Request for consideration by the Council of the African Group's proposal on the Economic Model/Payment Regime and Other Financial Matters in the Draft Exploitation Regulations under review

Acronyms

Acronym	Definition
Area	The seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction
Comments on the 2017 Draft Regulations	African Group's comments and inputs on the Draft Regulations on Exploitation of Mineral Resources in the Area of the International Seabed Authority, December 2017
Commission	The Legal and Technical Commission of the Authority
2017 Draft Regulations	Draft Regulations on Exploitation of Mineral Resources in the Area, 8th August 2017
Implementing Agreement	Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982
ISA	International Seabed Authority
MIT	Massachusetts Institute of Technology
Regulations	Draft Regulations on Exploitation of Mineral Resources in the Area, 29th May 2018
Singapore Workshop	Deep Seabed Mining – Payment Regime Workshop (PRW) #3 Singapore, April 19-21, 2017[i]
UNCLOS	United Nations Convention on the Law of the Sea

Introduction

The African Group is committed to ensuring that deep-sea mining in the Area only occurs if it is demonstrably beneficial to mankind. Deep-sea mining will involve a process through which resources which are currently commonly owned by mankind are transferred through mining, transportation and metallurgical processing to private ownership. Mankind must be fairly compensated for the loss of resources to private ownership from the commencement of mining. The payment regime[ii] is the mechanism for ensuring that the ISA fairly shares in the revenues and profits from deep-sea mining.

The ISA published the most recent draft of the Regulations in May 2018. The African Group would like to compliment the ISA on these Regulations, which are clearly drafted and represent a significant improvement on the 2017 Draft Regulations. The current draft of the Regulations also address some of the comments made by the African Group in its earlier Comments on the 2017 Draft Regulations.

The African Group is committed to providing further comments to strengthen the payment regime and ensure that deep-sea mining in the Area only occurs if it is beneficial to mankind. With this aim in mind, this Submission reviews the Regulations through three parts.

Part one summarises the African Group's Comments on the 2017 Draft Regulations and discusses the extent to which these comments have been addressed in the current Regulations.

Part two discusses additional comments that the African Group has with the payment regime outlined in the current Regulations.

Part three presents and discusses the results from a financial model of deep-sea nodule mining in the Area.

Part 1: Review of Previous Comments on the Payment Regime and Other Financial Matters

This Part restates the African Group's Comments on the 2017 Draft Regulations as they pertain to the payment regime and other financial matters. It also discusses the extent to which those comments have been addressed in the current draft of the Regulations.

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
The African Group would like to emphasise the fact that the Common Heritage of Mankind principle is the overarching basis of the regulations and should therefore be more clearly reflected in the body/operative part of the draft regulations.	Regulation 2 explicitly speaks to the management of resources in a way that promotes the long-term development of the Common Heritage of Mankind. In addition, Regulation 12(4) speaks to the Commission considering how the Plan of Work contributes to optimising benefits for mankind as a whole. However, Regulation 16 states 'If the Commission determines that the applicant meets the criteria set out in regulation 13 and that regulation 14(2) is complied with, it shall recommend approval of the Plan of Work to the Council '. Neither Regulation 13 or 14(2) speak to the Common Heritage of Mankind. Regulation 16 does not reference Regulation 12(4). This raises the question: what if the Commission considers that the criteria in Regulations 13 and 14 have been met, but that overall the Plan of Work is not of benefit to the common heritage mankind, does it have to approve the Plan of Work? The African Group is of the opinion that any such uncertainty should be removed from the next draft of the Regulations. More specifically, Regulation 16 should be redrafted to make clear that Plans of Work will only be recommended for approval if the Commission considers that it will be of net benefit to the Common Heritage of Mankind.	Partly.
The current regulations do not include the rate for the royalty and therefore it is difficult to evaluate whether under the current payment regime mankind will be	The current draft of the Regulations does not include a rate for the royalty. It is, thus, difficult to evaluate whether the payment regime will fairly compensate mankind for the loss of resources to common ownership.	Not addressed.

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
sufficiently compensated.	The African Group notes that the payment regime will be further developed with input from a financial model programmed by MIT. The development of a potentially detailed and comprehensive financial model is welcome. However, we would stress that the rates of the fiscal instruments (e.g. the royalty and profit share) in the payment regime should not be fine-tuned with the aim to ensure that post-tax profits for contractors are high enough to stimulate investment in deep-sea mining in the Area; rather the payment regime should be designed to ensure that: • whenever deep-sea mining occurs there is fair compensation to mankind for the loss of resources to private ownership; • there is fair compensation to developing countries for any loss of export earnings or revenue from land-based mining caused by a reduction in mineral prices due to the increased supply of minerals from deep-sea mining[iii]; and • its rates of payment[iv] are within the range of those prevailing in respect of land-based mining of the same or similar minerals. The African Group reiterates that a royalty of 2% of the value of resources would not in our view amount to fair compensation for mankind.	
The draft Regulations provide that a fixed annual fee is payable by Contractors, from the date of commencement of Commercial Production only- and based on the size of the Contract Area [draft Regulation 49]. This replaces any other annual administration fee. The rate of the annual fixed fee per square kilometre is to be determined by the Council each calendar year. The annual fixed fee is creditable against future royalty payments, which means that for each dollar of revenue collected from the annual fixed fee the royalty payment will be reduced by a dollar. It	In the current draft of the Regulations, the annual fixed fee continues to be creditable against the royalty and is only payable from the commencement of commercial production. Although the contractor is liable for the greater of the annual fixed fee and the royalty, given the likely volumes of production and contractors turnover it is very unlikely that the area fee will exceed royalty payments. The African Group thus continues to question the logic of an annual fixed fee which is payable from the start of commercial production. An annual fixed fee that is payable from the date an exploitation contract is awarded and/or which is not creditable against the royalty should be considered.	Not addressed

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
follows that where substantial production and royalty payments occur in a Contract Area, the fixed fee will not increase overall revenue collections. If the purpose of the fee is to bring additional revenue to the ISA, then it would seem more sensible for it not to be credited against the royalty. If the purpose of the fee is to incentivise Contractors to relinquish parts of the Contract Area where they are unlikely to undertake future production, then a legal power and procedure to enable relinquishment should be included in the Regulations. If the purpose of the fee is to cover ISA costs, it could (i) start from contract commencement date (not from Commercial Production, which may be achieved some years after the contract has started), (ii) not be credited against the royalty, (iii) not link with contract size unless regulatory costs are deemed likely to be vary from contract to contract, according to site size. If the purpose of the fee is to bring an early tranche of royalty payment, then it would seem sensible for it to commence from contract start date, given that royalties are to be paid annually and upon commencement of Commercial Production, in any event.		
As mankind should be compensated at the outset of production and whenever substantial mining occurs, there	The Regulations (Appendix IV) continue to outline that the royalty will vary between the first and second periods of commercial production.	Not addressed.

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
would be little justification for an initially low or light royalty rate. The draft regulations appear to reflect a need to incentivise first-movers to apply to exploit in the Area (via an initial lower burden of taxation). We question this presumption.	The African Group continues to question the logic of the royalty varying between the first and second periods of commercial production. In our view, as soon as mining occurs resources are being lost from the Common Heritage of Mankind and thus there should be significant payments from contractors under the payment regime from the commencement of mining. In addition, the justification made during the Singapore Workshop was that an initially low royalty rate is required to encourage first-movers. However, an initially low royalty rate during the first period of commercial production is not encouraging first movers, rather it is providing a low burden of taxation for a set number of years of commercial production for all contractors that are awarded an exploitation contract, regardless of whether they are the first, second or n^{th} movers. The African Group continues to question the presumption that first-movers need to be incentivised. Land-based mining is continuing to provide the global economy with necessary metals and, therefore, from a purely economic viewpoint, deep-sea mining is only beneficial if it can supply metals at lower cost than land-based mining. If deep-sea mining can provide metals at lower cost than land-based mining, then this implies that deep-sea mining will be more profitable than land-based mining and that it should pay taxes that are at least as high, or higher, than land-based mining. On the other hand, if deep-sea mining is an economically inefficient activity that will produce metals at a higher cost than land-based mining then it makes little sense for the ISA to artificially subsidise such an inefficient industry by implementing a payment regime with a low burden of taxation. The African Group would also note that there are currently 29 exploration contracts between contractors and the ISA. Our view is that initially the ISA should consider	

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	only awarding a few exploitation contracts while it evaluates the impact of deep-sea mining on the global economy (especially countries dependent on land-based mining) and the environment. This implies that there will be significant competition between contractors that hold exploration licences for exploitation contracts. In such a situation there is no need to incentivise first-movers. Indeed, the ISA should consider biddable elements (e.g. a signature payment to be made by the contractor to the ISA for granting of an exploitation licenses, in addition to the other payments required under the Regulations) to the payment regime to ensure that revenue and financial compensation to the Common Heritage of Mankind are maximised for each exploitation contract that is awarded.	
The Implementing Agreement explicitly states that the rates of payment under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals [Section VIII, para. 1(a) and 1(b) of Implementing Agreement]. A sensible interpretation of the phrase “rates of payment” is that the governments/authorities share of profits from mining should be the same for deep-sea mining in the Area as it would be for land-based mining.	The Regulations do not include a rate for the royalty and thus it is difficult to determine whether the payment regime will result in a share of profits for the ISA which is similar to that received by governments from land-based mining. The third part of this Submission discusses the rates required for different fiscal instruments to ensure that the overall burden of taxation on deep-sea mining is the same as for land-based mining.	Not addressed.
The Implementing Agreement further requires that consideration be given to the adoption of royalty system or a combination of a royalty and profit-sharing system. We note that the current draft regulations include a royalty, but do not mention profit-sharing system. This contrasts with land-based mining payment regimes, which commonly include royalties, ring-fenced profit taxes, additional profits taxes, and sometimes state equity	The Regulations continue to outline a payment regime that would include a royalty as the only significant fiscal instrument. The Regulations do not include a profit-share or additional profits share. In the absence of a profit-share, the rate of the royalty in the payment regime will have to be much higher than is commonly the case for land-based mining to ensure that the overall burden of taxation (rates of payment) are similar for land-based mining and offshore mining in the Area. This issue is further discussed in the third	Not addressed.

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participation to optimise revenue collection. We would note that if the deep-sea mining payment regime only includes a royalty, then the rate of this royalty must be relatively high compared to the rates of royalty for land-based mining to give the same overall burden of taxation [rates of payment] to land-based mining payment regimes, given that land-based mining regimes contain many fiscal instruments which are not mentioned in the regulations for the current offshore payment regime. In short, overall comparability is required.	part of this Submission.	
The payment regime should ideally be progressive. A progressive payment regime is one where the Authority's percentage share of profits increases as profits increase. The draft Regulations' payment regime is unlikely to be progressive, as all significant revenues will come from the royalty, which is levied on revenues and not profits. Higher profits driven by lower costs would not result in higher royalty payments. The ISA would be unable to tax any high excess profits made by Contractors. The inclusion of a profit-share, or varying the royalty rate with some proxy for profitability, would improve the progressivity of the payment regime.	The Regulations continue to outline a payment regime where the only significant fiscal instrument is a royalty. A payment regime which only includes a royalty will not be progressive unless (and this is not the case in the current draft of the Regulations) the royalty varies with some proxy of profitability, such as metal prices.	Not addressed.
The draft Regulations provide for Contractors to transfer rights (effectively selling the right to mine in the Contract Area) with the consent of the ISA [draft Regulation 16], but do not outline any tax on such transfers. Once Exploitation in the Area is a proven commercial venture, such a transfer may result in significant profits for the transferor. Many	The Regulations continue to allow for the transfer of rights and do not provide for any taxation by the ISA of such transfers. The mining rights of a contractor may increase in value due to fortuitous factors completely outside of its control. For example, the value of rights to mining in the area held by contractor A may increase in value due to an increase in metal prices or	No addressed.

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national jurisdictions tax profits received from transfers of rights for mining or petroleum production.	other contractors proving that mining is commercially viable. In such a situation, a contractor may be in a position to make substantial profits from the sale of such rights. The African Group considers that the payment regime must fairly tax such profits.	
Under the proposed payment regime, royalties are paid (only) on ‘relevant minerals’. The Regulations list four ‘relevant minerals’ to which the royalty will apply (manganese, nickel, cobalt and copper), but also state that the Council will determine ‘relevant minerals’ from time to time. If the royalty were to be applied only to manganese, nickel, cobalt and copper this would mean that there was no royalty or tax on the exploitation of other potentially valuable minerals such as rare earth elements.	The royalty annex in the Regulations now includes tables listing relevant metals for polymetallic sulphides and cobalt-rich ferromanganese crusts. The world ‘other’ has also been added to the list of relevant metals for polymetallic nodules, possibly indicating that the intention may be to apply the royalty to all valuable/relevant metals. The African Group considers that it is important that the royalty is applied to all valuable/relevant metals that are contained in ore removed from the Contract Area. In this regard, the process by which relevant metals are identified should be outlined more clearly in the Regulations. In addition, the Regulations should be clearer that if during the term of an exploitation contract additional metals become relevant then a royalty will be due on the value of such metals.	Partly addressed.
The system of review of the Contractor payment mechanisms envisaged by draft Regulations 72 and 73 is somewhat open to interpretation. The term ‘system of payments’ is used but not defined, and it is unclear what is the length of the second period of Commercial Production - and whether there could be a third period of Commercial Production before the end of the initial (30-year) exploitation contract14. It is clear however that for Contract Areas covered by existing Exploitation contracts the system of payments can	The current draft of the Regulations continue to give considerable stability in the payment regime to contractors (the system of payments can only be changed with a contractor’s consent for existing contracts, and rates of payment are fixed for the first and second periods of commercial production). This stability if combined with a payment regime that included a royalty as the only fiscal instrument would preclude the ISA from fairly sharing in any excess profits made by contractors. In addition, in the current Regulations, it continues to be unclear whether there can or cannot be a third period of commercial production within the initial term of the exploitation contract.	Not addressed.

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only be changed with the Contractor's consent; and the rates of payment cannot be changed until after the second period of Commercial Production has completed. This would imply a high degree of stability in the payment regime for Contractors: there may be no significant change in the payment regime over the thirty-year term of an Exploitation contract. If the payment regime initially includes a low royalty to encourage investment, and excludes a profit-share, the first Exploitation Contractors would secure favourable and stable financial terms. If those Contractors made excess profits, for example after twenty years of mining, there would be no mechanism for the ISA to gain a proportionate share of such profits.		
The payment regime in the draft Regulations does not currently include payments to an environmental liability trust fund or payments to a seabed sustainability fund.	The Regulations do now include an environmental liability trust fund. The second part of this Submission further discusses the environmental liability trust fund.	Addressed.
The Regulations indicate that key aspects of the payment regime will be informed by a financial model discussion. The ISA's April 2017 'Deep Seabed Mining - payment regime Workshop introduced a financial model programmed by a Contractor (which included an initial light royalty with a rate of 2% for eight years, followed by full royalty at 4%.). We would ask is this the "financial model" that is being referred to in the regulations? Consideration should be given to whether a financial	The African Group notes that that ISA have stated that a financial model programmed by the MIT will inform the payment regime going forward. The African Group welcomes the move away from the Singapore payment regime financial model that it was not involved in developing. We would also stress that a financial model should only be one input in the development of the payment regime. In addition, the rates of the fiscal instruments in the payment regime should not be fine-tuned to ensure that post-tax profits are sufficient to motivate investment. Rather, as argued earlier, the payment regime should be designed to ensure that:	Partly addressed

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
model of a Contractor's profits should be a principal factor in determining the ISA's royalty rate. UNCLOS mandates that '*Activities in the Area shall […] be carried out for the benefit of mankind as a whole […] and taking into particular consideration the interests and needs of developing States'*. Designing the payment regime by seeking to ensure sufficient post-tax profits from Exploitation to incentivise Contractors may not be the most effective way of maximising 'the benefit of humankind'. In addition, UNCLOS indicates that the overall burden of taxation for Exploitation in the Area should be within the range of that for land-based mining. This bites, regardless of whether the impact on Contractors' profits hinders investment. The extent to which any revenue authority should decide payment rates based on a model programmed by a potential payer can also be questioned.	• whenever deep-sea mining occurs there is fair compensation to mankind for the loss of resources to private ownership; • there is fair compensation to developing countries for any loss of export earnings or revenue from land-based mining caused by a reduction in mineral prices due to the increased supply of minerals from offshore mining[v]; and • its rates of payment are within the range of those prevailing in respect of land-based mining of the same or similar minerals[vi].	
The draft Regulations also set eleven different administrative fees for Contractors [Appendix II], attached to various approvals that Contractors may seek, as well as submission of annual report. All of the events requiring a fee are important regulatory processes that Contractors should be encouraged to undertake. It is possible that attaching a fee to them might conversely discourage compliance, e.g. a Contractor might be less likely to contact the ISA about a proposed change in their	The current draft of the Regulations outline 9 different fees. These fees might discourage regulatory compliance and the alternative option of a fee structure consisting of - (i) a one-off fee for review of an application, and (ii) an annual fee in the contract, designed (collectively) to meet the running costs of the ISA – should be considered.	Not addressed.

Comments on the 2017 Draft Regulations	Discussion of the extent to which this comment has been addressed in the current draft of the Regulations	Has the original comment been addressed?
operations, in case it is deemed a material change to a Plan of Work, and they have to pay a fee. Discouraging Contractor interaction with the ISA seems inadvisable. An alternative option to the fee structure proposed would be for the ISA to charge (i) a one-off fee for review of an application, and (ii) an annual fee in the contract, designed (collectively) to meet the running costs of the ISA.		

Part 2: Additional Comments on the Payment Regime and Other Financial Matters Contained in the Current Draft of the Regulations

This Part discusses the Enterprise, the environmental liability trust fund, financial incentives and arm's length transactions. These financial matters were not included in the 2017 Draft Regulations and were thus not discussed in detail in the African Group's Comments on the 2017 Draft Regulations.

The Enterprise

Regulation 20 allows that contracts may provide for a joint arrangement between the Contractor and the Enterprise through joint ventures or production sharing. The African Group welcomes this regulation which foresees the establishment of the Enterprise and its participation in deep-sea mining in the Area. The establishment of the Enterprise is important as it is one of the principal mechanisms through which developing countries and mankind can benefit from deep-sea mining.

We also, however, note that the Regulations do not provide any detail on the financial terms through which the Enterprise will be able to participate in joint ventures or production sharing with contractors. In our opinion, it will be important for the Regulations to clearly outline the financial terms for such participation. With regards to these terms, the African Group would regard full equity participation by the Enterprise as subjecting public funds to an excessive degree of financial risk. The African Group, thus, considers that the Regulations should mandate that the Enterprise has the right to participate in any mining exploitation contract on a free basis or a carried interest basis and that such participation is a condition of the ISA granting an exploitation contract to a contractor. Such arrangements are common in the land-based mining and petroleum industries and including them in the Regulations would thus be in conformity with the principle that deep-sea mining in the Area should not be given an artificial competitive advantage over land-based mining[vii].

Financial Incentives

The African Group notes that Regulation 61 provides for financial incentives for contractors to achieve the objectives set out in article 13(1) of Annex III of the convention. Article 13 (1) includes a wide range of objectives including to attract investments and technology to the exploration and exploitation of the Area.

We note that the idea of financially incentivising contractors to invest in the Area would not be in keeping with the idea that mankind should be compensated for the loss of resources to private ownership. In addition, providing financial incentives to contractors would appear to provide them with an artificial competitive advantage compared to land-based miners, who are heavily taxed[viii].

In our opinion, providing financial incentives to achieve all the objectives of article 13(1) is not in conformity with UNCLOS. Article 14 of Annex III of UNCLOS does provide for 'incentives' to contractors to further the objectives outlined in article 13(1). However, article 14 does not provide for '***financial*** incentives', the word 'financial' is absent from Annex III article 14. UNCLOS does use the term 'financial incentives' but this is in Article 11 which states 'Contractors entering into such joint arrangements with the Enterprise **may** receive financial incentives'. The Regulations are thus going beyond UNCLOS by suggesting that financial incentives may be used to achieve all the objectives outlined in article 13(1).

The Environmental Liability Trust Fund

Regulations 52 and 53 establish an environmental liability trust fund. The Regulations outline that the objectives of the environmental liability trust fund are to pay for the prevention, limitation or remediation of any damage in the Area which cannot be recovered from a contractor or sponsoring state; promote research; fund education programmes and for restoration and rehabilitation. The Regulations also outline that the environmental liability trust fund will be paid for from a percentage of fees, penalties and money paid into the Fund at the direction of the ISA.

The African Group welcome the inclusion of an environmental liability trust fund in the Regulations. We are, however, concerned that its funding is likely to be insufficient. A percentage of fees and penalties is unlikely to provide sufficient financing for significant environmental remediation in the event of an environmental disaster caused by deep-sea mining in the Area. The African Group is also concerned that the Fund has a number of competing objectives. If the Fund is used to pay for research and education, then it is not clear how there will be a sufficient balance remaining to pay environmental remediation or compensation.

We envisaged that the Fund would work as follows. First, all contractors would be required to pay into the environmental liability trust fund prior to commencing mining. Second, the Fund would be used to finance environmental remediation or compensation for environmental damage in the event that significant environmental damage was caused by deep-sea mining and either a.) neither the contractor or sponsoring state – or any other entity - were legally liable or b.) the contractor or sponsoring state were liable but did not have adequate finances to pay for remediation and/or compensation. Third, if a contractor had finished all mining in the area and no longer held any exploration or exploitation contracts, and after an agreed period its mining was determined to not have caused any significant environmental damage requiring future payments from the Fund, then the contractor would be entitled to a full or partial refund of monies it had paid into the Fund. The Fund would not be responsible for financing other objectives such as paying for research and education. In short, the environmental liability trust fund would be focused on paying for environmental remediation and compensation.

Arm's Length Transactions

Regulation 76 allows the Secretary-General to adjust costs, revenues and prices that are not at arm's length. Regulation 75 outlines a general anti-avoidance rule that allows the Secretary-General to determine liability for the royalty as if the avoidance measures undertaken by the contractor had not been carried out by the contractor.

The African Group welcomes the introduction of these anti-avoidance measures. We also, however, note that:

- the simultaneous achievement of conditions (a), (b) and (c) under Regulation 75 sets too stringent a definition of when a contractor has engaged in anti-tax avoidance. In our view, a contractor engaging in any scheme, arrangement or understanding that leads to condition (a), (b) **or** (c) should be sufficient for the Secretary-General to determine liability for the royalty as if the avoidance measure undertaken by the contractor had not been carried out.

- the Regulations currently outline a royalty that is calculated based on an assumed gross-value of the relevant metals and not the actual sales price of the ore removed from the contract area. In addition, there is no profit-share and thus contractors' costs are not directly affecting their

overall tax liability or payments to the ISA. It is, thus, unclear what impact Regulations 75 and 76 will have in practice.

Despite these concerns, the African Group's opinion is that Regulations 75 and 76 should be maintained, with Regulation 75 being amended as suggested above.

Part 3: Financial Model

Introduction

This Part discusses a financial model of deep-sea nodule mining in the Area. This model builds on many of the assumptions presented at the Singapore Workshop and tests the argument that the only significant fiscal instrument that should be included in the payment regime is a royalty of 2% (for the first 8 years of commercial production) and then 4%.

Assumptions

Modelling the post-tax profits of a nodule mine in the Area requires assumptions concerning production, prices, costs and the payment regime.

Regarding production, we assume 3 million dry tons of nodule production a year over 25 years. The metal ore content and recovery rates assumed are outlined in annex 1. These assumptions are broadly similar to those used in the Singapore Workshop.

Regarding costs, we assume development costs of $4,051 million in total and operating costs of $1,120 a year. A more detailed breakdown of costs is included in annex 1. These cost assumptions are taken from the Singapore Workshop.

Regarding prices, we assume current prices for nickel, copper, cobalt and manganese.

Regarding sponsoring state taxes, we assume, in line with the Singapore Workshop, that the contractor is liable for a sponsoring state tax at 25% of its profits from the nodule mine in the Area. In our view this assumption very likely overstates the tax liability of contractors in sponsoring states who have likely negotiated significant tax concessions.

Regarding the ISA payment regime, we initially assume a royalty (levied on revenues) of 2% for the first 8 years of commercial production and then 4% for the remaining years of commercial production.

Assumption Analysis

The results of any financial model are only as good as its data and assumption. The next table, thus, discusses each assumption and whether it is likely leading to an overestimation or underestimation of a contractor's profits. Overall, the assumptions used are conservative and as better data becomes available it is quite likely that the estimates of a contractor's profits from a nodule mine will be revised upwards. This, in turn, implies that our model may have underestimated the rates for the fiscal instruments in the payment regime that are consistent with reasonable ex-post profits for contractors.

Assumption	Discussion	Conclusion
Only four valuable metals -copper, cobalt, manganese and nickel – are	This is a conservative assumption. The model assumes that there is no revenue from rare earth elements.	This assumption maybe underestimating the production of valuable rare earth elements. Production of

produced.		rare earth elements speaks to higher profits and potentially higher rates for the fiscal instruments in the payment regime.
Prices are equal to current spot prices.	This is a conservative assumption for two reasons. First, current spot prices give a nodule value which is approximately equal to its thirty-year long-term real 2017 USD average value[ix]. Second, economic and population growth may place upwards pressure on real long-term metal prices.	This assumption may be underestimating future prices. Higher prices would speak to higher profits and potentially higher rates for the fiscal instruments in the payment regime.
Development costs of $4,051 million in total and operating costs of $1,120 a year.	These costs are those given by a contractor during a workshop discussing the payment regime. There would be little motivation for a contractor to understate costs at such a workshop. In addition, these costs assume that a nodule processing plant is constructed from scratch and only serves on nodule mine in the area. The MIT[x] also recently concluded that development costs could be as low as $3,000 million and operating costs as low as $600 million a year.	Our cost assumptions are, on the balance of probability, more likely to overstate than understate costs. Lower costs would lead to higher profits and imply higher rates for the fiscal instrument(s) in the payment regime.
Sponsoring state tax at 25% of profits.	This assumption assumes that contractors have not negotiated any tax concessions with sponsoring states. It should be noted that sponsoring states do not own natural resources in the Area and that a contractor can be sponsored by any (or any developing) ISA member. Many small island developing states with limited financial resources are now sponsoring states. On balance, it would seem likely that contractors have negotiated more favourable than assumed tax rates with sponsoring states.	Our assumption likely overstates the taxes contractors are liable for in sponsoring states. Lower taxes in sponsoring states would lead to higher post-tax profits and imply higher rates for the fiscal instruments in the Area.

Payment Regime 1: 2% and then 4% royalty

The key results from our financial model are:

- the contractor's post-tax (post sponsoring state tax and payment regime royalty) internal economic rate of return is 27%;
- the ISA only receives a 6% share of the profits from the nodule mine; and
- the combined sponsoring state and ISA share of profits is 29%[xi].

In our view, these results demonstrate that a payment regime that only includes a royalty of 2% and then 4% is unacceptable for the following reasons.

First, mining commencing and resources being lost to private ownership with the ISA receiving just 2% of the value of the nodules that are permanently lost to private ownership is not in keeping with the Common Heritage of Mankind.

Second, the Implementing Agreement states that rates of payments for deep-sea mining should be within the range of those prevailing for land-based mining. A sensible interpretation of the phrase 'rates of payment' is that the government's (or authorities) share of profits from mining should be the same for deep-sea mining in the Area as they would be for land-based mining. The Government where the mine is located commonly capture approximately 49%[xii] of profits from land-based mining. This is much larger than the 6% of profits that the ISA would capture with a 2% and then 4% royalty, and it is also much higher than the 29% of profits being captured, in total, by the ISA and sponsoring state.

Third, the contractor's internal economic rate of return at 27% is well above the hurdle rate required for investment. This illustrates that the contractor is receiving significant economic rent, which is not required to motivate investment in mining.

Contractors have in some cases argued that higher internal economic rates of return are required to motivate investment in deep-sea mining in the Area than for land-based mining. With regards to this argument the African Group would note that:

- an internal economic rate of return of 27% is far higher than contractors have argued is required to motivate investment[xiii];
- land-based mining contractors commonly argue that high internal economic rates of return are required due to (as they perceive it) political instability in some land-based mining jurisdictions. Mining in the Area is not subject to a high degree of political instability and this speaks to a lower internal economic rate of return being required for deep-sea mining;
- if deep-sea mining requires a higher internal economic rate of return than land-based mining to motivate investment, then it follows that deep-sea mining must be a riskier way of producing the same metals as land-based mining. It is not clear how moving from a less risky (land-based mining) to a riskier (deep-sea mining) form of mining is beneficial to mankind; and
- if the argument that deep-sea mining requires a higher internal economic rate of return is used to justify a payment regime with lower rates of payment than those prevailing for land-based mining fiscal regimes, then this directly contradicts the Implementing Agreement which states 'The rates of payments under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep-seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage'.

Fourth, the ISA's revenues (net of administrative costs) during the first period of commercial production amount to $0.3 million each year per member state. This is a pitiful amount of money to assist developing states and the distribution to member states of such a small fraction of the nodule mine's revenues is not in keeping with the principles and goals outlined in UNCLOS.

This Submission also considers two alternative payment regimes. These payment regimes are discussed below.

Payment Regime 2: 20% Royalty

The financial model shows that a payment regime with a 20% royalty results in:

- a post-tax internal economic rate of return for the contractor of 21%;
- the ISA's share of profits increasing to 36%; and
- the combined ISA and sponsoring state's share of profits increasing to 52%

With regards to the above results, the contractor's post-tax internal economic rate of return is still well in excess of that required to motivate investment. The royalty rate is now significantly higher than is commonly the case for land-based mining, but this is justified as land-based mining fiscal regimes often include royalties, profit taxes, additional profits taxes, state equity participation and a range of other fiscal instruments, while the deep-sea mining payment regime only includes a royalty. The overall rates of payment on the contractor for deep-sea mining, for this payment regime, is within the range of that which prevails for land-based mining regimes.

Payment Regime 3: 5% Royalty and 30% Profit Share

The financial model shows that a payment regime with a 5% royalty and a 30% profit share results in:

- a post-tax internal economic rate of return for the contractor of 22%;
- the ISA's share of profits increasing to 36%; and
- the combined ISA and sponsoring state's share of profits increasing to 52%

The above payment regime results in a post-tax internal economic rate of return for the contractor far in excess of that required for investment. The rates of payment for this payment regime are within the range of those prevailing for land-based mining.

The financial model also demonstrates that an additional profits share[xiv] should be considered for three reasons. First, the post-tax (royalty, profit share and sponsoring state) internal economic rate of return remains considerably higher than that required for investment under all three payment regimes considered in this Submission. Second, our conservative assumptions may mean that post-tax profits are being materially understated. Third, unforeseen changes in costs and prices going forward may further increase a contractor's profits during the 30-year term of the exploitation contract.

Conclusion

The royalty rates proposed at the Singapore Workshop are far too low. The payment regime proposed at the Singapore Workshop is not consistent with the Common Heritage of Mankind and does not result in rates of payment that are similar to land-based mining. The African Group has not drawn a firm conclusion regarding the rates of payment that should be included in the payment regime. However, the financial modelling undertaken in this Submission demonstrates that even with conservative assumptions a payment regime with a royalty of 20% (or alternatively a payment

regime with a royalty of 5% and a profit share of 30%) results in a high internal economic rate of return for a contractor undertaking nodule mining in the Area. The African Group intends to further refine the assumptions in its financial model going forward and may soon propose a payment regime that will likely include a royalty, profits share and additional profits share.

Overall Conclusion

The African Group welcomes the publishing of the Regulations. The current draft of the Regulations represents a significant improvement on previous drafts and the African Group is committed to supporting the drafting of the Regulations to ensure that deep-sea mining only occurs in the Area if it is beneficial to mankind. The African Group is, however, somewhat concerned that many of the comments it made on previous drafts of the regulations have not been fully addressed. In particular, we would highlight that:

- the Common Heritage of Mankind principle is not fully operational in the Regulations;
- the Regulations envisage a royalty that varies between periods of commercial production;
- there is little evidence that the Regulations outline a payment regime that will results in rates of payment within the range of those prevailing for land-based mining;
- there is little recognition that if the payment regime only includes a royalty then the rate of this royalty must be much higher than that prevailing for land-based mining fiscal regimes that include profit taxes and other fiscal instruments; and
- the Regulations do not outline any tax on the transfer of rights.

The African Group would also like to highlight additional concerns with new articles in the Regulations, specifically:

- the financial terms through which the Enterprise may participate in deep-sea mining join ventures or production sharing are not outlined in the Regulations;
- the idea of providing financial incentives to contractors to encourage investment is not in keeping with the principle of the Common Heritage of Mankind; and
- the environmental liability trust fund should not be used to finance education or training and should be more narrowly focused on compensation for environmental damage and financing environmental remediation.

This Submission has also presented a financial model of deep-sea nodule mining in the Area. This model demonstrates that the payment regime discussed at the Singapore Workshop would not fairly compensate mankind for the loss of resources to private ownership.

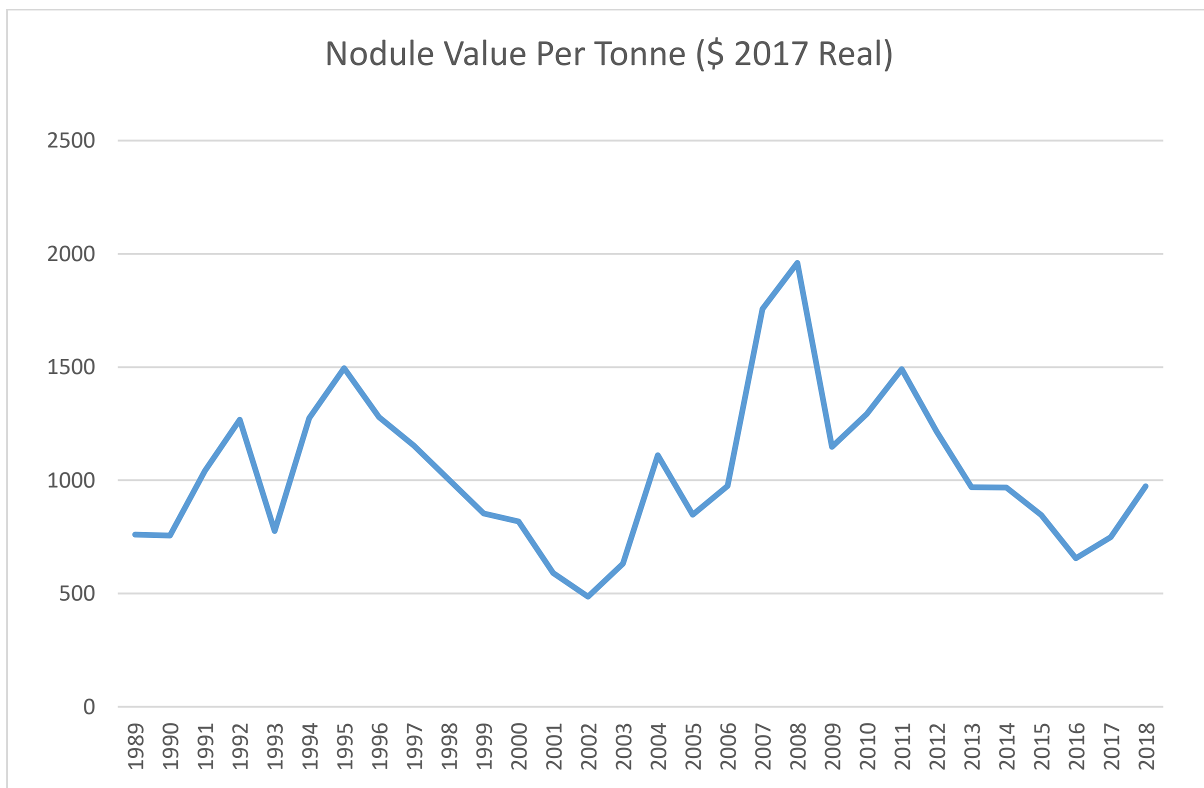
Going forward, the African Group is committed to reviewing the further significant amendments that will be required to the Regulations to ensure that deep-sea mining only occurs if it is demonstrably beneficial to mankind.

Annex 1: Financial Model Results

Production

Metal Ore Content: Nickel	1.30%
Met Ore Content: Copper	1.20%
Metal Ore Content: Cobalt	0.25%
Metal Ore Content: Manganese	27%
Metal Ore Recovery: Nickel	95%
Metal Ore Recovery: Copper	90%
Metal Ore Recovery: Cobalt	85%
Metal Ore Recovery: Manganese	95%

Nodule Value



Costs

Development Cost $ Million (Total)	
Pre-feasibility	$35
Feasibility	$325
Collection System Capex	$584
Surface Vessel Capex	$692
Processing Plant Capex	$2,415
TOTAL	**4,051**

Operating Costs (Per annum)	
Surface and Collection System Opex	$325
Processing Plant Opex	$670
Ongoing O&M	$125
TOTAL	**$1,120**

Results for Payment Regime 1: 2% (for eight years of commercial production) and then 4% royalty

(Table shows results over the entire life of the mine)

Over Entire Mine Life	Undiscounted 2017 USD Million
Project Revenue	$73,071
Project Cost	$32,051
Project Net Cash Flows (Pre-Tax)	$41,020
ISA Revenues	$2,456
Sponsoring State Revenues	$9,641
Contractor's Net Cash Flows (Post-Tax)	$28,923
	Percentage
ISA Take	6%
Sponsoring State Take	24%
Contractor's Take (Post Tax)	71%
IRR Pre-Tax	31%
IRR Post-Tax	27%

Results for Payment Regime 2: 20% royalty

(Table shows results over the entire life of the mine)

	Undiscounted 2017 USD Million
Project Revenue	$73,071
Project Cost	$32,051
Project Net Cash Flows (Pre-Tax)	$41,020
ISA Revenues	$14,615
Sponsoring State Revenues	$6,601
Contractor's Net Cash Flows (Post-Tax)	$19,804
	Percentage
ISA Take	36%
Sponsoring State Take	16%
Contractor's Take (Post Tax)	48%
IRR Pre-Tax	31%
IRR Post-Tax	21%

Results for Payment Regime 3: 5% royalty and 30% profit share

(Table shows results over the entire life of the mine)

	Undiscounted 2017 USD Million
Project Revenue	$73,071
Project Cost	$32,051
Project Net Cash Flows (Pre-Tax)	$41,020
ISA Revenues	$14,864
Sponsoring State Revenues	$6,539
Contractor's Net Cash Flows (Post-Tax)	$19,617
	Percentage
ISA Take	36%
Sponsoring State Take	16%
Contractor's Take (Post Tax)	48%
IRR Pre-Tax	31%
IRR Post-Tax	22%

[i] The figures quoted as being from the Singapore Workshop in this Submission are principally taken from the following paper presented at that workshop: Nijen Kris Van (2017) Financial Model Presentation: Techno-Economic Assessment and Financial Payment Regime, Deep Seabed Mining Payment Regime Workshop, Grand Copthorne Waterfront, Singapore. This paper is available at: http://www.resolv.org/site-dsm/files/2017/04/Fincial-Payment-Regime-Workshop_Resolve.pdf.
[ii] The Implementing Agreement actually uses the term ‘system of payments’. This Submission uses the term ‘payment regime’ as this has been used in recent discussions and ISA workshops.
[iii] More specifically, UNCLOS Article 150 (h) states ‘the protection of developing countries from adverse effects on their economies or on their export earnings resulting from a reduction in the price of an affected mineral, or in the volume of exports of that mineral, to the extent that such reduction is caused by activities in the Area, as provided in article 151.
[iv] More specifically, the Implementing Agreement 8(1) B states that ‘‘The rates of payments under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep-seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage’.
[v] More specifically, UNCLOS Article 150 (h) states ‘the protection of developing countries from adverse effects on their economies or on their export earnings resulting from a reduction in the price of an affected mineral, or in the volume of exports of that mineral, to the extent that such reduction is caused by activities in the Area, as provided in article 151.
[vi] More specifically, Section 8.1.B states that ‘The rates of payments under the system shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep-seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage’.

[vii] As outlined in UNCLOS Annex III 13(1) f which states 'to ensure that, as a result of the financial incentives provided to contractors under paragraph 14, under the terms of contracts reviewed in accordance with article 19 of this Annex or under the provisions of article 11 of this Annex with respect to joint ventures, contractors are not subsidised so as to be given an artificial competitive advantage with respect to land-based miners.
[viii] IBID
[ix] See graph in annex.
[x] More specifically, MIT stated 'Total CAPEX between $3.0 and $4.0 billion' and 'Total OPEX between $600 million and $1.1 billion/year'. Roth R, Kirchain R and Peacok T (2018) Understanding the Economics of Seabed Mining for Polymetallic Nodules, International Seabed Authority Council Meeting, Kingston Jamaica, March 6 2018
[xi] Please note that 29% is the correct figure. Adding the two figures in annex 1 for the ISA Take and Sponsoring State Take gives 30% due to the fact that the figures presented in this Submission are rounded to the nearest percentage point.
[xii] Data from - Otto, Cordes, and Batarseh (2000) – demonstrates that for the majority of land-based mining jurisdictions the effective tax rate (Government's share of profits) is 40% to 70%. The Commonwealth International Benchmarking of Mining Fiscal Regimes Report concludes that Governments' share of profits for land-based mining ranges from 37% to 69%, with the average being 49%. Otto, James, John Cordes, Maria L. Batarseh. 2000. Global Mining Taxation Comparative Study, 2nd ed., 92. Golden, CO: Colorado School of Mines. Commonwealth Secretariat (2009), International Benchmarking of Mining Fiscal Regimes, Pall Mall, London.
[xiii] For example, the Singapore Workshop concluded that an internal economic rate of return of 18% was ample to motivate investment in deep-sea mining.
[xiv] An additional tax/profit share that contractors are liable for when their internal economic rate of return (ex-post any royalty, profit share and sponsoring state tax) exceeds a set amount (e.g. 15%).