FAQs for the media about the International Seabed Authority and deep-sea mining

1. Recent developments with the US Executive Order and The Metals Company

Q. What was the International Seabed Authority's reaction to The Metals Company (TMC) announcing that its US subsidiary has initiated an application for a licence to mine under the existing US Seabed Mining Code and bypass ISA?

A. It is important to state that the legal mandate to regulate mineral-related activities in the seabed beyond coastal countries' national jurisdictions (the Area) rests solely with the International Seabed Authority (ISA), as enshrined in the United Nations Convention on the Law of the Sea (UNCLOS).

As a result, no private entity or State may undertake such activities outside this framework without contravening the international legal regime, including customary international law, that governs the Area as the common heritage of humankind. Any action outside this multilateral system undermines this principle.

The international legal regime established under UNCLOS provides that

- the Area and its mineral resources are the common heritage of humankind. Therefore, the claim or exercise of sovereignty or sovereign rights over any part of the Area or its resources, and the appropriation, alienation or exercise of any right with respect to the minerals recovered from the Area, is prohibited for any State or natural or juridical person
- unilateral exploitation of resources that belong to no single State but to all of humanity is prohibited
- this applies to all States, whether they are parties to UNCLOS or not, and constitutes general international law and customary international law
- all activities in the Area must be conducted under the organization and control of the ISA in accordance with UNCLOS and the 1994 Agreement
- States have a duty not to recognize any claim, acquisition of resources or exercise of rights over the resources of the Area that is made in any manner other than in accordance with Part XI of the Convention, the 1994 Agreement and the rules, regulations and procedures of ISA.

Thus, any commercial exploitation outside of national jurisdiction carried out without the authorization of ISA would constitute a violation of international law, from which arises international responsibility. Activities outside the international legal framework would compromise the integrity of the whole UNCLOS and the comprehensive regime it establishes. It would undermine the legitimacy of the multilateral system, which is essential for the international community to organize and coordinate its respective rights and duties in a space that belongs to all.

In her *Statement on the announcement by TMC* in March 2025 during Part I of the thirtieth session of ISA, the Secretary-General of ISA, Madam Leticia Carvalho, expressed deep concern over TMC's

announcement to seek a US permit for deep-sea mining, bypassing ISA's established framework. Madam Secretary-General emphasized that such unilateral actions violate international law and undermine the principle of the seabed as the common heritage of humankind, as enshrined in the UNCLOS. Madam Secretary-General reaffirmed ISA's exclusive mandate to oversee all mineral-related activities in the Area and called for continued multilateral cooperation to ensure that seabed resources are managed for the benefit of all humanity.

Following that statement, ISA Member States broadly reiterated their commitment to the ISA and its exclusive role in regulating activities in the Area under international law. In that sense, it was reassuring to see that virtually all States, especially those States that currently have exploration contracts with ISA and could have plans to proceed to the next phases towards exploitation, strongly rejected the possibility of acting outside the system and without ISA.

Q. How will ISA respond to TMC's activities in international waters, especially if they overlap with contract areas already allocated by ISA?

A. ISA remains fully committed to upholding its legal mandate under UNCLOS. Any exploration or exploitation activities in the Area must be conducted under a contract with ISA and in accordance with the rules, regulations and procedures ISA has established.

Under UNCLOS, States Parties have "a duty not to recognize any claim, acquisition, or exercise of rights over minerals recovered from the Area by any State or by any natural or juridical person, unless conducted in accordance with Part XI of UNCLOS" (Article 137(3)).

We will continue to monitor developments and engage with all stakeholders, including Member States, in line with our responsibilities. We will also pursue work on finalizing the Mining Code as a central priority, in accordance with the Council's decision of July 2023 (ISBA/28/C/24), which sets a goal to finalize the Mining Code during ISA's thirtieth session in 2025 if the regulations are ready for adoption.

Q. What is ISA's reaction to the US Executive Order *Unleashing America's Offshore Critical Minerals and Resources*?

A. The issuance of an Executive Order by the Government of the United States regarding deep-seabed mineral resources raises specific concerns. While the Executive Order primarily addresses domestic political and policy matters, its reference to applicability beyond national jurisdiction becomes a matter of the rule of law within the global ocean governance framework.

While the US has not ratified UNCLOS, it recognizes it as reflecting customary international law, including the legal framework governing seabed activities, which is binding on all States, including the United States. The state practice of the United States has been consistent with this view. Additionally, the United States is a signatory to the 1994 Agreement, specifically related to Part XI of UNCLOS, which addresses the Area, but has not yet ratified it. The United States has also engaged with ISA as an observer since 1998, regularly attending meetings of both the Council and the Assembly and contributing substantively to the development of the draft regulations.

Under Article 137 of UNCLOS, all rights to the mineral resources of the Area are vested in humanity (or society) as a whole due to their legal nature as the common heritage of humankind. One of the consequences of this status is the prohibition of appropriation and alienation by any State or natural or juridical person. This applies to all States, whether they are parties to UNCLOS or not, as it constitutes general international law and customary international law.

It is essential to emphasize that ISA Member States remain committed to developing a robust, comprehensive, science-based and equitable regulatory framework. During Part I of the thirtieth session of

the Council in March 2025, 39 individual Member States, along with the African Group, representing 49 countries, unequivocally reaffirmed that ISA is the sole internationally recognized institution with jurisdiction over the Area and its resources. Their support for ISA and its role was unquestionable. There was broad consensus, including from States sponsoring contractors, that no exploitation should proceed unilaterally, outside a regulatory framework established through ISA and grounded in the principle that the Area and its mineral resources are the common heritage of humankind.

Any endeavour undertaken outside the recognized and consensual international framework or in an attempt to circumvent international law may incur legal, diplomatic, economic, security, financial and reputational risks.

If powerful States or corporations attempt to bypass the international legal framework established by UNCLOS, they risk undermining its very foundation: preventing unilateral actions that privilege the interests of the few at the expense of the many. UNCLOS was crafted to ensure that the deep seabed, recognized as the common heritage of humankind, is governed collectively, not dominated by those with the greatest financial or technological advantage. Circumventing the regulatory authority of ISA not only breaches international law but also erodes trust, exacerbates global inequality and silences the voices of the least developed countries, landlocked developing countries and small island developing States, who are equal stakeholders in the stewardship of the Area.

One thing is clear: the regime governing the deep seabed beyond national jurisdiction, established by UNCLOS, has been carefully articulated and developed precisely to prevent unilateral actions and parallel avenues.

Q. **What are the potential global implications of the US Executive Order?**

A. We sincerely hope and invite the Government of the United States to channel its efforts towards developing a leading role in deep-sea science, technology and seabed mineral resource activities through the institutional and legal frameworks established by the international community under the UNCLOS. This regime enjoys broad global recognition and legitimacy. The advantages for the United States in engaging through the international legal system are substantial and far outweigh the potential risks and challenges associated with unilateral action, ranging from intergovernmental relations to investment security.

We reaffirm that the legal mandate to regulate mineral-related activities in the international seabed area rests solely with the ISA, as enshrined in the UNCLOS.

No private entity or State may undertake such activities outside this framework without contravening the international legal regime, including customary international law, that governs the Area as the common heritage of humankind.

Any commercial exploitation carried out in the Area without the authorization of ISA would, thus, constitute a violation of international law and undermine the principle of the common heritage of humankind.

This breach encompasses the infringement of contract terms, ISA regulations and provisions of UNCLOS. In such a scenario, the ISA is empowered to take appropriate actions within the legal framework. These measures may entail suspending or terminating the contract, imposing financial penalties or implementing other corrective actions based on the severity and persistence of the violation. Additionally, ISA holds the right to conduct inspections of installations to ensure compliance. These measures are outlined in UNCLOS, Annex III, and the standard clauses of the exploration contracts, underscoring the importance of upholding the established legal and regulatory framework in maritime activities.

It also compromises the integrity of the whole UNCLOS and the comprehensive regime it establishes. Furthermore, such action undermines the legitimacy of the multilateral system,

which is essential for the international community to organize and coordinate its respective rights and duties in a space that belongs to all.

Q. Should an ISA contractor proceed with commercial mining activities within their designated exploration area under a licence from a non-ISA Member State, would it constitute a violation of their contractual and legal commitments?

A. This breach encompasses the infringement of contract terms, ISA regulations and provisions of UNCLOS. In such a scenario, the ISA is empowered to take appropriate actions within the legal framework. These measures may entail suspending or terminating the contract, imposing financial penalties or implementing other corrective actions based on the severity and persistence of the violation. Additionally, the ISA holds the right to conduct inspections of installations to ensure compliance. These measures are outlined in UNCLOS, Annex III, and the standard clauses of the exploration contracts, underscoring the importance of upholding the established legal and regulatory framework in maritime activities.

Q. What are the sanctions and measures provided by UNCLOS?

A. The following is the list of relevant provisions that apply to measures and sanctions.

UNCLOS, Annex III, Article 18: Penalties

> A contractor's rights under a contract may be suspended or terminated only in the following cases:
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> (a) if, in spite of warnings by the Authority, the contractor has conducted his activities in such a way as to result in serious, persistent and willful violations of the fundamental terms of the contract, Part XI and the rules, regulations and procedures of the Authority; or (b) if the contractor has failed to comply with a final binding decision of the dispute settlement body applicable to him.
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> 2. In the case of any violation of the contract not covered by paragraph 1(a), or in lieu of suspension or termination under paragraph 1(a), the Authority may impose upon the contractor monetary penalties proportionate to the seriousness of the violation.
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> 3. Except for emergency orders under article 162, paragraph 2(w), the Authority may not execute a decision involving monetary penalties, suspension or termination until the contractor has been accorded a reasonable opportunity to exhaust the judicial remedies available to him pursuant to Part XI, section 5.

Standard Clauses, Section 21: Suspension, Termination, and Penalties (ISBA/19/C/17)

These provisions are mirrored in Section 21 of the Annex IV Standard Clauses for exploration contracts (*Regulations on prospecting and exploration for polymetallic nodules*), which clarify that it is the Council that may suspend or terminate the contract if any of the listed grounds are met.

In particular:

> **21.3**: Any suspension or termination shall be notified through the Secretary-General and must include a statement of reasons. It becomes effective 60 days after notice, unless the contractor disputes the Authority's right to take such action pursuant to Part XI, section 5.
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> **21.4**: If the contractor disputes the action, the suspension or termination shall only take effect following a final and binding decision under the Convention's dispute settlement procedures.

21.5: If the contract is suspended, the Council may instruct the contractor to resume operations and comply with its obligations within 60 days of notice.

21.6: For violations not covered by section 21.1(a), or in lieu of suspension or termination, monetary penalties proportionate to the seriousness of the violation may be imposed. However, such penalties may only be executed after the contractor has had a reasonable opportunity to exhaust judicial remedies under Part XI, section 5.

Observations:

There is no explicit definition or criteria for what constitutes "serious, persistent and wilful" violations, nor are there pre-established guidelines for assessing the "seriousness" of a violation or determining a proportionate monetary penalty.

To date, these provisions have not yet been applied in practice, and we lack precedent. Therefore, in such a scenario, the ISA should

- begin by issuing formal warnings, ideally following prior consultation with the contractor and
- then submit the issue, including any proposal for suspension, termination or penalties, for the Council's consideration.

It is important to note that in all such cases, the contractor retains the right to pursue dispute settlement procedures before any decision becomes enforceable.

Additional consequences under the Regulations:

Beyond the penalties outlined above, a contractor that fails to comply with its approved plan of work may lose the preference and priority granted under ISBA/19/C/17, Regulation 24, in future applications for exploitation covering the same area or resources.

Q. What are the potential implications of unilateral decision-making?

A. A contractor's unilateral departure from the ISA regime, such as conducting commercial mining under a non-ISA licence, would constitute a serious breach of the trust and legal obligations underpinning its relationship with the ISA. While each contract is assessed individually, ISA regulations and contract provisions allow the ISA to consider broader patterns of conduct when deciding on enforcement actions. A serious or wilful breach in one context may affect the contractor's credibility and compliance record across various contexts.

ISA would act in accordance with its regulations and the relevant provisions of UNCLOS, ensuring that any such measures respect due process and the contractor's rights under the applicable dispute settlement mechanisms.

Q. How might the ISA elaborate on the issue of impact on credibility and compliance?

A. Compliance history can also affect the contractor's future activities. For example, under ISBA/19/C/17, Regulation 12(10)(a), any new application for exploration must include a description of the applicant's previous experience and compliance record. A poor record could affect

- the assessment of future applications
- access to financial support and investment
- reputational standing and public perception.

Q. How has the "two-year rule" factored into the current situation?

A. In 2021, Nauru invoked the so-called "two-year rule" under UNCLOS, formally requesting ISA to finalize the exploitation regulations within that time frame. This request was made in anticipation of an application by Nauru Ocean Resources Inc. (NORI), a Nauruan entity sponsored by the Government of Nauru and a subsidiary of TMC, to seek approval for a plan of work for exploitation.

In response, Member States engaged in good faith throughout the period, convening up to three Council sessions per year and employing a range of mechanisms to advance the negotiations with the seriousness and responsibility that such a complex process requires. When the two-year time frame elapsed, negotiations did not cease. Instead, the Council continued its work and adopted specific decisions to guide the process forward. The legal and procedural avenues for continuing this work are clearly provided for both in UNCLOS and the Council's own decisions. In accordance with the UNCLOS, the absence of detailed regulations does not relieve ISA of its obligation to process an application. Likewise, the adoption of the regulations would not imply that exploitation would commence immediately. However, the Mining Code is essential to provide legal certainty for investors, sponsoring States, Member States and all stakeholders involved in the process.

It is essential to emphasize that unilateral action by any one State means that all States, including developing States, especially small island developing States, will ultimately lose out.

2. **Deep-sea mining and regulations**

Q. What types of minerals are found in the deep seabed?

A. The deep seabed contains valuable minerals, including polymetallic nodules (PMN), polymetallic sulphides (PMS) and cobalt-rich ferromanganese crusts (CFC). These resources contain key metals such as nickel, copper, cobalt and rare earth elements, which are critical for various industries, including renewable energy and technology manufacturing. These metals are not unique to the deep sea.

Q. Has ISA approved any deep-sea mining operations?

A. No. Currently, ISA has only issued exploration contracts to assess the potential of deep-sea mineral resources. No commercial exploitation has been approved, as regulations governing deep-sea mining are still under development.

Q. How many contracts for exploration have been issued so far? How are they split between the different types of minerals?

A. ISA has issued 30 contracts to 21 contractors sponsored by 20 countries for the exploration for the three types of mineral resources in the Area: PMNs (19 contracts), PMS (7 contracts) and CFC (4 contracts).

Q. Which States have sponsoring contracts?

A. The States sponsoring these contracts include Belgium, China, the Cook Islands, France, Germany, India, Japan, Kiribati, the Republic of Korea, Nauru, Poland, the Russian Federation, Singapore, Tonga and the United Kingdom. Bulgaria, Cuba, Czechia, Poland, the Russian Federation and Slovakia also sponsor a

contract through the Interoceanmetal Joint Organization. The areas explored include the Clarion-Clipperton Zone (CCZ), the Indian Ocean, the Mid-Atlantic Ridge and the Northwest Pacific Ocean.

Q. How does ISA ensure environmental protection in deep-sea mining?

A. Environmental protection is a core priority for ISA. The draft regulations for the exploitation of mineral resources in the Area include detailed and sophisticated provisions relating to environmental protection. These will be further supported by a suite of environmental standards and guidelines.

In addition, ISA promotes and encourages the conduct of marine scientific research (MSR) in the Area, with a particular focus on deep-sea ecosystems. In 2020, the Assembly adopted an *Action plan for marine scientific research in support of the United Nations Decade of Ocean Science for Sustainable Development*. This plan is structured around six strategic research priorities and will continue to evolve as new priorities are identified and endorsed by ISA Member States.

ISA, sponsoring States, and contractors are required to apply a precautionary approach and best environmental practices to ensure the effective protection of the marine environment from harmful effects that may arise from activities in the Area. In that vein, contractors must submit environmental impact assessments (EIAs). ISA has developed detailed regulations, recommendations and guidance (ISBA/25/LTC/6/Rev.2) addressing impacts on marine biodiversity on the seabed and in the water column above it, outlining the kinds of activities that require EIAs, the form and content of such EIAs and standards for baseline studies, monitoring and reporting.

ISA also establishes regional environmental management plans (REMPs) to support ecosystem-based management and biodiversity protection. The environmental management plan for the CCZ, for example, identifies a network of 13 areas of particular environmental interest (APEIs) that are entirely protected from deep-seabed mining. In total, the network of APEIs represents 1.97 million km^2 of protected seabed.

Q. What are areas of particular environmental interest (APEIs)?

A. APEIs are protected from future exploitation activities and designed to protect representative habitats and maintain biodiversity and ecosystem structure and function.

APEIs are part of the ISA regional planning process (REMPs) and are one of the measures taken to ensure environmental protection. The need for Environmental Impact Assessment (EIAs) and the establishment of environmental thresholds are two additional examples.

The APEIs for the CCZ have been approved as part of its REMP, covering nearly 2 million km^2 of the seabed, representing one of the largest networks of area-based management tools established in areas beyond national jurisdiction. The number and size of APEIs will increase with the approval of additional APEIs in other regions. The REMP for the Mid-Atlantic Ridge was presented to the Council in 2022. Two REMPs for the North-West Pacific and Indian Ocean are in the making.

Q. How is ISA implementing the precautionary approach?

A. ISA is implementing the precautionary approach through several key measures as it develops the regulatory framework for deep-sea mining. The precautionary approach is embedded as a guiding principle in the draft exploitation regulations, requiring that lack of full scientific certainty must not delay efforts to prevent environmental harm. Contractors must submit comprehensive Environmental Impact Assessments (EIAs) and environmental management and monitoring plans, demonstrating how they will manage uncertainties and adapt their operations in the event of unexpected impacts. ISA also develops Regional Environmental Management Plans (REMPs) identifying zones that must be protected from mining (APEIs).

Furthermore, contractors are required to apply the best available science and technology. Applications for exploration undergo a two-stage review process by the Legal and Technical Commission (LTC) and the Council to ensure that the precautionary approach is properly reflected in project design and execution before any approval is granted. ISA is also establishing environmental thresholds to limit possible environmental impacts arising from future exploitation activities that might be approved in the Area.

Q. What is the status of the Mining Code and when is it expected to be completed?

A. The development of a comprehensive regulatory framework for deep-seabed mining, known as the Mining Code, remains a central priority for ISA and its Member States. Negotiations have intensified significantly in recent years, and they are ongoing. These are complex discussions that cover critical issues, including environmental protection, equitable benefit-sharing, institutional oversight and liability mechanisms. The goal is to ensure that any future exploitation of mineral resources in the Area is carried out sustainably, transparently and in alignment with the rules and principles of UNCLOS.

At its most recent session in March 2025, the ISA Council continued to work in accordance with its July 2023 decision (ISBA/28/C/24), which sets a goal of finalizing the Mining Code during the thirtieth session of 2025 if the regulations are ready for adoption.

Q. How does the ISA respond to concerns from contractors?

A. Eight contractors sent a letter to the President of the Council, dated 14 January 2025, expressing their views and concerns about the advancement of the regulatory process. The President transmitted the letter to the Member States of the Council. The concerns raised by contractors are certainly part of the ongoing discussions. The Council remains committed to advancing the development of a robust regulatory framework that balances commercial interests with sustainability and the interests of all stakeholders. The Council continues to engage in deliberations on the draft exploitation regulations in an inclusive and transparent manner.

Q. What is expected of ISA Member States in case one of their citizens, corporations or ships takes part in a deep-sea mining operation outside the jurisdiction of the ISA? Should these ISA Member States prevent their citizens or corporations from being part of such a mining operation?

A. First, according to the UNCLOS, Article 139, States Parties have a general responsibility to ensure that activities in the Area conducted by State enterprises or by natural or juridical persons that possess their nationality or are effectively controlled by them or their nationals are carried out in conformity with UNCLOS, Part XI. This means that ISA Member States are expected to ensure that any deep-sea mining activities carried out by their nationals, corporations or flagged vessels comply with the terms of the contract and the obligations established under UNCLOS. Specifically, each applicant for activities in the Area must be sponsored by a State Party of which it is a national or by which it is effectively controlled.

In cases where deep-sea mining operations are conducted outside ISA jurisdiction, the analysis depends significantly on whether the citizen or corporation involved is also an ISA contractor sponsored by that Member State. The UNCLOS, ISA rules and regulations and the applicable contract impose specific obligations on sponsoring States. Many of these obligations were clarified in the 2011 Advisory Opinion on Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area by the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea.

Primarily, those obligations aim to ensure that sponsored contractors comply with their contracts and the requirements of UNCLOS. This includes assisting the ISA in monitoring and enforcing compliance, implementing the ISA's rules, regulations and procedures and exercising effective control over the

sponsored activities. States must also adopt national laws, regulations and administrative measures that align with UNCLOS and facilitate the implementation of the relevant contract obligations, including mechanisms for cooperation with other users of the marine environment where applicable.

For citizens or corporations that are **not** ISA contractors, the situation is somewhat different. A distinction must be made between (i) what is expected of the ISA Member State and (ii) the question of whether the State incurs international responsibility or liability for the actions of its nationals. The latter depends on various factors, including national legislation and the degree to which such conduct may be attributable to the State under general international law on State responsibility for internationally wrongful acts.

Nonetheless, in terms of expectations, all ISA Member States have some fundamental obligations. These include ensuring that activities undertaken by their nationals or corporations do not violate international law or cause harm to the marine environment, in line with Article 139. Member States also have a duty not to recognize activities conducted outside the ISA framework inconsistent with Part XI of UNCLOS. In light of these responsibilities, ISA Member States should take measures to prevent their nationals or entities from engaging in unregulated deep-sea mining. Such measures may include

- regulatory oversight, ensuring all activities are in compliance with both national and international legal frameworks and the principle of the common heritage of humankind
- national legislation prohibiting unauthorized deep-sea mining by individuals or entities under their jurisdiction
- enforcement actions, such as denying licences, registration or use of flags to unauthorized operations
- legal and administrative mechanisms to implement and enforce these obligations effectively under domestic law.

The ISA Secretariat expects Member States to take proactive measures to enforce compliance with the legal framework established by UNCLOS and to act consistently with the mandate and guiding principles of the ISA.

Q. Does ISA consider TMC or Allseas "contractors" in this regard?

A. ISA contractors are entities that have entered a contract with the ISA to undertake exploration activities for one or more of the three categories of minerals in the Area. These contractors often work with offshore service providers or engineering partners to develop their projects, and many also have parent companies. However, such affiliated entities, including parent companies, are not legally recognized as contractors by the ISA. This is, for example, the case with TMC and Allseas.

Regulation 9(b) of the *Regulations on prospecting and exploration for polymetallic nodules* in the Area states that the following may apply to the ISA for approval of plans of work for exploration:

> […]
>
> (b) States parties, State enterprises or natural or juridical persons which possess the nationality of States or are effectively controlled by them or their nationals, when sponsored by such States, or any group of the foregoing which meets the requirements of these Regulations.
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> […]

There is no definition of "citizen or corporation" under the regulations. TMC and Allseas are not exploration contractors.

Q. Do obligations also apply if a deep-sea mining company is not an ISA contractor?

A. Yes**.** Under the UNCLOS, Article 139, States Parties have the general responsibility to ensure that activities in the Area, whether carried out by them or natural or juridical persons who possess their nationality or are effectively controlled by them or their nationals, shall be carried out in conformity with Part XI of UNCLOS, related to activities in the Area.

Q. How many countries have called for a precautionary pause or moratorium on deep-sea mining?

A. Thirty-two countries have officially called for a moratorium or precautionary pause on deep-sea mining. However, it is essential to note that Member States have expressed strong support for and a commitment to the work of ISA and have agreed on robust regulations. There is broad recognition that a solid and comprehensive legal framework is essential for ISA to fulfil its role as steward of the Area. The road map for developing the draft exploitation regulations reflects the collective commitment of Member States to this shared objective.

Concerning a possible moratorium, it is important to highlight two key points. First, depending on its scope and terms, a moratorium could discourage investment in exploration activities, which remain the primary source of scientific data on the seabed, deep-sea biodiversity and habitats. Second, UNCLOS provides a clear legal framework and due process for prospecting, exploration and exploitation. The development of regulations, rules, standards and guidelines under the Mining Code does not imply that exploitation will begin automatically. States retain the sovereign authority to decide if, when and how deep-seabed mining will proceed.

Countries supporting a precautionary pause or a moratorium are Austria, Brazil, Canada, Chile, Costa Rica, Denmark, Dominican Republic, Ecuador, Fiji, Finland, France, Germany, Greece, Guatemala, Honduras, Ireland, Malta, Mexico, Micronesia, Monaco, New Zealand, Palau, Panama, Peru, Portugal, Samoa, Spain, Sweden, Switzerland, Tuvalu, United Kingdom and Vanuatu.

Q. Have any of the polymetallic nodules (PMN) and cobalt-rich ferromanganese crusts (CFCs) exploration contracts yielded any material rare earth element prospects that are being developed further? Which contractor(s) are progressing these prospects, and at what stage of development are they?

A. PMN and CFC are enriched in so-called light rare earth elements, including lanthanum, cerium and neodymium, relative to heavy rare earth elements due to the preferential adsorption of called light rare earth elements by manganese oxides and hydroxides. Consequently, all contractors report the occurrence of rare earth elements in PMN and CFC as potentially valuable trace elements. This also includes enrichments in scandium and yttrium, often referred to as the lanthanoids, which exhibit very similar geochemical behaviour.

Q. From what depth is it currently forbidden to exploit the seabed? Which legal text governs this practice?

A. There is no depth-based prohibition on seabed exploitation per se. What determines the applicable rules for seabed mineral activities is not depth but jurisdiction, primarily based on distance and technical criteria and compliance with international law.

All activities in the different maritime zones are governed by the UNCLOS. Exploration and exploitation in the seabed located beyond national jurisdiction (the Area) is specifically regulated in Part XI and further operationalized through the 1994 Agreement.

Activities in the Area can only proceed under ISA regulation and oversight. Hence, what is decisive in determining the applicable rules and requirements is not the depth but whether the specific location lies

within a State's continental shelf, extended continental shelf or within the Area. It should be noted, however, that in the Area, particularly in zones where mineral resources are located, we are generally speaking of depths of between 4,000 and 6,000 metres (p. 9 and ISBA/17/LTC/7, para. 15).

Exploitation has not yet been authorized in the Area until the ISA adopts regulations that define the framework for exploitation activities, including the Mining Code that unifies Exploration Regulations and Exploitation Regulations, as well as environmental safeguards. This is still being discussed in the Council.

In national waters (within Exclusive Economic Zones or continental shelves), seabed mining may be regulated differently by coastal States. In those zones, depth may or may not be a factor depending on national legislation.

Q. Does the ISA have data on the depths at which hydrothermal vents will be mined?

A. Hydrothermal vents occur along Mid-Ocean Spreading Ridges and in Back-arc and Frontal Arc Rifts. The latter two are all in national jurisdictions and, therefore, outside ISA's legislative coverage. Mid-ocean ridges are the places where oceanic plates are spreading apart, which is an essential aspect of our Earth's plate tectonic and associated sea floor spreading.

Spreading centres and their tectonic situation allow for the penetration of ocean seawater into the oceanic crust, transforming regular seawater into an aggressive, hot acid through natural processes, which leach metals and other elements from the volcanic rocks (basalts).

Hydrothermal convection transports metal-rich fluids from approximately 3.5 km depth in the crust back to the seabed, and cooling processes precipitate metals, forming Cu-Zn-Pb-Au-Ag deposits. The surface expression of a deposit on the modern seabed are known as a black smoker chimney. Not all chimneys point to high metal enrichments.

This process has been established for at least 3.7 billion years. Examples of these deposits formed from the same process on the Archaean sea floor exist in Australia and South Africa. Younger examples exist in Canada, the USA and in many other countries.

Mid-ocean ridges have global average depths of about 2,600 metres (8,500 ft), with depth variations, and rise about 2,000 metres (6,600 ft) above the deepest portion of an ocean basin.

The depth variation of PMS along Mid-Ocean Ridges is between 2,000 to 4,000 m. Those in Arcs under national jurisdiction are generally more shallow with exceptions. So far, ISA has granted eight exploration contracts to seven contractors in the Atlantic and the Indian Ocean.

Q.: Do polymetallic nodules (PMNs) produce dark oxygen?

A. Whether PMNs produce "dark oxygen" remains an open question. There are ongoing discussions with different views on the findings within the scientific community. Research continues to advance fundamental knowledge on this topic further and ensure scientific credibility. Any relevant and robust scientific discoveries concerning the deep seabed and deep-sea marine environment will be considered by Member States alongside the existing body of scientific research, industry best practices and all other contributions made by Member States, observers and experts.

NORI has commissioned some scientific studies on this topic. The Nippon Foundation has announced a big research programme to study this issue further.

3. Governance, decision-making and the role of the Secretary-General

Q. How are decisions made within the ISA?

A. All States parties to UNCLOS are automatically members of ISA. As of April 2025, ISA has 170 members, including 169 Member States and the European Union.

The ISA's decision-making process involves three main bodies:

The Assembly, composed of all 169 Member States and the European Union, is the supreme body responsible for making general policy decisions. As a general rule, decision-making within the Assembly is based on consensus. For questions of procedure, it is based on a majority of members present and voting; for questions of substance, it is based on a two-thirds majority of members present and voting.

The Council: a 36-member body that makes key regulatory and operational decisions. As a general rule, decision-making in the Council should be by consensus. If all efforts to reach a consensus have been exhausted, decisions on questions of procedure shall be made by a majority of those present and voting. Decisions on questions of substances, except where the UNCLOS provides for decision by consensus in the Council, shall be taken by a two-thirds majority of members present and voting, provided that such decisions are not opposed by a majority in any one of the chambers. There are also special procedures for approval of plans of work (under Rule 70 of the Rules of Procedures of the Council).

The Secretariat is headed by the Secretary-General and carries out the day-to-day work of ISA.

Q. Who is the current ISA Secretary-General?

A. On 1 January 2025, Madam Leticia Reis de Carvalho assumed office as the fourth Secretary-General of ISA following her election on 2 August 2024. She brings decades of experience in global environmental governance, multilateral negotiations and regulatory innovation. Her appointment marks a new chapter in the ISA's leadership. She is the first woman, the first Latin American and an oceanographer to lead the ISA.

Madam Secretary-General Carvalho is committed to neutrality and the high standards demanded of the office. She is committed to fostering open dialogue on the issues confronting us and the building of strong partnerships. She believes that the achievement of the ISA's mission depends on our ability to engage a broad spectrum of voices, including indigenous peoples, industry leaders, ISA contractors, local communities, NGOs, policymakers, scientists and youth.

Madam Secretary-General will ensure that the ISA embodies the spirit of multilateral cooperation, serving as a model for transparent, inclusive and science-driven governance.

Read her biography and her inaugural speech.

Q. What is the role of Madam Secretary-General in case of unilateral decisions regarding deep-sea mining?

A. The ISA Council is the organ that can decide what is an appropriate course of action to take. This includes measures such as penalties, suspension or termination. Madam Secretary-General has to bring this matter and all instances of potential infringement to the attention of Member States. Taking compliance measures to ensure conformity with Part XI and UNCLOS is their legal responsibility as State parties to UNCLOS. Individually, States can also take measures against companies or persons under their jurisdiction if their actions are potentially in violation of international law. UNCLOS is very clear that compliance and enforcement is a matter for Member States, and the role of the Secretariat is to facilitate.

Q. What concerns does the ISA have regarding the multilateral process and the intensifying geopolitical rivalries in the ocean?

A. ISA does not exist to obstruct progress. On the contrary, it exists to enable progress responsibly, equitably, sustainably and in accordance with international law. Our collective work to finalize the Mining Code is not a bureaucratic exercise. It is the foundation for ensuring that any future activities in the Area benefit all humanity, including through the equal participation of developing States and a benefit-sharing mechanism, and avoid irreparable harm to the marine environment.

Now, more than ever, it is essential to reaffirm the importance of ISA's legal mandate, defend multilateralism and uphold the rule of law in the oceans.

Attempts at bypassing this process for unilateral gain threaten to fracture international cooperation and could potentially lead to conflict in areas that have so far been preserved as a global commons. Multilateralism is vital in this context because it provides a structured, equitable and science-based framework for decision-making that respects the interests of all countries, not just the most powerful. No single country or company can or should unilaterally decide the future of our shared ocean commons.

We see the recent landmark agreement reached by Member States of the International Maritime Organization this month to approve draft regulations aiming for net-zero greenhouse gas emissions from international shipping by around 2050 as a powerful example of how multilateral cooperation can deliver meaningful results.

This breakthrough, achieved through consensus, demonstrates the power of multilateral cooperation to tackle complex global challenges and sets a strong precedent for responsible ocean governance. It also demonstrates that the Member States remain committed to the principles of multilateralism and are willing to ensure a fair and equitable playing field for the most vulnerable countries, including least developed countries, landlocked developing countries and small island developing States. At the same time, it provides tangible assurances to industry and the investment community, both of which are increasingly aligned with the goals of sustainable development.

4. Stakeholder engagement and transparency

Q. How does ISA involve stakeholders in its work?

A. ISA also has 119 observers, including 28 observer States, 32 intergovernmental organizations and 59 NGOs. Observers are allowed to participate in the work of the Assembly and the Council and, upon invitation from the President and subject to approval by the Assembly or Council, may make oral statements on questions within the scope of their activities.

In addition, ISA engages with scientists, civil society organizations, industry representatives and governments through public consultations, workshops and expert working groups. It also publishes reports, research findings and regulatory updates to ensure transparency.

Q. How can journalists access ISA's latest reports and updates?

A. Public meetings of the Assembly and the Council are live-streamed on the ISA website. Journalists can also visit the website news section for press releases and announcements and check the special pages for publications and regulatory documents.

Q. Since the ISA authorized exploration, what amounts have been invested in exploration globally, specifically in the Clarion-Clipperton Zone?

A. Since the ISA began authorizing exploration activities under contracts with qualified entities in 2001, more than USD2 billion has been invested globally in mineral exploration activities in the Area; this does not include the Exclusive Economic Zones. These global activities include donor-contingent ISA-led activities and activities of ISA contractors. The CCZ region remains the most actively explored area, hosting 17 of the 31 exploration contracts issued by the ISA. Most of the exploration financing to date has been directed to this region.

ISA contractors are fully responsible for financing their own exploration activities under the terms of their contracts with the ISA (geological and environmental surveys, data acquisition and analysis, required marine scientific research (MSR), technology development, environmental baseline studies, etc.).

Over the past decade, ISA's internal funding for promoting MSR has more than doubled. ISA has allocated USD8.4 million in its regular budget over the past 10 years.

Since 2024, ISA has secured a steady stream of extrabudgetary resources for MSR projects through a dedicated ISA Partnership Fund. This fund builds on earlier contributions while successfully attracting new donors. To date, several Member States have provided consistent extrabudgetary support, amounting to a total of USD1,253,850.

The following analysis covers the past 10 years of internal and external funding for promoting scientific research: from 2014 to 2024, the ISA's total budget increased by 64 per cent from USD16.5 million in 2013-2014 to USD27.1 million in the 2024-2025 budget cycle.

Since 2001, contractors invested approximately USD376 million in environmental studies and USD10 million in capacity development initiatives.

Over the past 10 years, total programmatic funding for implementing various strategic research priorities of the *Action plan for marine scientific research in support of the United Nations Decade of Ocean Science for Sustainable Development* has increased by 44 per cent from USD390,000 in 2013-2014 to USD2,170,500 in the 2025-2026 budget cycle.

Extrabudgetary funding has been secured since 2017. It ranges from USD189,000 in 2021-2022 up to USD474,000 in 2017-2018. In 2023-2024, the budgetary contributions amounted to USD472,000.

Q. What are the estimates of the minerals available on the seabed and the projected economic value?

A. It is important to distinguish between different types of estimates (resource potential versus commercially recoverable quantities, for example).

ISA's exploration contractors and the Secretariat, working through the Legal and Technical Commission (LTC), have gathered extensive geological data over the years. Based on current knowledge, the CCZ alone is estimated to contain 21 billion tons of polymetallic nodules, with significant concentrations of nickel, cobalt, copper and manganese.

These figures refer to **total** geological occurrence, **not** economically recoverable resources. Economic recoverability depends on multiple factors, including environmental constraints, metal prices and technological readiness.

Regarding economic value, some projections have estimated potential revenues in the hundreds of billions over several decades. But again, these are speculative until commercial exploitation is authorized and economic feasibility studies are completed and approved.

The ISA Council emphasizes that no exploitation should commence until a comprehensive Mining Code is finalized and adopted by Member States. That process is still ongoing.

Q. China Minmetals (CMC) announced that their "environmental impact statement on testing of polymetallic nodule collector vehicle in Block A-5 of the Minmetals contract area" has been approved by the ISA's Legal and Technical Commission. Can you provide more information on that?

A. The Legal and Technical Commission (LTC) reviewed the environmental impact statement (EIS) for completeness, accuracy and statistical reliability in accordance with the Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (ISBA/25/LTC/6/Rev.3). It recommends that the Secretary-General incorporates the EISs into the programme of activities under the exploration contract of CMC. This is captured in the Report of the Chair of the LTC on the work of the LTC at the first part of its thirtieth session (ISBA/30/C/4, para. 20).

Q. Does the ISA have any additional comment on this next step for China Minmetals?

A. On 12 May 2025, the Secretary-General informed CMC that the LTC has recommended that the environmental impact statement (EIS) and the additional information subsequently provided by CMC be incorporated into the programme of activities under CMC's exploration contract. CMC is also requested to submit the final version of the EIS to the Secretariat. The testing of CMC's prototype polymetallic nodule collector within Block A-5 of its contract area in the Clarion-Clipperton Zone is scheduled for July-October 2025.

5. Future outlook

Q. What are the ISA's key priorities for the coming years?

A. The ISA's general priorities include

- supporting Member States to **advance negotiations** on the draft regulations for the potential exploitation of mineral resources in the Area
- advancing **scientific research** to inform **environmental protection measures**
- enhancing **capacity-building programmes** for developing States and
- increasing **stakeholder engagement and transparency** in decision-making.