediment plumes, Recovery of ecosystems is likely to be very slow, restoration is impossible, huge unknowns about the ecosystems and about impacts
- Socio-economic benefits uncertain and inevitably short term
- Flawed governance – internationally and nationally
- Technology is running ahead of regulation and scientific knowledge
- Lack of public debate and stakeholder involvement
- Lack of global governance framework for resource use and supply
- Opening up new reserves (deep sea, Antarctica, moon, mars, ...) for mining will divert from the transition to sustainable consumption and production. It will simply perpetuate the old 'limitless growth' paradigm

Duke University press release:
“Biodiversity losses from deep-sea mining are unavoidable and possibly irrevocable... “

“The International Seabed Authority ... must recognize this risk... to inform discussions about whether deep-seabed mining should proceed, and if so, what standards and safeguards need to be put into place to minimize biodiversity loss...”



Deep sea mining threatens unique marine life, experts warn

Mon, 26 Jun 2017

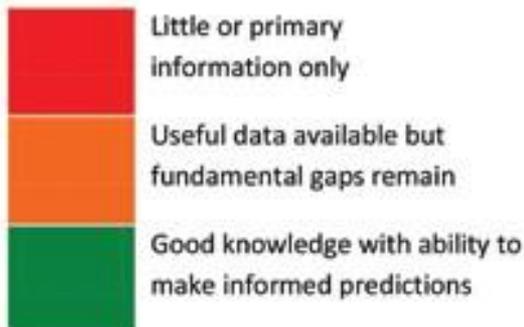
Gland, Switzerland, 26 June 2017 (IUCN) – Mining the deep ocean floor would inevitably lead to the loss of biodiversity, which cannot be compensated for through biodiversity offsets, 15 marine scientists and legal scholars argue in a letter published today in the journal Nature Geoscience.



Summary of comparison of land based and deep-sea mining footprints per million tons of ore

Deep sea mining activity	Deep-sea area required per million tons mined ore	Area required to produce same products on land
Nodule mining	80 km ²	0.52 km ²
Cobalt crust mining	12.8 - 38 km ²	0.66 km ²
Sulphide mining	0.054 km ²	0.12 km ²

	Vents	Off vents	CCFZ	Svalbard seeps	Black Sea
Megafauna	Good knowledge with ability to make informed predictions	Useful data available but fundamental gaps remain	Useful data available but fundamental gaps remain	Little or primary information only	N/a
Macrofauna	Useful data available but fundamental gaps remain	Useful data available but fundamental gaps remain	Useful data available but fundamental gaps remain	Little or primary information only	N/a
Meiofauna	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	?
Microbial:	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Little or primary information only
Protista	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Little or primary information only
Microbial:	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain
Bacteria	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain
Microbial:	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain
Archaea	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain	Little or primary information only	Useful data available but fundamental gaps remain



Biogeographic knowledge in deep-sea habitats with mineral or gas hydrate resource potential.

“Our current level of biogeographic knowledge is not sufficient to make accurate predictions of the consequences of mining.”

Source: MIDAS research highlights

Governance is flawed

- Article 145 of UNCLOS: ensure effective protection for the marine environment from harmful effects. But: ISA only proposes to do so through the highest ‘practicable’ standards of protection + is actively promoting deep sea mining
- ISA wants to adopt exploitation regulation by 2020 – why the rush?
- ISA claims deep sea mining contributes to the SDGs – where is the evidence?
- Process for developing exploitation regulation lacks transparency and ambition
- ISA lacks in transparency and environmental capacity
- Conflicts with other UN policies:
 - Polish exploration contract approved – in an Ecologically or Biologically Significant Marine Area (Convention on Biological Diversity).
 - Negotiations on legal instrument on conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction?
- Involvement of other UN bodies, International Resource Panel, Inter-governmental forum on Mining, Minerals, Metals and Sustainable Development, ...?
- Main gap: global resource governance!

Should deep seabed mining be allowed?

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Benefit of humankind
Common heritage of humankind
Law of the sea

ABSTRACT

Commercial interest in deep sea minerals in the area beyond the limits of national jurisdiction has rapidly increased in recent years. The International Seabed Authority has already given out 26 exploration contracts and it is currently in the process of developing the Mining Code for eventual exploitation of the mineral resources. Priority issues have so far been feasibility and profitability of this emerging industry, while relatively little consideration has been given as to how, and to an even lesser extent, whether deep seabed mining should proceed. This article makes a case that the global community should question and scrutinize the underlying assumption that deep seabed mining is going benefit humankind as a whole before commercializing the common heritage of humankind.

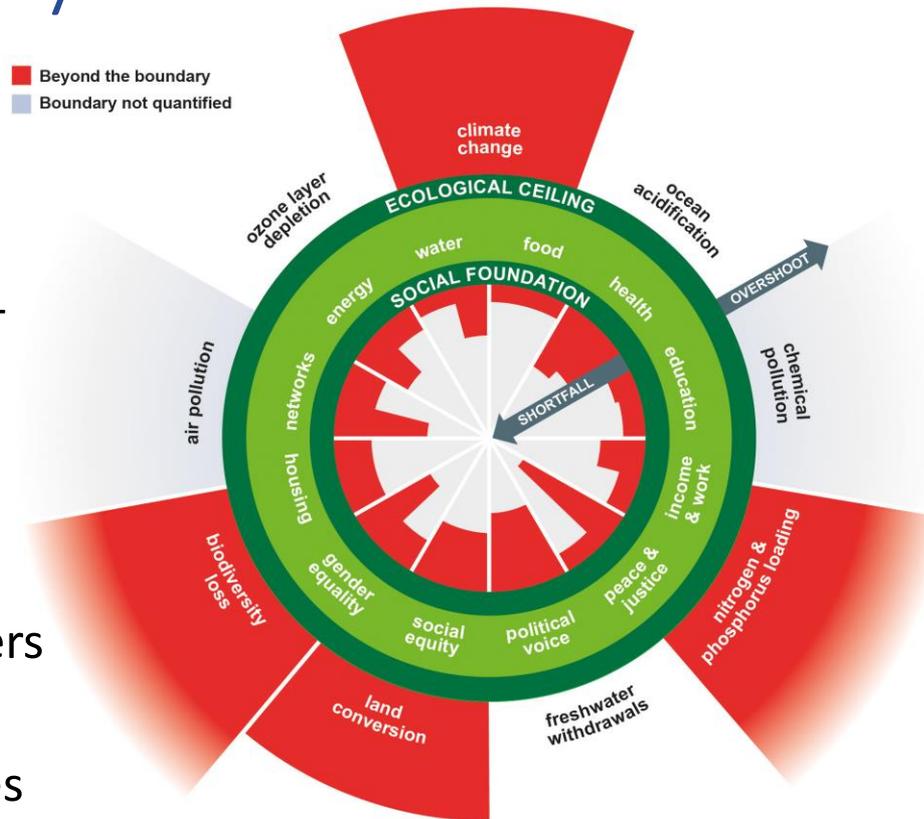
It is uncertain whether deep seabed mining will promote the right of all nations and peoples of the world to greater human dignity, freedom, justice, and equality. Scientists have urged caution against deep seabed mining in the face of uncertainties about its impact on marine ecosystems. Potential adverse effects on the environment of deep seabed mining are likely to outweigh any potential benefit from increased metal supply.

Strong precautionary approach needed!

- Given gaps in knowledge, uncertainties about impacts, risks: strong application of precautionary principle needed
 - Avoid getting locked into a non sustainable technology.
 - Think beyond business as usual. Fully explore more sustainable alternatives. Focus on systemic change.
 - Ensure transparency in decision making process + public scrutiny
 - Do not let deep sea mining divert investments away from more sustainable solutions
-
- **Find 21st century solutions for 21st century challenges!**

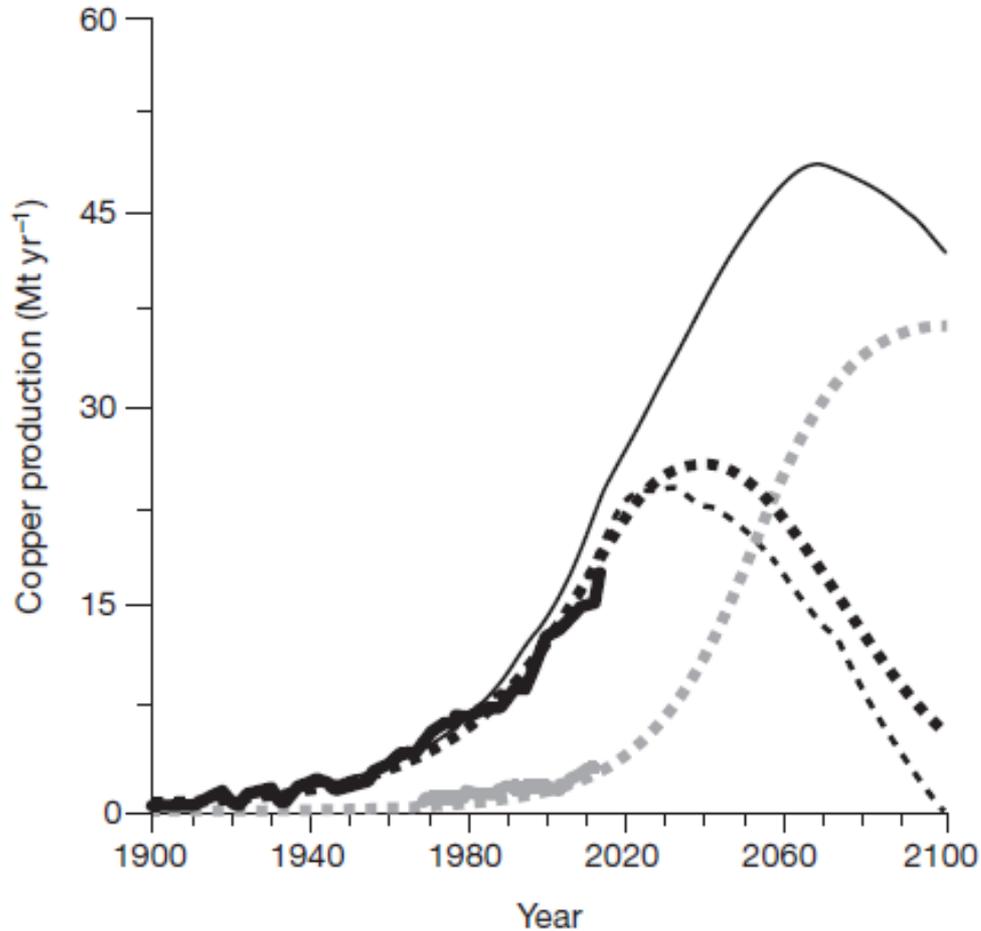
20th century

- Vision = growth, prosperity
- Economy = efficiency, techno-optimism, competitiveness, security, market
- People = consumers, workers
- Planet = free ecosystem services



21st century

- Vision = sustainability, wellbeing within limits of the planet
 - Planet = life, home, commons
 - People = responsible citizens, society-wide changes
- Economy = sufficiency, efficiency, sharing, fairness, new business models



Source: Saleem H. Ali¹ et al., 2017, Mineral supply for sustainable development requires resource governance, NATURE | VOL 543 | 16 MARCH 2017

- The use of critical raw materials in the EU economy is far from being fully circular and there are several improvement opportunities.
- Not only recycling has to be looked at, but also re-use, product lifetime extension, new business models, etc.
- It will be also important to raise public awareness, to underline that (critical) raw materials are fundamentals to current lifestyles and to foster collection rate of many products and materials at end-of-life.

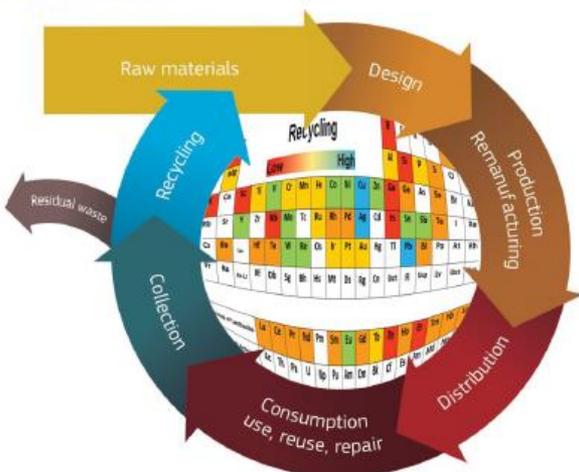

European Commission

JRC SCIENCE FOR POLICY REPORT

Critical raw materials and the circular economy

Background report

Fabrice Mathieux, Fulvio Ardenete, Silvia Bobba, Philip Nuss, Gian Andrea Blengini, Patricia Alves Dias, Darina Blagoeva, Cristina Torres de Matos, Dominic Wittmer, Claudiu Pavel, Tamas Hamor, Hans Saveyn, Bernd Gawlik, Glenn Orveillon, Dries Huygens, Elena Garbarino, Evangelos Tzimas, Faycal Bouraoui, Slavko Solar



The diagram illustrates the circular economy process. It features a central periodic table of elements. Surrounding it are several arrows forming a cycle: 'Raw materials' (yellow arrow pointing right), 'Design' (orange arrow pointing right), 'Production' (brown arrow pointing right), 'Distribution' (red arrow pointing right), 'Consumption use, reuse, repair' (dark red arrow pointing right), 'Collection' (teal arrow pointing left), 'Recycling' (blue arrow pointing left), and 'Residual waste' (grey arrow pointing left). The word 'Recycling' is also written in the center of the cycle.

December 2017

Land fill mining?

- Between 150 000 and 500 000 landfills in EU, = a significant source of secondary materials and energy
- Concentration of metal in mined ores is often less than 1 %, while in landfill their concentration can be as high as 20 %
- Estimate of the concentration of CRMs in British landfills operating between 1980 and 2011: about 380 mg/kg .
- Extrapolation to EU-27 landfills between the years 1995-2014: 470-520 thousand tons of REEs; and 340-370 thousand tons for other materials (Li, Ln, Sb, Co).

Source: JRC, Critical Raw Materials and the circular economy

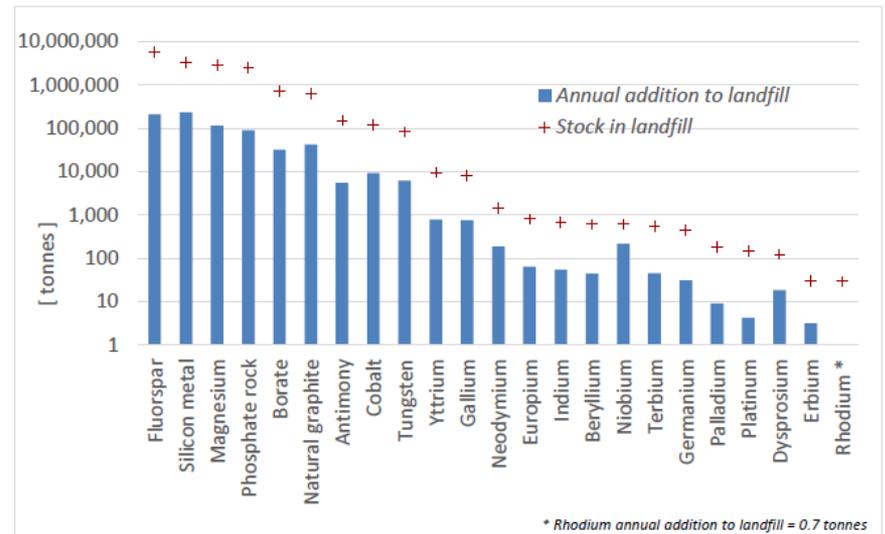
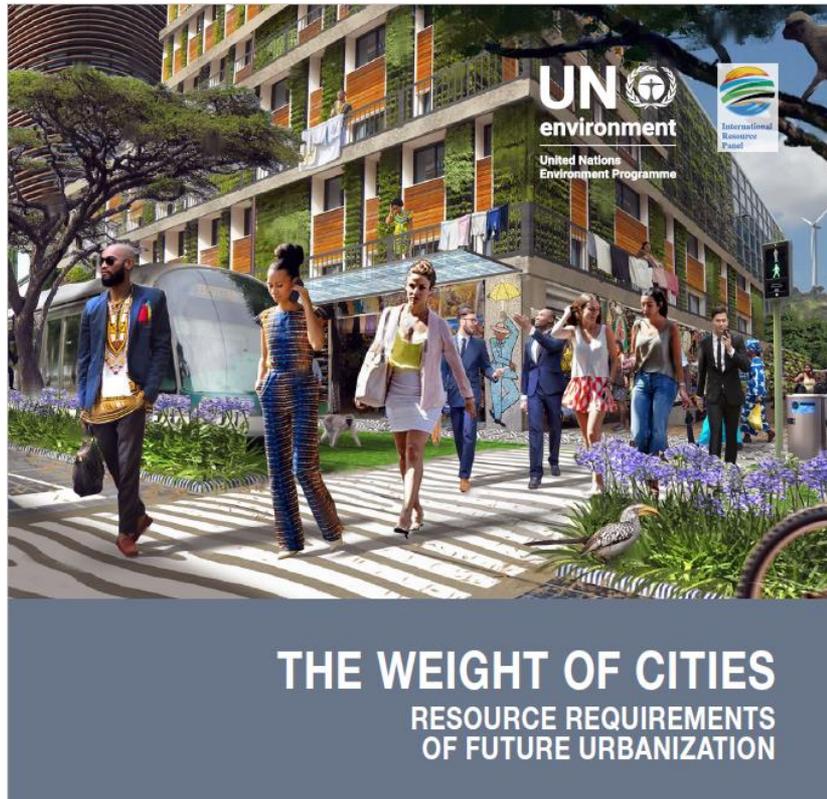


Figure 7. Amounts of some CRMs as 'Annual addition to stock in landfills in EU' and 'Stock in landfill in EU'. Source: JRC elaboration based on 2015 MSA study (Deloitte Sustainability, 2015).

International Resource Panel



- Without a new approach to urbanization, material consumption by the world's cities will grow from 40 billion tonnes in 2010 to about 90 billion tonnes by 2050.
- We have a once-in-a-lifetime opportunity to shift the expected urbanization onto a more environmentally sustainable and socially just path.
- Compact, resource-efficient cities could see cuts of 36-54% in GHG emissions, and in metals, land, energy and water use

 International Transport Forum |  CPB
Corporate Partnership Board



Urban Mobility System Upgrade
How shared self-driving cars could change city traffic



Corporate Partnership Board Report

 OECD

Nearly the same mobility can be delivered with 10% of the cars
TaxiBots combined with high-capacity public transport could remove 9 out of every 10 cars in a mid-sized European city. Even in the scenario that least reduces the number of cars (AutoVots without high-capacity public transport), nearly eight out of ten cars could be removed.

“A transition towards a 100% renewable energy supply – often referred as the “energy revolution” – can take place without deep-sea mining.”

“Increasing recycling and continued research and development into alternative technologies that reduce, or completely eliminate, the use of these critical metals are vitally important complementary strategies.”

Source: Teske et al 2016



RENEWABLE ENERGY AND DEEP-SEA MINING:
SUPPLY, DEMAND AND SCENARIOS

Sven Teske
Nick Florin
Elsa Dominish
Damien Giurco

UTS:ISF
INSTITUTE FOR SUSTAINABLE FUTURES

2016

UN Ocean conference 2017: 39 NGOs call

- On the International Seabed Authority to end the granting of contracts for deep-sea mining exploration and to not issue contracts for exploitation;
- On the United Nations to make a strong link between SDG12 and SDG14 and to ensure the growth in demand for minerals is reduced through ambitious sustainable consumption and production policies worldwide;
- On the European Union to stop financing the development of deep-sea mining technology and invest instead in enhancing and implementing policies on the circular economy, resource efficiency and sustainable consumption; and
- On all countries to cease the sponsorship of exploration and exploitation licences in Areas Beyond National Jurisdiction and end the issuing of permits for deep-sea mining in their territorial waters.

How will Belgium respond to this call from civil society?

08 June 2018



2018 - NGOs call on ISA to

- Ensure effective protection for the marine environment from harmful effects = the fundamental objective of the ISA;
- Act on civil societies' requests for fundamental reforms of the ISA operations, including among others the establishment of an Environment Committee, the opening up of the Legal and Technical Committee for observers, and public access to data and information;
- Establish a process to investigate comprehensively and in a participatory and science-based manner the fundamental questions about the need for deep seabed mining and its long term consequences for the planet and humankind, ensuring that more sustainable alternatives are fully assessed and fed into the debate in an open and transparent manner;
- in the meantime, to end the granting of contracts for deep-sea mining exploration and to not issue contracts for exploitation.

How will Belgium respond to this call from civil society?

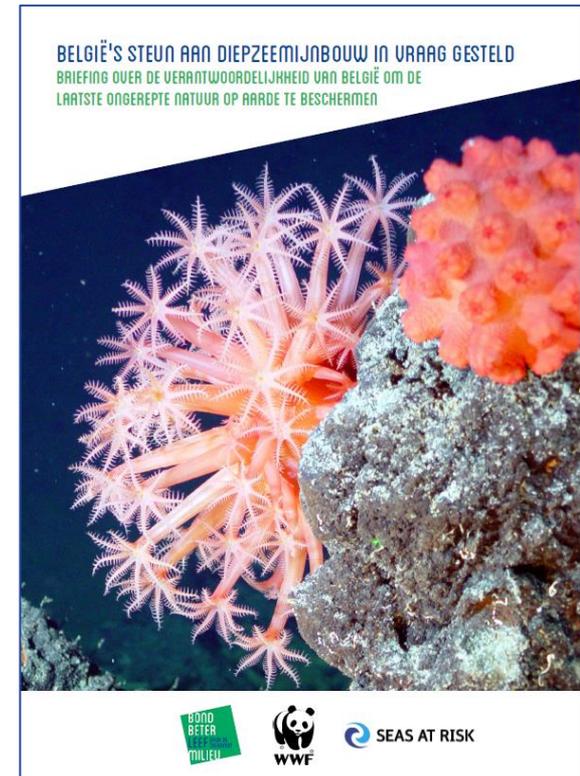
European Parliament calls for international moratorium

- Calls on the Commission to encourage Member States to cease subsidising licences for mining prospecting and extraction in areas beyond national jurisdiction and issuing permits for mining of their continental shelves;
- Urges the Commission to call on Member States to stop sponsoring deep-sea mining exploration and exploitation licenses in Areas Beyond National Jurisdiction and on and not to issue permits for deep-sea mining on Member States' continental shelf;
- Calls on the Commission and the Member States to support an international moratorium on commercial deep-sea mining exploitation licences until such time as the effects of deep-sea mining on the marine environment, biodiversity and human activities at sea have been studied and researched sufficiently and all possible risks are understood;
- Stresses that the Union's precautionary principle has to be applied in case of any potential future deep-sea mining exploration; is alarmed by the Commission's insistence on deep-sea mining being one of the Union's priority sectors for blue growth, given the scientific evidence that exists of its significant and irreversible environmental risks; is concerned at the possibility that the further promotion of deep-sea mining could adversely affect the actions that are required under SDG 12 (transition to sustainable consumption and production);
- Stresses that the precautionary principle must be applied to the emerging deep-sea mining sector, and that given the scientific warnings regarding significant and potentially irreversible environmental harm being implied, considers that the EU should not support the development of this industry but should, rather, invest in sustainable alternatives, and specifically in a transition to sustainable consumption and production, as called for in SDG 12 under Agenda 2030;
- Source: European Parliament resolution of 16 January 2018 on international ocean governance: an agenda for the future of our oceans in the context of the 2030 SDGs

How will Belgium respond to these EP requests?

We want Belgium's position to be precautionary, participatory, science-based

- Put in place a mechanism for continuous stakeholder consultation and for public participation.
- Conduct science-based public debate about the need (or not) for deep sea mining.
- Evaluate deep sea mining in light of the SDGs and Belgium's sustainable development/ circular economy strategies and objectives
- Reconsider future sponsoring of contracts/ support in light of scientific warnings about irreversible significant harm and needs assessment
- Take a proactive and strong precautionary approach – champion sustainable consumption and production instead of deep sea mining
- Put in place governance mechanism –inter-ministerial coordination, involvement Federal Council for Sustainable Development
- Ensure ISA follows civil society requests, i.e. Environment Committee, Legal and Technical Committee for observers, Environmental data publicly accessible



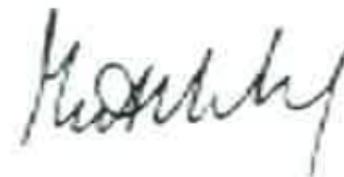
GSR test: open and transparent procedures crucial

- NGO requests to Belgian government: test to have an open and participatory environmental impact assessment, including public consultation; monitoring plan also to be made public
- DSCC request to the ISA
 - Role of Legal and Technical Committee + Council in reviewing the EIA
 - Which decision is linked to the review of the EIA?
 - What are the standards against which EIAs will be evaluated and will they be publicly available? Standards to include overall impact of the proposed activities on the marine environment, any possible harm, and applicable mitigation measures?
 - If proposed activity is likely to cause an adverse environmental impact, what will be the consequences?
 - Will the EIA be made publicly available and will there be an opportunity for stakeholder comment or input? Will the results of the EIA review, including any requests for additional information or amendment, be made public?
 - What will be the process for reviewing and evaluating the environmental management and monitoring plan prior to and during its execution, to verify that no serious harm to the marine environment is likely to occur or occurs during testing; to ensure that the monitoring plan will provide for the information required as specified in the Recommendations including the observations and measurements required under paragraphs 29 and 30 of the Recommendations, and to ensure that the monitoring plan is executed consistent with the approved proposal?

How will Belgium respond to these NGO requests?

The environmental impact assessment submitted by GSR, as well as a similar assessment submitted by BGR of Germany, will be published on the Authority's website for access by the general public in due course, and prior to the twenty-fourth session of the Authority, which will be held from 2nd to 28th July 2018.

Yours sincerely,



Michael W. Lodge

What will be the consultation procedure?
How and by who will EIA and monitoring plan be evaluated?
How will comments be used?
How will the EIA inform decisions?
What will be the Belgian procedure for the EIA?