



# Comments on International Seabed Authority Financial Model

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To: [Council2020@isa.org.jm](mailto:Council2020@isa.org.jm)

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The following are comments by the Deep Sea Conservation Coalition (DSCC) with respect to the International Seabed Authority (ISA) [Open-Ended Ad Hoc Working Group of the Council](#) (OEWG) for the purpose of further refining the assumptions of the model for a payment system and for rates of payment as invited in [ISA/OLA/2020.074](#).

As indicated in the [intervention made by the DSCC](#) during the discussion on this issue at the meeting of the Council in February, the DSCC is concerned that the modeling to date has seriously undervalued the common heritage of mankind (CHM) as well as the potential loss to society of biodiversity and ecosystem goods and services.

We consent to publication of these comments.

1. The model should properly reflect that the Area and its resources (and the proceeds of selling those resources) are the CHM. This is stated in the Massachusetts Institute of Technology (MIT) [Powerpoint presentation](#) as the “underlying philosophy of the analysis” but CHM is nowhere referred to during the rest of the presentation. The principle must be operationalized. Mineral resources in the Area are a shared inheritance. The ISA must conserve this inheritance also for future generations. The underlying principle for the model should be sufficient compensation to humankind for the loss of the minerals from common ownership and for the associated ecological and societal costs.
2. At present the underlying principle behind the model in operational terms seems to be that deep-sea mining should be incentivized,<sup>1</sup> with the focus on a contractor’s hurdle rate

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<sup>1</sup> See the question in the slide: “What is a minimum return to the contractor to incentivize?”, and the statement that “Sufficient revenues need to go to collector to incentivize risky investment”

of e.g. 17.3% as the minimum rate that a private sector contractor expects to earn in order to invest in a project. This rate is then inappropriately applied to all costs identified as part of the deep-sea mining value chain of a contract, whether or not these are actually going to be covered by the contractor or any other party. On the other hand, the potentially significant costs that are likely to occur to the ISA, other stakeholders and the deep-sea ecosystems, functions and biodiversity are not assessed in the same way and no 17.3% hurdle rate is applied to those crucial stakeholders. Therefore this approach is inappropriate and numbers presented are misleading.

3. Consistent with the CHM principle, the principal beneficiaries of activities in the Area should be humankind, including future generations, with at least a guaranteed minimum threshold return to the CHM. This is in effect the reverse of the current model, where contractors are the principal beneficiaries and any payment to CHM relies on there being first proceeds to contractors rather than delivering first benefits to humankind. If such an approach reduces contractor interest today then nothing is lost: the minerals are still there, as is the biodiversity. Inter-generational equity demands fairness to future generations, who may want to keep resources in marine environments undisturbed, or who may develop innovative mining technologies that have lower cost and much less environmental impact. At present the approach deprives the common heritage. As deep-sea minerals in the Area are CHM, one goal must be to ensure zero loss in value of the wealth, including preventing waste, as well as preventing the loss of biodiversity and environmental damage through effective protection and the precautionary approach.
4. The model should reflect a realistic, consistent and fair approach to discounting. Once the full cost of a proposed mining project (including environmental costs) is assessed, and all risk reduction measures have been considered, and the relevant jurisdictional principles have been correctly applied so as to ensure that the model only reflects those activities that are under the auspices of the ISA, *then* it can be discussed which rates are appropriately applied to discount which future cash flows and whether there is a role for the concept of social discounting<sup>2</sup> under those circumstances.
5. The regime must meet all UNCLOS requirements, including avoiding subsidizing or giving seabed mining in the Area an unfair competitive advantage over terrestrial mining.<sup>3</sup> These aspects must be explicitly modelled.

The model should reflect environmental externalities, the value of the deep-sea ecosystem services and the economic cost of any damage to the deep-sea environment and its functions, or damage to or loss of biodiversity. The model needs to appropriately value the cost of losing parts of the full suite of ecosystem services and the potential

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<sup>2</sup> Arrow K.J. et. Al. (2013). *How Should Benefits and Costs Be Discounted in an Intergenerational Context? The Views of an Expert Panel*, Resources for the Future  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2199511](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2199511)

<sup>3</sup> See UNCLOS Annex III Article 13(1)(f), Article 150(h), Article 151(10), 1994 Implementing Agreement Section 8(1)(b).

future production of minerals on geological time scales. Deep-sea mining has the potential to remove or damage vast quantities of life forms essential to the ecological function of the ocean and its health, stability and resilience as well as interfere with processes such as the regulation of trace metals in ocean chemistry, and the cycling of nutrients and carbon.

6. This analysis should also inform the quantum of what is currently termed in the Draft Regulations the Environmental Compensation Fund, which at present is quantified at an apparently randomly derived 1% of proceeds. The fund needs to be designed so as to reflect the potential amount of liability claims, and so as to ensure that it is appropriately funded prior to any damage-causing activity (rather than funded only once mining proceeds occur). In addition, the fund as currently drafted includes a number of provisions not relating to liability, highlighting the need for a second fund focused on environmental sustainability.
7. By moving to a model based on CHM, and on focusing specifically on activities only under the jurisdiction of the ISA, the model will also avoid the uncertainties that arise from a model based on an attempt to forecast a basket of metal price over decades.
8. The instructions to MIT should be made transparent and relayed to the ISA Council.
9. It is crucial for transparency that all sponsoring States should immediately publish details on the financial arrangements they have with the contractors they have sponsored, including the corporate tax rate and any levies or fees that will apply to the contractor if an application for a plan of work for exploitation is approved or granted by the ISA.
10. The model and all its data inputs should be put to independent, expert peer review. We also request open access to the entire model so that it can be checked for errors, and alternative assumptions can be tested. Further, the model should be developed under modelling standards like FAST.<sup>4</sup> The International Monetary Fund (IMF) has developed an open Financial Analysis for Resource Industries (FARI) model which is being used by many countries.<sup>5</sup> Open Oil also develops open financial models for the extractive industry.<sup>6</sup>
11. Before it can properly evaluate any payment regime, the OEWG needs:
  - a. relevant comparative studies regarding land-based mining regimes;
  - b. an assessment of the financial implications of the draft exploitation Regulations;
  - c. an assessment of the financial implications of undertaking activities in a way that are aligned with the Sustainable Development Goals (SDGs) and the Paris

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<sup>4</sup> <https://www.fast-standard.org/>

<sup>5</sup> <https://www.imf.org/external/np/fad/fari/>

<sup>6</sup> <https://openoil.net/>

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Agreement, which will result, for instance, in additional carbon offsets for shipping, and need to be fully costed;

- d. clear guidance as to what activities are covered by the ISA under UNCLOS and should therefore be taken into account in a financial model (such as nodule collector costs), and what are not and therefore should be excluded *ex ante* from consideration by the payment model (such as processing, shipping etc); and
  - e. accurate information about sponsoring State financial arrangements with Contractors.
12. It will also be necessary to model a potential future “nodules market”, taking the above considerations into account, in order to derive “nodule prices” rather than attempt to derive processing cost in the format presented by MIT (and this could also be of use as a point of comparison to the MIT numbers).
13. The OEWG process should be broadcast or in the format of a webinar so that economic experts in capital can advise delegates. It is also crucial that models, slides and any other material be circulated at least 10 days before any OEWG meeting so they can be analyzed by experts in advance of the meeting.